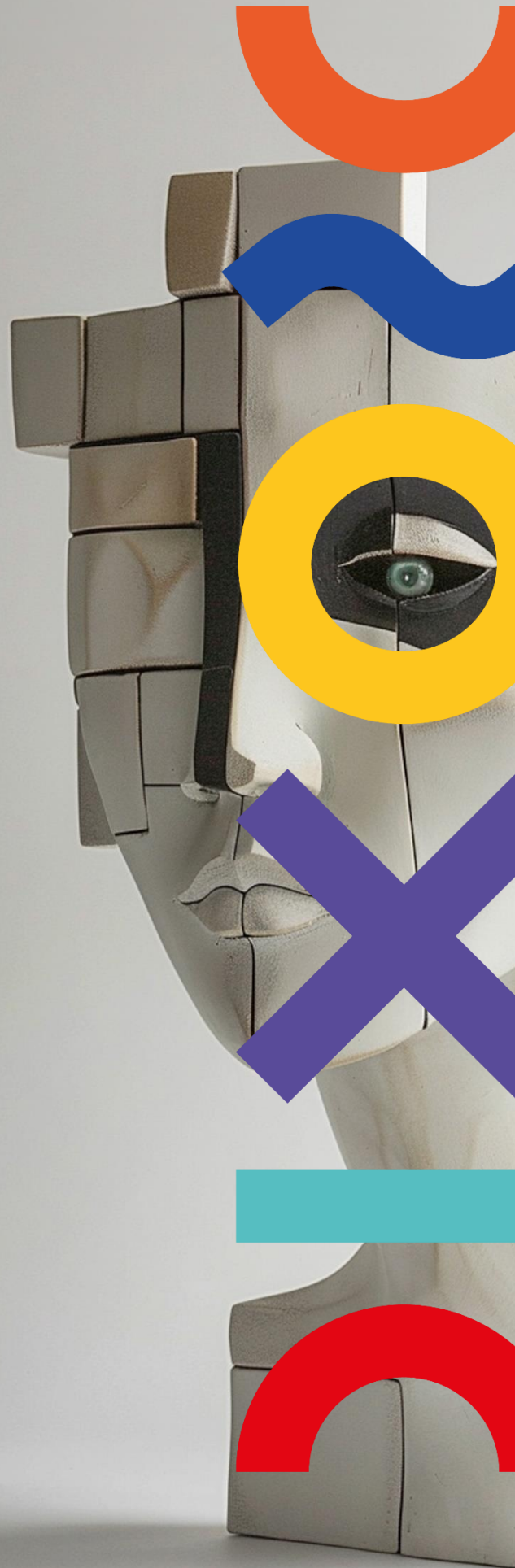


D4.3

Emotional maps



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D4.3 Emotional maps

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EXECUTIVE SUMMARY

Task 4.3 is the visual translation layer of WP4. In the Description of Action, the task is defined as the stage in which four country-level maps are drawn on the basis of T4.2 results in order to make visible the gaps between verbal statements and emotional responses to mainstream and populist political messages. The maps are expected to show average face-tracking output, arousal-related patterns and word-cloud material, and to function as vivid assets that can be disseminated beyond the report itself.

This expanded version of D4.3 keeps that public-facing logic but provides more explanation around how the maps were assembled and how they should be read. The underlying analytical base used for this packaging consists of 1,522 stimulus-level records from the integrated coding workbook and 76 available respondents across the four core countries, supported by the country word-frequency files, pre-generated word clouds, the political-compass contextual data, and the statistical testing file prepared for D4.2/D4.3 integration.

Across countries, the dominant pattern is not a clean one-to-one match between what participants visibly displayed and what they later named in speech. In this deliverable, the affect-emotion gap refers to the distance between the biometric layer, captured through face-tracking classifications and intensity indicators during exposure to political stimuli, and the interpretive layer, captured through post-stimuli in-depth interviews (IDIs). Face-tracking records immediate expressive and arousal-related signals, while IDIs capture conscious labelling, explanation, moral judgement and political meaning-making. The gap is therefore not treated as a technical inconsistency, but as the central empirical object of D4.3: it shows how embodied affect is translated, softened, intensified or reframed when citizens later explain their reactions in language.

The cross-country picture is differentiated. Poland combines relatively high visible happiness with a more politically conflictual verbal layer. Austria is defined by a strong surprise signal that becomes more evaluative once respondents begin to explain the material. Denmark displays the widest average affect–emotion gap and a pattern in which mixed visible reactions often become more clearly critical in speech. Bulgaria stands out with the strongest sad face-tracking profile, even though later speech is more split across anger, other evaluative language and positive reframing.

Executive key takeaways

- D4.3 should be read as the public visual synthesis of WP4, with D4.1 holding the full methodological design and D4.2 the full analytical evidence base;
- The maps are valuable precisely because they show structured distance between visible affect and declared emotion, not because they force those layers into artificial agreement;
- Country differences are strongest in the biometric layer; the verbal layer is more interpretive and more weakly differentiated across countries;
- For downstream ENCODE work, the maps help facilitators and communicators probe what citizens felt before those feelings were fully rationalised into explicit political language.

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. Recognizing 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

WP4 was designed to elicit emotional responses and analyse their internal complexity by contrasting neurobiological signals with citizens' accounts gathered through in-depth interviews. Within that work package, D4.3 is the point at which the analytical material is deliberately turned into a visual product. Its function is not to restate D4.1 or D4.2 paragraph by paragraph, but to produce a set of country-level maps that preserve analytical meaning while becoming easier to circulate, compare and discuss.

This role is important for three reasons. First, affective responses are difficult to communicate through dense prose alone. Second, D4.3 is expected to serve as a bridge into later ENCODE activities, especially the workshop and policy-oriented tasks that need concise, country-specific briefing material. Third, the project proposal positions the emotional maps themselves as a key exploitable result, not merely as an illustration appended to another report.

1.3 Structure of the document

The deliverable is structured as a visual and interpretive package. Chapter 1 introduces the role of D4.3 in ENCODE and explains how the emotional maps relate to the wider WP4 logic. Chapter 2 summarises the data inputs and processing steps used to transform the D4.2 analytical material into dissemination-ready country maps. Chapter 3 defines the map methodology, visual grammar and indicators used in each country panel. Chapter 4 presents the four country maps for Poland, Austria, Denmark and Bulgaria, each followed by a concise analytical reading and country-specific synthesis table. Chapter 5 compares shared patterns and country-specific outliers across the four maps, including a supplementary reproducibility check. Chapter 6 concludes the deliverable by summarising the main findings, limitations and recommendations for future analysis and downstream use.

1.4 Relation to other tasks

D4.3 is positioned between the analytical work of WP4 and the narrative, citizen-facing and policy-facing activities of the later work packages. It draws directly on D4.1, which defined the methodology for eliciting emotions, and on D4.2, which generated the detailed biometric, qualitative and comparative evidence base. The country maps then translate these results into a format that can be used in WP5 for the development and validation of survey questions and in WP6 citizen innovation labs, where participants will work on future emotional narratives. They also provide accessible briefing material for WP7 foresight and policymaking workshops and for WP8 communication, dissemination and exploitation activities. In this sense, D4.3 does not only report WP4 findings; it converts them into practical assets for citizen innovation, narrative development and policy-oriented communication.

2 DATA INPUTS AND PROCESSING

Deliverable D4.3 was assembled from the validated WP4 source material already available in the ENCODE library. The deliverable does not estimate a new model from scratch. Instead, it standardises and re-presents the strongest country-level findings in a reproducible template.

Source	Role in D4.3	Main outputs used
Integrated transcript coding workbook	Primary merged WP4 dataset	Stimulus-level FT categories, FT intensity, IDI categories, emotion-gap values, keywords and quotes
Statistical tests and graphics file	Validation anchor from D4.2	Country-level significance tests, methodological caveats and inherited figures
Country word-frequency files + word clouds	Verbal layer packaging	High-frequency lexical anchors and country cloud visuals
Political compass data	Contextual background	Respondent placement on economic/social axes and sample orientation
Standalone country map assets	Reusable dissemination outputs	Single-country panels combining biometrics, wording and interpretive note

Table 1 - Data sources

The main transformation logic consisted of five steps. First, only the four core countries with integrated biometric and interview evidence were retained for direct comparison. Second, face-tracking labels were standardised into comparable affective categories. Third, the verbal layer was harmonised into declared emotion categories while preserving the important 'Other' bucket that captures interpretive,

non-single-emotion speech. Fourth, country indicators were computed for map panels: dominant visible pattern, verbalization rate, mean gap, exact FT-IDI match rate, top arousal topic and highest-gap topic. Fifth, the outputs were embedded in a common visual grammar so that cross-country differences reflect the evidence rather than layout variation.

Country	Respondents	Stimulus-level rows	Mean X	Mean Y
Austria	15	300	-3.09	-4.36
Bulgaria	16	320	-0.39	-2.91
Denmark	15	301	-2.24	-2.38
Poland	30	601	-0.47	-1.41

The political-compass coordinates are not used as a standalone explanatory model inside D4.3. They are included as context for reading the maps. Across the four countries, the available WP4 sample clusters largely in the left-libertarian half of the compass, though with visible spread within and across national groups. This matters because the maps should be interpreted as country-level response profiles within the achieved WP4 sample rather than as population-level national portraits.

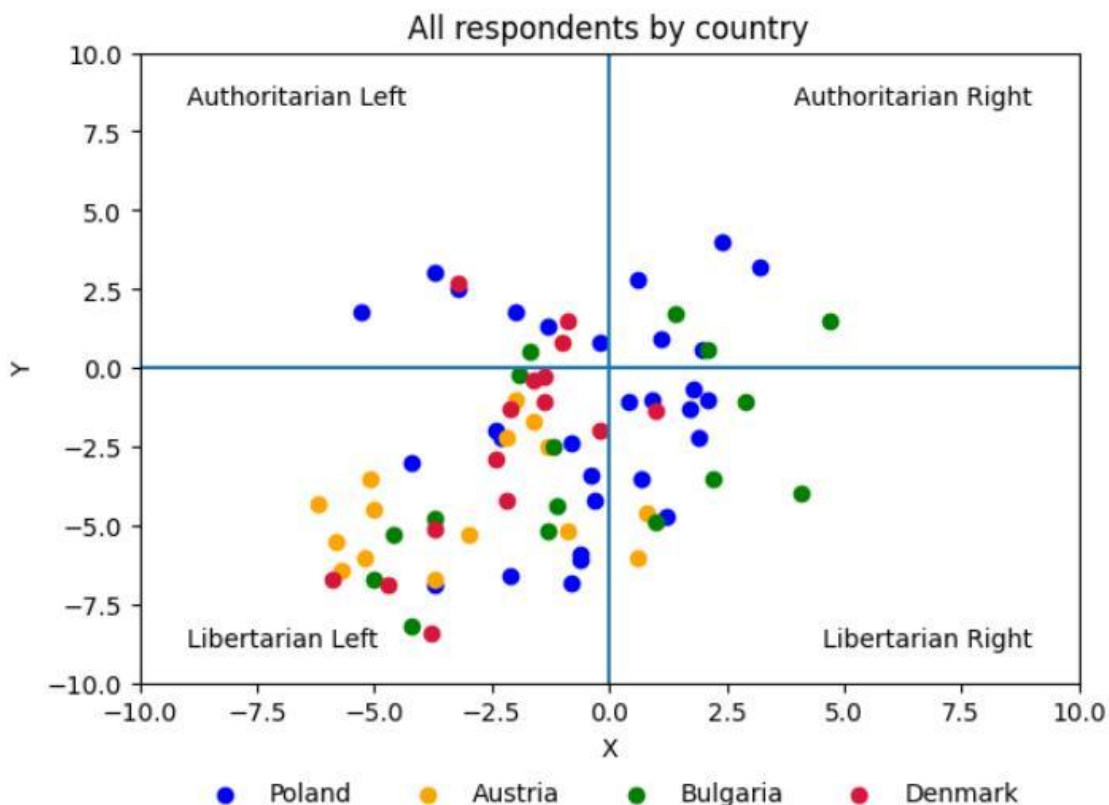


Figure 1 Political compass positioning by country

3 MAP METHODOLOGY AND VISUAL GRAMMAR

A central design criterion of D4.3 is comparability. Every country chapter follows the same reading sequence so that differences across countries can be attributed to the evidence rather than to presentation choices. The maps therefore begin with the affective layer, move to the verbal layer, summarise the distance between them through KPI cards, and end with a short interpretive note. This order mirrors the empirical sequence of the WP4 research process: first, the participant reacts while viewing the stimulus; second, the participant explains the reaction in the IDI; third, the analyst compares both layers.

Map component	What it contains	Why it matters
Headline strip	Country name, respondent count, dominant FT and dominant IDI category	Anchors the map immediately in the national evidence base
KPI cards	Mean gap, verbalization rate, FT–IDI alignment, top arousal topic, highest-gap topic	Condenses the most transportable indicators into a quick-reading layer
Affective layer panel	Heat-map style FT shares by ideology, average FT intensity, highest-arousal topics	Shows what registered first and where the biometric layer was strongest
Verbal layer panel	Word cloud, top thematic words, IDI shares by ideology	Shows how reactions were translated into language and issue framing
Interpretive note	Short plain-language analytical reading	Prevents the map from becoming a raw dashboard without interpretation

The main indicators used in the KPI cards were calculated in a transparent and reproducible way. Mean gap refers to the average absolute distance between coded face-tracking intensity and declared-emotion intensity where both values were available. Verbalisation rate is the share of stimulus-level records for which a coded IDI reaction was available rather than 'No data'. FT-IDI match is the share of valid paired observations in which the normalised face-tracking category corresponded directly to the normalised IDI emotion category. Arousal was operationalised through the face-tracking emotion-intensity score, averaged by topic to identify the strongest immediate affective hotspots. The 'highest-gap topic' was identified by averaging the affect-emotion gap across rows belonging to the same issue topic.

How to read the maps

- Start with the affective layer: which face-tracking category dominates and which issue topics trigger the strongest average arousal?
- Move to the verbal layer: which words recur most often and which declared emotion categories become visible once respondents begin to explain the content?
- Then read the gap note: does speech confirm the visible signal, or does it soften, intensify, redirect or fragment it?
- Finally, compare the country map against the other three maps using the shared KPI cards and the cross-country synthesis section later in this deliverable.
-

Methodological note

D4.3 should be understood as a structured packaging layer rather than a new inferential study. Its added value lies in making the strongest cross-country findings legible in a public visual form without breaking the audit trail back to the integrated D4.2 coding and statistical material. The indicators are exploratory and derived from relatively small biometric samples, so they should not be interpreted as population-level estimates or as representative portraits of the broader national populations. Their purpose is to support comparison, interpretation and further hypothesis-building within the ENCODE research logic.

4 COUNTRY MAPS

4.1 POLAND

Poland is the largest country block in the current D4.3 package and therefore provides the richest single-country visual panel. Its central analytical feature is the coexistence of relatively positive visible engagement with a more conflict-aware and ideologically sorted verbal layer.

Poland: affect-emotion map

Panel A | Affective profile

Respondents: n=30 | Dominant face-tracking emotion: Happiness |
Analytical motif: positivity to polarisation



Mean gap
3.11



Verbalization rate
37.6%



FT-IDI match
(verbalized cases)
13.3%



Top arousal topic
Abortion



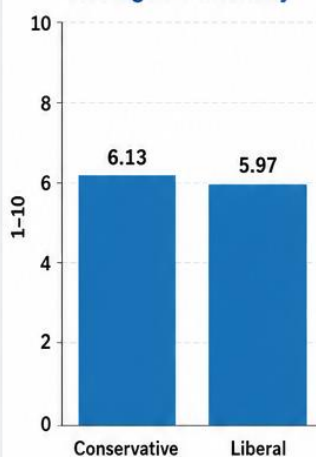
Highest-gap topic
War in Ukraine

Face-tracking emotion shares (%)

Happiness	43	40
Sadness	18	20
Anger	19	20
Surprise	16	17
Indifference	4	4
	Conservative	Liberal

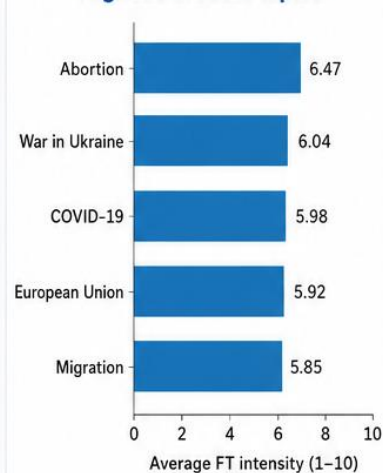
Values are percentages of total face-tracking observations.

Average FT intensity



Higher values indicate stronger face-tracking intensity (1-10 scale).

Highest-arousal topics



Topics ranked by average face-tracking intensity (1-10 scale).



Reading note

- Real-time responses are led by happiness rather than one uniformly negative reaction.
- Abortion shows the strongest biometric activation; War in Ukraine produces the largest affect-emotion divergence.
- The average political-compass position in this country subset is $X=-0.46$, $Y=-1.27$, used here only as contextual background.



Country interpretation

Biometric responses are led by happiness and fairly even attention across both ideological streams. Abortion is the strongest arousal trigger, while War in Ukraine creates the widest gap between visible affect and later verbal coding.

This panel should be read first. It summarises what participants visibly showed during exposure to political stimuli, before those reactions were translated into interview language.

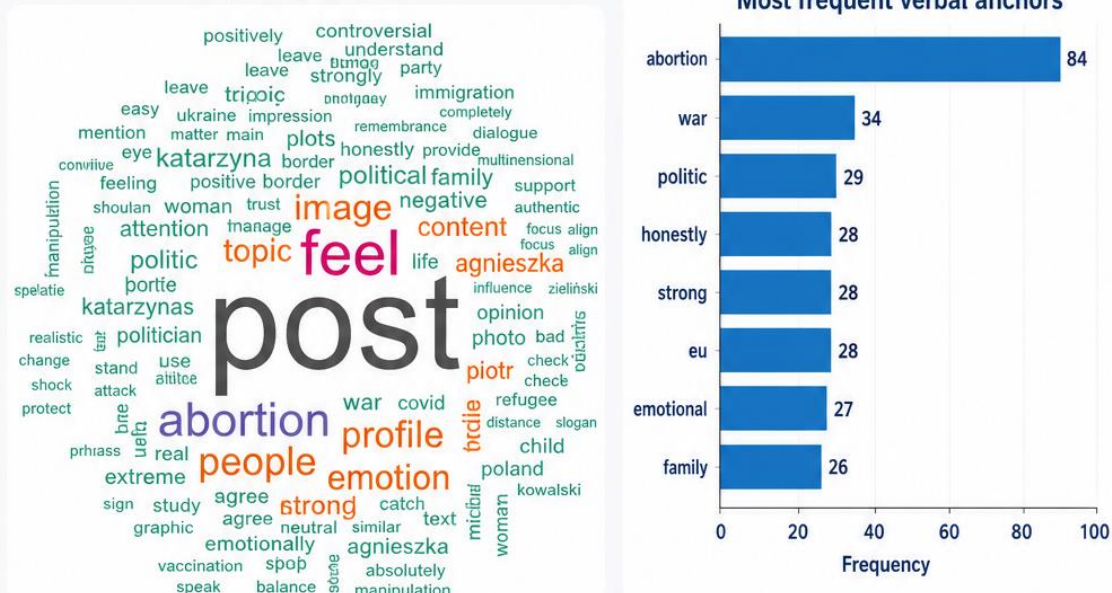
Source: ENCODE T4.2/T4.3 integrated face-tracking and IDI dataset |
Vertical redesign prepared for dissemination use.

Poland: affect-emotion map

Panel B | Verbal layer and interpretation

Dominant declared emotion (valid coded cases): Other | Highest-gap topic: War in Ukraine

Word cloud from country wording frequencies



Declared-emotion shares among verbalized cases (%)

	Conservative	Liberal
Happiness	5	26
Sadness	15	13
Anger	24	12
Surprise	5	2
Indifference	0	2
Other	51	46

Illustrative quote

“Seeing a man wanting to decide about a woman’s body makes me sick.”

Topic: Abortion

Interpretive note

The verbal layer is more fragmented than the biometric layer. Many statements are coded as Other, which suggests that respondents often moved from immediate feeling into interpretation, qualification, and ideological positioning rather than naming one clear emotion.

Top coded keywords: triggered emotionally (11), sad (9), discomfort (8), irritate (8), uneasy (7)

Figure 2 Poland emotional map: affective layer, verbal layer and gap indicators

At the biometric level, Poland is led by happiness, which accounts for the largest share of face-tracking classifications in both the liberal- and conservative-coded streams. That does not mean the Polish material was emotionally uncomplicated. Sadness and anger remain clearly visible, and surprise also holds a meaningful share. The country therefore combines engagement with tension rather than presenting a purely positive profile.

The strongest average arousal is associated with abortion, followed by war in Ukraine. This is analytically important because it shows that not all emotionally salient content translates into the widest visible-to-verbal distance. In Poland, abortion is the strongest intensity trigger, whereas war in Ukraine generates the largest average gap. The implication is that a topic may feel strong in the moment yet still be narrated later in a different emotional register.

The verbal layer is more fragmented than the biometric layer. Once respondents begin to speak, explicit anger becomes the leading named emotion, while a large share of valid coded statements falls into the 'Other' category. In practice, this means respondents often move away from a single emotion label toward moral judgement, political interpretation or issue commentary. The low exact FT–IDI match rate confirms that later speech does not simply mirror the visible reaction.

For ENCODE’s downstream communication work, the Polish map is particularly useful as a warning against equating visible engagement with later agreement. Content may register as attention-grabbing, familiar or emotionally legible in real time, but the interpretive layer can still become sharply polarised once respondents place the message inside broader ideological debates.

Dimension	Country-specific synthesis
Visible-affective signature	Happiness is the dominant face-tracking category, but anger and sadness remain visible across both ideological streams.
Verbal-discursive signature	Explicit anger leads the named emotion layer, while many responses shift into interpretive 'Other' language.
Top issue hotspots	Highest arousal: Abortion. Highest average gap: War in Ukraine. Recurrent lexical anchors include abortion, war and EU-related wording.
Implication for workshops	Probe the distance between 'this caught my attention' and 'this is what I think it means politically'.

Table 2 - Poland: Country synthesis

4.2 AUSTRIA

Austria is the clearest surprise-dominant country in the WP4 visual package. The map reveals a visible layer that is remarkably concentrated around surprise, while the verbal layer becomes more evaluative and more politically sorted once respondents explain what they have seen.

Austria: affect-emotion map

Panel A | Affective profile

Respondents: n=15 | Dominant face-tracking emotion: Surprise | Analytical motif: surprise to evaluation

Mean gap

3.49

Verbalization rate

46.7%

FT-IDI match (verbalized cases)

14.3%

Top arousal topic

War in Ukraine

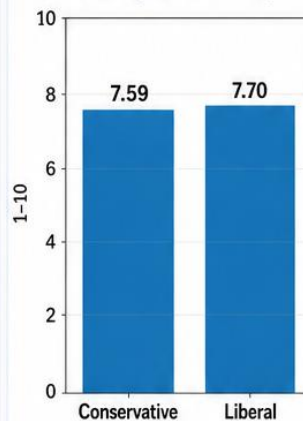
Highest-gap topic

Patriotism, WWII

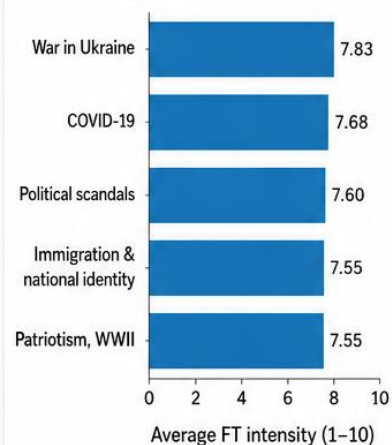
Face-tracking emotion shares (%)

Happiness	7	9
Sadness	15	20
Anger	6	3
Surprise	61	64
Indifference	1	3
	Conservative	Liberal

Average FT intensity



Highest-arousal topics



Reading note

- Real-time responses are led by surprise rather than one uniformly negative reaction.
- War in Ukraine shows the strongest biometric activation; Patriotism, WWII produces the largest affect-emotion divergence.
- The average political-compass position in this country subset is X=-3.09, Y=-4.36, used here only as contextual background.

Country interpretation

Austria shows the clearest surprise-led visible profile. Face-tracking intensity is high across both liberal and conservative posts, and War in Ukraine is the strongest arousal topic. The widest divergence appears around Patriotism/WWII.

This panel should be read first. It summarises what participants visibly showed during exposure to political stimuli, before those reactions were translated into interview language.

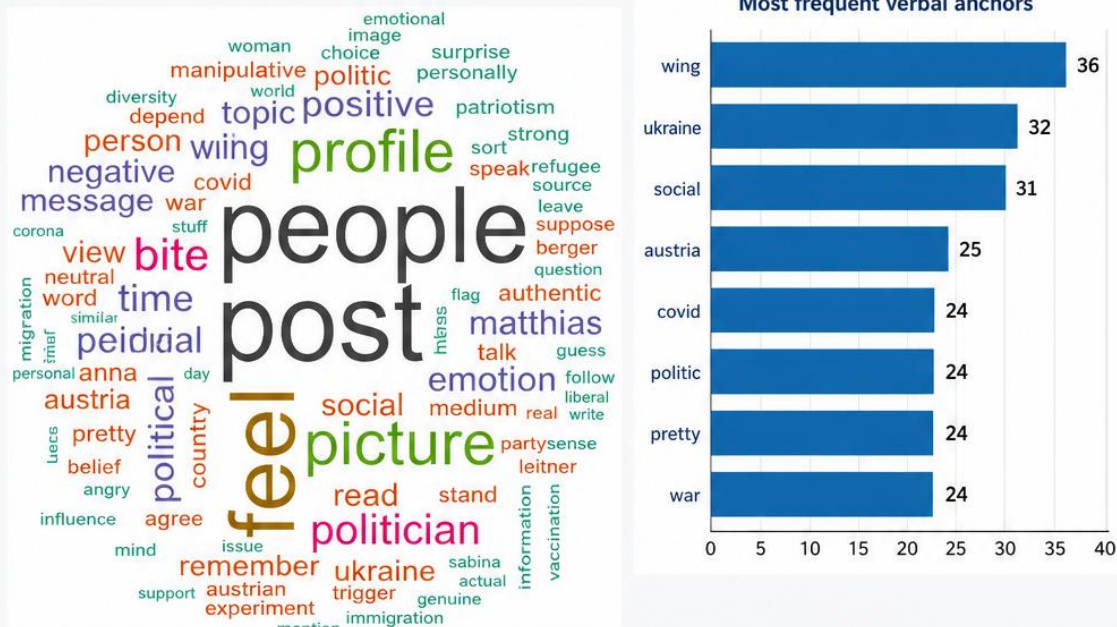
Source: ENCODE T4.2/T4.3 integrated face-tracking and IDI dataset | Vertical redesign prepared for dissemination use.

Austria: affect-emotion map

Panel B | Verbal layer and interpretation

Dominant declared emotion (valid coded cases): Other | Highest-gap topic: Patriotism, WWII

Word cloud from country wording frequencies



Declared-emotion shares among verbalized cases (%)		
Happiness	8	33
Sadness	6	13
Anger	30	8
Surprise	13	16
Indifference	1	3
Other	42	26
	Conservative	Liberal

Illustrative quote

“It’s nothing that really grants respect, does it? I mean, fighting an unjust war on the wrong side.”

Topic: Patriotism, WWII

Interpretive note

Once respondents start explaining their reactions, surprise is converted into clearer judgment. The verbal layer contains more anger and Other codes than the biometric layer, indicating reflective evaluation rather than direct emotional naming.

Top coded keywords: no idea what it means (8), negative (7), uncomfortable (7), angry (6), positive (5)

Figure 3 Austria emotional map: affective layer, verbal layer and gap indicators

The Austrian face-tracking profile is the most concentrated of the four countries. Surprise dominates both the liberal- and conservative-coded streams at roughly two thirds of classifications. Compared with Poland, Denmark and Bulgaria, this gives Austria the strongest single affective signature. The visible layer suggests openness, interruption, novelty or unsettled appraisal rather than straightforward endorsement or rejection.

That openness does not remain stable once respondents move into speech. Liberal-coded posts attract more explicit happiness in the verbal layer, whereas conservative-coded posts shift more strongly toward anger and the 'Other' category. In other words, the visible layer is shared, but the declared layer becomes differentiated. D4.3 therefore captures Austria as a country where the first reaction is relatively unified, while the later explanation is more politically sorted.

War in Ukraine is the strongest average arousal topic in Austria, but Patriotism / WWII carries the largest average affect–emotion gap. This combination is analytically meaningful. The former reflects intensity and salience, while the latter points to the topic on which later speech most strongly reworks the visible signal. In dissemination terms, that makes the Austrian map valuable for showing how historically loaded issues can produce discursive reframing even when the initial visible response looks similar.

Austria's low verbalization rate and low exact-match score reinforce the need to treat surprise as a threshold emotion rather than a final conclusion. The map should not be read as evidence that respondents simply 'felt surprised'. It should be read as evidence that surprise opened an interpretive process later channelled into approval, disapproval, historical association or evaluative commentary.

Dimension	Country-specific synthesis
Visible-affective signature	Surprise dominates the face-tracking layer more clearly than in any other country.
Verbal-discursive signature	Speech differentiates by cue structure: more happiness around liberal-coded material and more anger / Other around conservative-coded material.
Top issue hotspots	Highest arousal: War in Ukraine. Highest average gap: Patriotism, WWII.
Implication for workshops	Treat surprise as an entry point for discussion; ask what the stimulus made respondents work out only after the exposure ended.

Table 3 - Austria: Country synthesis

4.3 DENMARK

Denmark shows the widest average affect–emotion gap in the current D4.3 set. Its visible layer is mixed, with sadness and happiness almost balanced, but this apparent ambiguity does not persist unchanged in the verbal layer.

Denmark: affect-emotion map

Panel A | Affective profile

Respondents: n=15 | Dominant face-tracking emotion: Sadness | Analytical motif: ambivalence to criticism

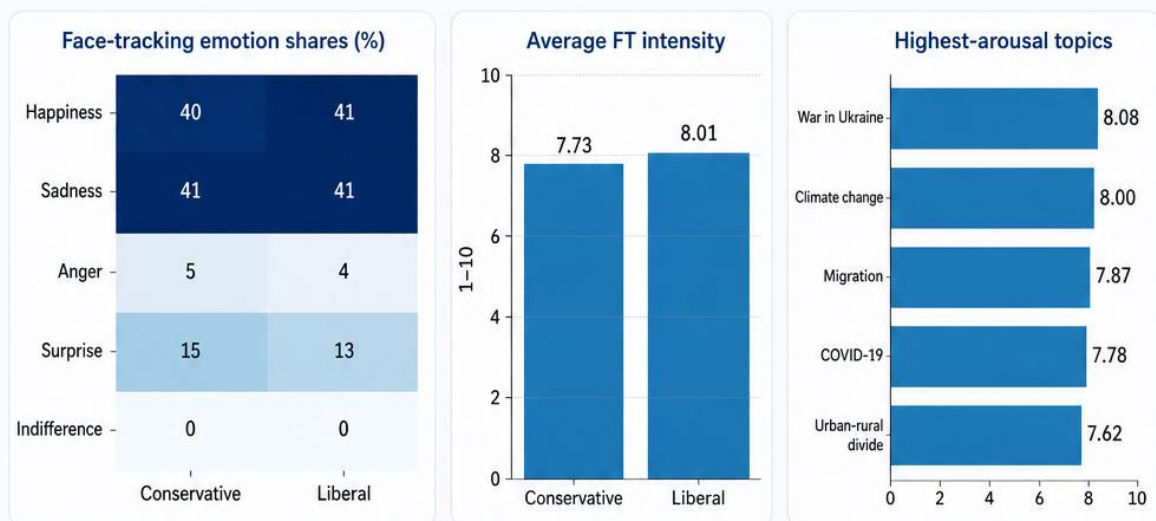
Mean gap
3.86

Verbalization rate
48.5%

FT-IDI match (verbalized cases)
17.8%

Top arousal topic
War in Ukraine

Highest-gap topic
COVID-19



Reading note

- Real-time responses are led by sadness rather than one uniformly negative reaction.
- War in Ukraine shows the strongest biometric activation; COVID-19 produces the largest affect-emotion divergence.
- The average political-compass position in this country subset is X=-2.24, Y=-2.38, used here only as contextual background.

Country interpretation

Denmark combines strong visible sadness with equally strong happiness, which points to a mixed and unsettled real-time response pattern. War in Ukraine drives arousal most strongly, while COVID-19 produces the widest FT-IDI divergence.

This panel should be read first. It summarises what participants visibly showed during exposure to political stimuli, before those reactions were translated into interview language.

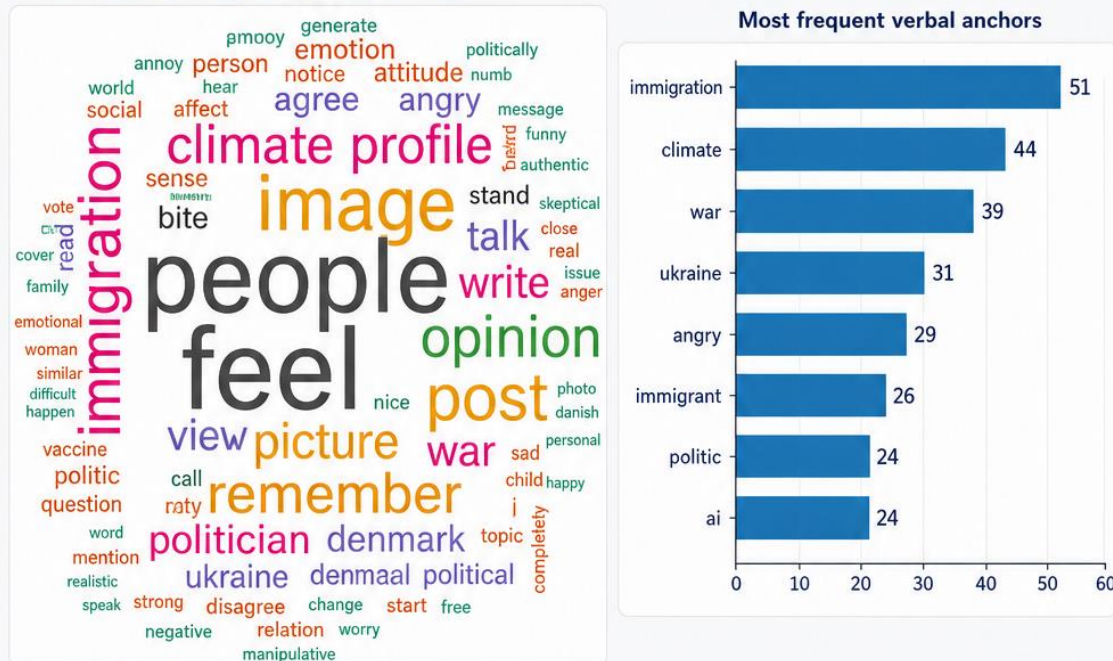
Source: ENCODE T4.2/T4.3 integrated face-tracking and IDI dataset | Vertical redesign prepared for dissemination use.

Denmark: affect-emotion map

Panel B | Verbal layer and interpretation

Dominant declared emotion (valid coded cases): Other | Highest-gap topic: COVID-19

Word cloud from country wording frequencies



	Conservative	Liberal
Happiness	14	27
Sadness	10	10
Anger	29	11
Surprise	5	18
Indifference	10	11
Other	33	23

Illustrative quote

"The images from the war in Ukraine were upsetting. They were intense to look at."

Topic: War in Ukraine

Interpretive note

Interview speech becomes more explicit and more critical than the visible layer alone would suggest. The verbal map sharpens affect into evaluation, especially around immigration, climate, and message credibility.

Top coded keywords: angry (9), worried (9), sad (8), skeptical (8), neutral (8)

Figure 4 Denmark emotional map: affective layer, verbal layer and gap indicators

At the biometric level, Denmark is defined by a near-even split between sadness and happiness, with surprise clearly secondary and anger relatively limited. This makes Denmark the least one-directional affective profile among the four countries. The country map therefore supports the interpretation of Denmark as a case of visible ambivalence or mixed appraisal rather than a case of immediate categorical response.

The verbal layer sharpens that ambiguity. Conservative-coded stimuli move much more clearly toward anger and other critical language, while liberal-coded material shows more happiness and surprise. Compared with the face-tracking profile, speech is more political, more sorted and more willing to name evaluative positions. Denmark's relatively higher verbalization rate suggests that respondents were also more inclined than in Poland or Austria to put those reactions into words.

War in Ukraine shows the strongest average arousal in the Danish map, but COVID-19 has the highest average gap. This is a useful reminder that the topics generating the strongest visible intensity are not always the same topics that produce the biggest visible-to-verbal conversion. Climate change and immigration also remain highly arousing, which fits the lexical pattern visible in the Danish word cloud and top-word list.

For workshops and public communication, Denmark is the strongest case against reading apparent calm or visible positivity as low contestation. The map demonstrates that politically sensitive material may initially register in a mixed or even positive manner, yet become markedly more critical once respondents articulate what the content means to them.

Dimension	Country-specific synthesis
Visible-affective signature	Sadness and happiness are almost balanced, producing the most mixed affective profile in the set.
Verbal-discursive signature	Declared emotion is more clearly critical, especially around conservative-coded stimuli.
Top issue hotspots	Highest arousal: War in Ukraine. Highest average gap: COVID-19. Immigration and climate are also prominent in the wording layer.
Implication for workshops	Do not stop at first impressions; mixed visible affect can still conceal strong later disagreement or criticism.

Table 4 - Denmark: Country synthesis

4.4 BULGARIA

Bulgaria is the clearest sadness-led case in the D4.3 package. The map suggests a heavier affective burden than later speech alone would indicate, even though Bulgarian respondents also show the highest verbalization rate of the four countries.

Bulgaria: affect-emotion map

Panel A | Affective profile

Respondents: n=16 | Dominant face-tracking emotion: Sadness | Analytical motif: hidden sadness

Mean gap

2.97

Verbalization rate

60.6%

FT-IDI match (verbalized cases)

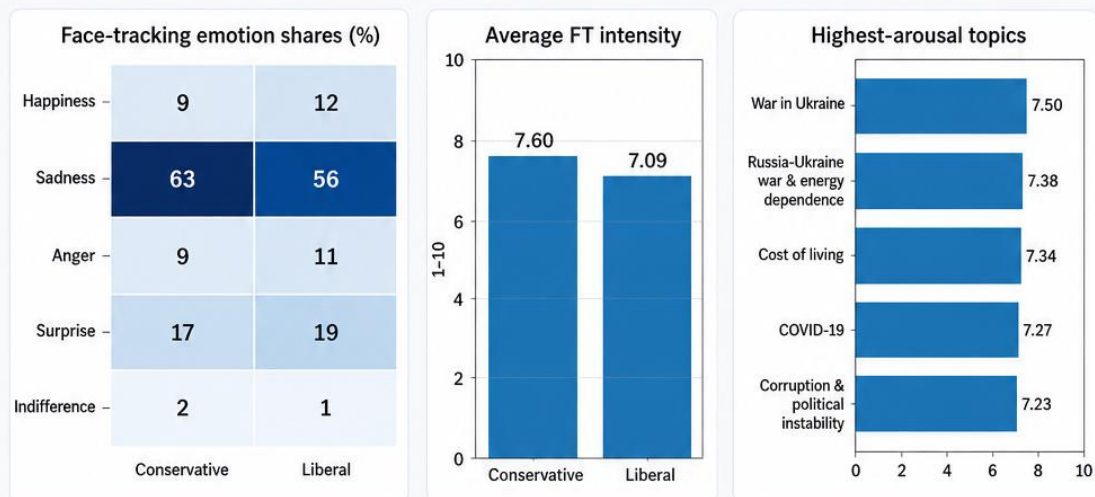
18.6%

Top arousal topic

War in Ukraine

Highest-gap topic

Corruption & political instability



Reading note

- Real-time responses are led by sadness rather than one uniformly negative reaction.
- War in Ukraine shows the strongest biometric activation; corruption and political instability produce the largest affect-emotion divergence.
- The average political-compass position in this country subset is $X=-0.39$, $Y=-2.91$, used here only as contextual background.

Country interpretation

Bulgaria stands out through a sadness-led biometric pattern in both ideological streams. War in Ukraine drives the highest arousal, but corruption and political instability generate the largest verbal-affective mismatch.

This panel should be read first. It summarises what participants visibly showed during exposure to political stimuli, before those reactions were translated into interview language.

Source: ENCODE T4.2/T4.3 integrated face-tracking and IDI dataset | Vertical redesign prepared for dissemination use.

Bulgaria: affect-emotion map

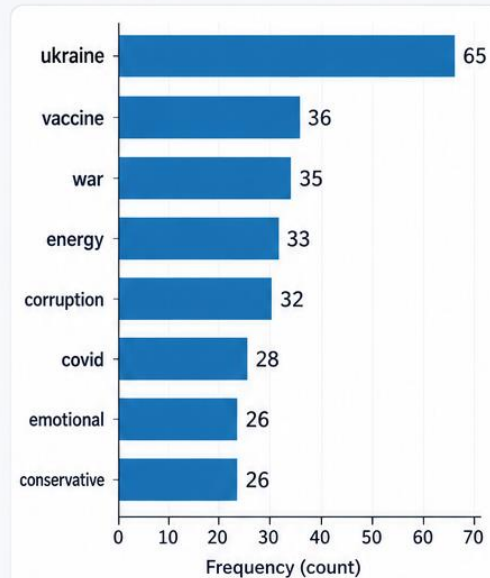
Panel B | Verbal layer and interpretation

Dominant declared emotion (valid coded cases): Other | Highest-gap topic: Corruption & political instability

Word cloud from country wording frequencies



Most frequent verbal anchors



Declared-emotion shares among verbalized cases (%)

	Conservative	Liberal
Happiness	7	30
Sadness	13	20
Anger	26	13
Surprise	9	7
Indifference	13	6
Other	31	23

Illustrative quote

"I disagreed with the anti-COVID posts. Whenever I see 'security and family values', I get angry."

Topic: COVID-19

Interpretive note

The verbal layer is more divided than the biometric layer. Sadness remains important, but respondents also articulate anger, distrust, and positive cues, which suggests that visible burden is partly reframed when participants begin to speak.

Top coded keywords: irritated (15), skeptical (14), annoyed (11), hope (9), surprised (8)

Figure 5 Bulgaria emotional map: affective layer, verbal layer and gap indicators

The biometric layer in Bulgaria is strongly led by sadness, far ahead of surprise, happiness and anger. This gives the country a distinct visible profile. The map therefore supports the interpretation of Bulgaria as a case in which the initial embodied reaction carries a substantial burden of concern, heaviness or emotional cost, particularly when respondents are exposed to crisis-related or socially tense stimuli.

At the same time, Bulgaria is not a case of silent affect. Nearly half of the rows contain coded verbal material, which is the highest verbalization rate among the four country maps. Yet that higher verbal expression does not eliminate the gap. Exact face-tracking to IDI correspondence remains low, and the verbal layer is more split across anger, Other, happiness, sadness and surprise than the biometric layer would suggest.

War in Ukraine is again the strongest average arousal topic, but the largest average gap is associated with corruption and political instability. This pairing is important in country-specific communication terms. It suggests that geopolitical crisis material is immediately intense, while domestic political dysfunction creates a particularly strong reworking between what is shown on the face and what is later said.

Bulgaria therefore captures the core rationale of D4.3 very well: the country map makes visible an affective burden that is partly softened, reframed or redistributed once respondents begin to speak. For downstream ENCODE work, this means facilitators should pay attention not only to what respondents say explicitly, but also to the possibility that heavier visible reactions are being managed discursively into more acceptable or socially organised language.

Dimension	Country-specific synthesis
Visible-affective signature	Sadness is the dominant face-tracking category by a wide margin.
Verbal-discursive signature	Speech is comparatively rich and diversified, but it still does not closely mirror the biometric layer.
Top issue hotspots	Highest arousal: War in Ukraine. Highest average gap: Corruption and political instability. Ukraine, energy and vaccine-related wording are also prominent.
Implication for workshops	Listen for reframing and emotional management: later speech may soften or redistribute an initially heavier affective burden.

Table 5 - Bulgaria: Country synthesis

5 CROSS-COUNTRY COMPARISON: SHARED PATTERNS AND OUTLIERS

Read together, the four country maps show that the affect–emotion gap is structured rather than random. Country differences are clearest in the visible layer, whereas the declared layer is comparatively more interpretive and less nationally distinct. This finding is consistent with the statistical backbone inherited from the testing file: dominant face-tracking category varies significantly by country, whereas dominant declared emotion does not show the same level of cross-country differentiation. Likewise, the relationship between dominant FT and dominant IDI is not significant in the inherited test set, which supports the core interpretive move of D4.3: the two layers should be analysed together, but they should not be expected to collapse into one another.

5.1 WHAT IS SHARED ACROSS COUNTRIES

Three cross-country regularities are especially important. First, all four countries show limited direct correspondence between visible and declared emotion. Second, war in Ukraine is a high-arousal topic in every country map, even though it is not always the topic with the largest visible-to-verbal distance. Third, the verbal layer repeatedly contains a large interpretive or non-single-emotion component ('Other'), indicating that respondents often move rapidly from naming feelings to evaluating messages, assessing credibility or situating the stimulus in a broader political narrative.

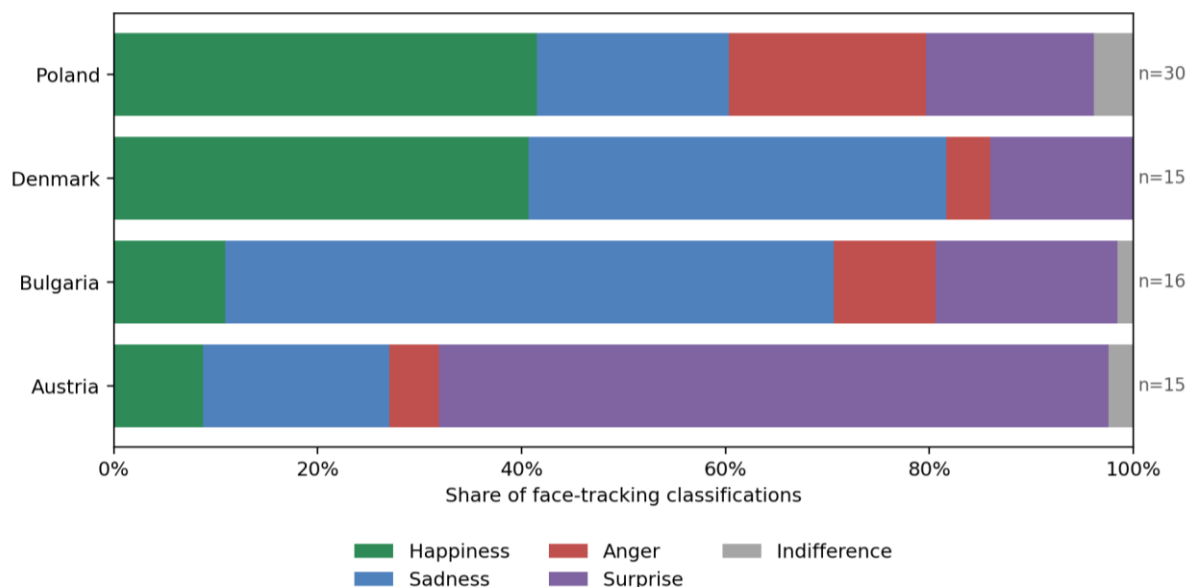


Figure 6 Cross-country face-tracking profiles

5.2 WHAT DIFFERENTIATES COUNTRIES

Poland is the clearest case of visible positivity moving into a more conflict-oriented verbal layer. Austria concentrates strongly around surprise but becomes evaluatively differentiated once respondents explain the material. Denmark has the largest mean gap and is the strongest case of mixed visible affect translating into more explicit critical language. Bulgaria is the sadness-led case, yet also the most verbalised one, which shows that greater speech volume does not eliminate the distance between the layers.

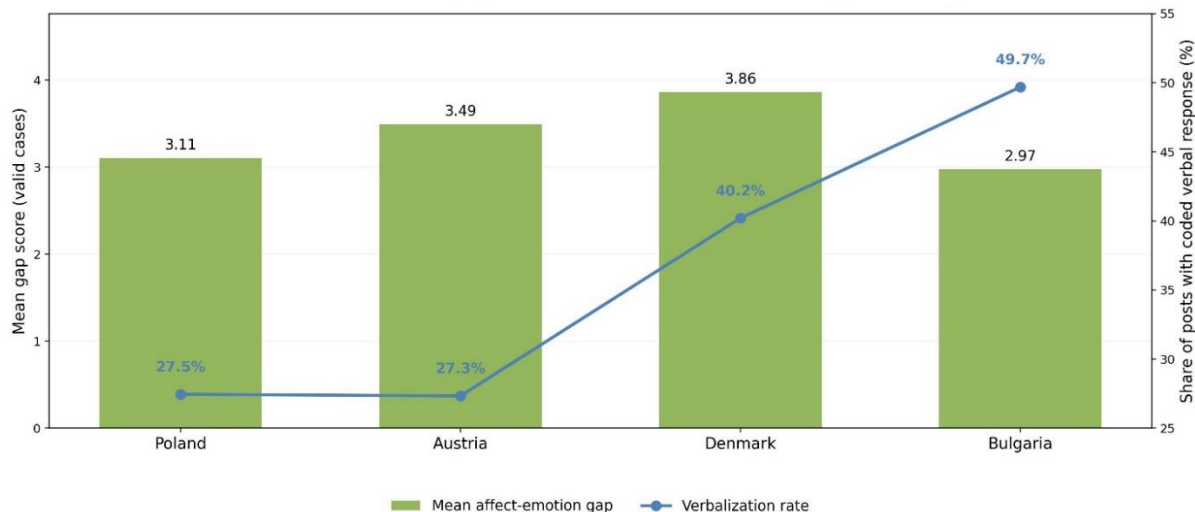


Figure 7 Mean affect-emotion gap and verbalization rate by country.

5.3 SUPPLEMENTARY REPRODUCIBILITY CHECK

To make the packaging logic more transparent, below there is a simple supplementary check based on comparable coded FT and IDI pairs. Exact category matching remains low in every country, ranging from 23.0% in Bulgaria to 27.2% in Denmark. Cohen's kappa values are near zero to low positive, which again indicates that the country maps should be interpreted as displays of translation and reframing rather than direct equivalence.

Country	Exact FT-IDI match	Cohen's kappa	Interpretive meaning
Poland	23.9%	0.004	Very weak direct correspondence; later speech frequently reworks visible positivity into political interpretation.
Austria	26.3%	0.092	Slightly higher correspondence, but surprise still functions more as an opening than as a final emotion label.
Denmark	27.2%	0.062	The highest exact match in the set, yet still low enough to confirm strong interpretive conversion.

Bulgaria	23.0%	0.051	High verbalization does not mean high equivalence between affective and verbal layers.
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Table 6 - Additional check

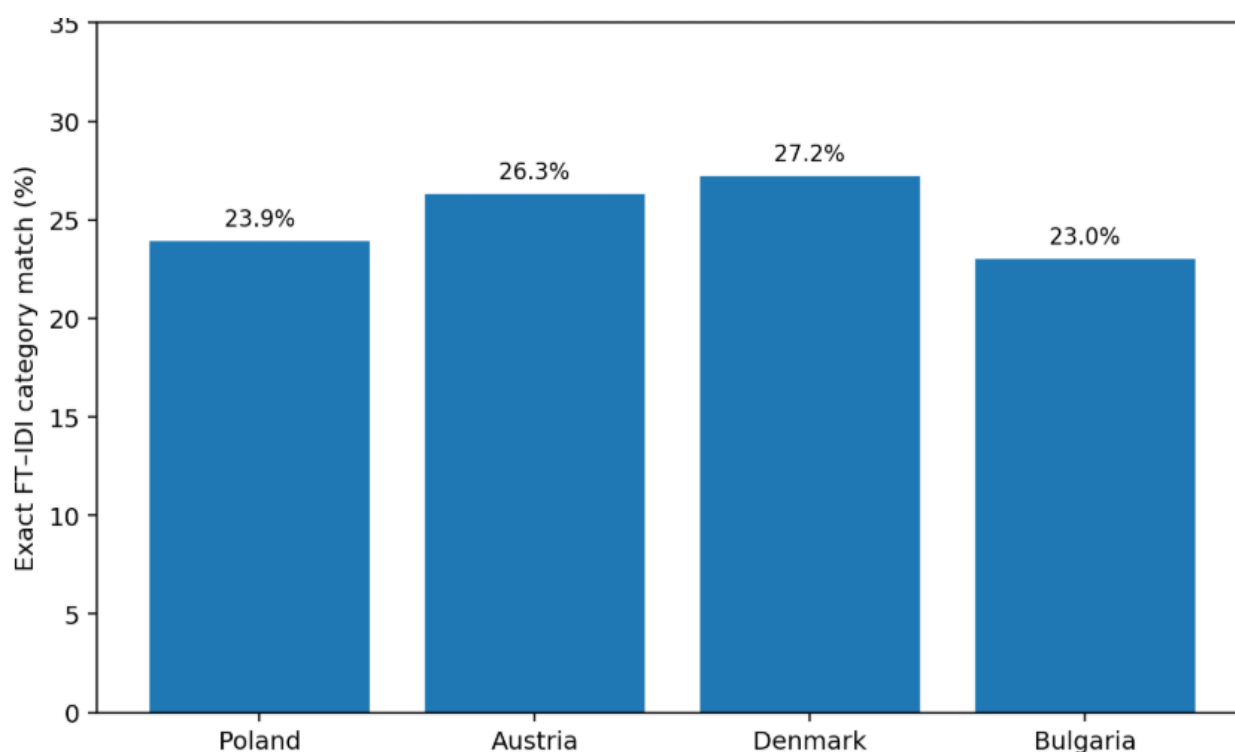


Figure 8 - Direct correspondence between visible and declared emotions

5.4 WHY IT MATTERS FOR ENCODE PROJECT

The core downstream value of D4.3 is therefore not simply descriptive. The country maps show where political messages may feel emotionally one way in the moment and be talked about another way afterwards. That gap is exactly the terrain on which future emotional narratives, workshop materials and policy-facing communication need to operate. Messages that appear emotionally straightforward at the level of discourse may be affectively more complex underneath, while messages that look emotionally positive at first exposure may still become polarised once citizens begin to interpret them.

6 CONCLUSIONS

6.1 SUMMARY

D4.3 confirms the central WP4 insight that political emotions cannot be fully understood from either biometric or verbal data alone. The four country maps show that immediate visible affect and later verbalised emotion often diverge in systematic and meaningful ways. Face-tracking captures the first expressive and arousal-related layer of response, while IDIs reveal how participants label, justify and politically interpret those reactions after the stimulus has been processed. The resulting affect-emotion gap is therefore not a weakness of the research design, but a key finding: citizens may visibly react with surprise, happiness, sadness or anger and later translate that reaction into a different emotional vocabulary, moral judgement or issue-based explanation.

For the ENCODE project, the main practical conclusion is that emotional maps are useful because they make complexity visible. They can be used as briefing and facilitation tools in WP5, WP6 and WP7, helping researchers, citizens and policymakers discuss not only which emotions appear in response to political narratives, but also how those emotions are transformed into explicit language. The maps should be read as exploratory, sample-based visual syntheses rather than representative national diagnostics. Their strongest value lies in generating hypotheses, supporting workshop discussion and guiding the design of future emotional narratives that are sensitive to the difference between what citizens immediately show and what they later say.

At country level, the maps show differentiated emotional profiles. Poland combines visible happiness with a more anger-led and conflict-aware verbal layer. Austria is marked by a highly concentrated surprise profile that becomes more evaluative in speech. Denmark shows the widest average gap, with mixed visible affect becoming more clearly articulated and critical in the IDIs. Bulgaria stands out through a strong sadness profile and the highest verbalisation rate, suggesting that heavier visible affect is partly reframed when respondents explain their reactions. Across the four cases, country differences are stronger in the biometric layer than in the declared-emotion layer, which supports the conclusion that the interview stage adds interpretation and discursive management rather than simply repeating the face-tracking output.

6.2 ADDITIONAL ANALYSIS RECOMMENDED FOR FUTURE

The exploratory results presented in D4.3 provide a useful basis for further research, but they should be extended through larger, more representative and preferably longitudinal designs. Future work should test whether the country-level patterns observed in the WP4 biometric setting remain visible in broader population samples, whether they change over time, and how they interact with ideology, media exposure, trust, political efficacy and vulnerability profiles. The following additional analyses are recommended:

- Country- and stimulus-level agreement analysis using weighted or alternative reliability coefficients where category imbalance is strong.
- Distribution-sensitive comparisons using full emotion profiles rather than only dominant categories.
- Mixed-effects modelling that separates topic, country and ideological cue effects on FT intensity and gap scores.
- Semantic network analysis of the verbal layer so that word clouds can be complemented by relationships among themes and evaluative frames.

ACRONYM	FULL NAME
CAWI D	Computer Assisted Web Interview Deliverable

