🇵🇱🤝🇪🇺: Emoji, Language Games and Political Polarisation

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[1]*LSE Data Science Institute, London School of Economics and Political Science, United Kingdom*

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Abstract

Are emoji political? In an increasing body of research, emoji have variably been viewed as emotional data or personality identifiers. However, little attention has been paid to the social and political import of emoji. Using a dataset of politically active Twitter users in Poland, including 334 members of parliament and their 1,288,950 followers, we ask whether emoji are used for political self-representation, and discuss the implications for political identity formation and mobilisation online. Adapting a new method of ideal point estimation, we identify patterns in the employment of emoji in user Twitter bios across a latent political space computed from a Twitter following network. We find that emoji are used as stand-ins for offline political symbols such as 🏳️‍🌈, 🏳️‍🌈 and ✝️. Additionally, we find that the use of emoji without recognisable political meaning, such as ✌️, 💪, 💯 and 🌱 is contingent on a users estimated political ideal point. Users on the left are likelier to employ ✌️ and 🌱, while those on the right are likelier to employ 💪 and 💯. Using Ludwig Wittgenstein's theory of language games, we argue that this points to the use of emoji for communication of both political values and affect, and to the development of a new political language game of emoji.

Keywords

sociolinguistics, social media, networks, Polish politics.

1. Introduction

If you opened your Twitter app in October 2021, you might have seen a flush of green or blue hearts on your timeline, as users added them to their bios in response to new anti-abortion legislation in Poland. Blue hearts denoted agreement, while green hearts indicated opposition - a reference to the Argentinian 'Green Wave' abortion rights movement [4, 20]. Does the use of such emoji signal a new vernacular in online political communication?

We adapt a new method to estimate the political ideal points of Twitter accounts, based on their position in a latent network [5, 46], and thus identify patterns in the employment of emoji in user bios. As expected, use of 🟦, 🏳️‍🌈 and ✝️ emoji appears politically contingent. More intriguingly however, so does the use of emoji without a direct political meaning, such as ✌️, 💪, 💯, 🌱. Users on the left are likelier to employ ✌️ and 🌱, while those on the right are likelier to employ 💪, 💯. Using the theory of Ludwig Wittgenstein, the Austrian philosopher of language, we argue that this points to a new political language game.

The advent of emoji has been described as a "veritable paradigm shift" in human communication [12, p.VI]. While existing research has found that emoji use reflects patterns of collective and negotiated meaning, little attention has been given to the implications for collective identity formation. Yet this is significant, since emoji are both more reductive and more flexible than natural language. Although one emoji can have different meanings, natural language users can only pick ready-made emoji off the shelf: they cannot adjust or edit them.

Linguistic research has focused on the discursive use of emoji for affect [11], attention-grabbing [19] and advertising [13]. More recent work has looked at their use in signalling political association [37] and social affiliation [3]. While much of this work has focused on emoji use in messaging and discussion posts, however, the increasing use of emoji for online self-representation has yet to be studied. We look specifically at how this applies to Twitter bios.

Twitter bios ask for a self-representation "in 160 characters". Given this space limitation, they require a concentrated form of communication [64, 24], and offer the online equivalent of a first impression [51, pp. 2]).

Pathak, Madani and Joseph describe a unique bio vernacular, which involves users listing multiple social and personal identities through single nouns delimited by a "." or a "|" [43]. For example, former US President Barack Obama's Twitter bio reads: "Dad, husband, President, citizen". Meanwhile, a recent four-year longitudinal study observed users adding political words to their Twitter bios at a higher rate than any other word category [51].

To date, however, very little academic attention has been paid to the political content of Twitter bios. This paper will fill the gap by analysing the use of emoji to express political values and self-representation on Twitter bios, and the implications of this for political mobilisation and polarisation [46, 5]. It is our hope that this will lay the groundwork for the use of emoji in expanding ideal point estimation.

2. Theoretical Background

2.1. A Language Games of Emoji

In 1953, Ludwig Wittgenstein's Philosophical Investigations was published posthumously, outlining his observation that our experience of the world is shaped by language. In contrast to the dominant conception at the time – that language was a tool based on external rules - he described how words gain and regain meanings through use, calling this the *language-game*. Wittgenstein's revolutionary insight was that language is not simply a logic-based tool akin to mathematics, existing separately from people. Instead, words have no fixed meanings, but are

given context-specific meaning through action. How we experience actions and their meanings is defined by the words we use about them.

Hence the idea of language games: "[speaking] language is part of an activity, a form of life" [62, pp. 15]. By forms of life, Wittgenstein means different groups and activities within our lives, around which we create unique language games which help give meaning to such activities. We talk about political processes, for example, differently than about our favourite music; and we may talk about both differently in different social contexts. Each distinct form of life we engage in develops a unique language game around it - and through these language games we construct the form's meaning.

2.2. Sociolinguistics

Wittgenstein's insights - that forms of life are shaped by language games, and that language itself is shaped by how we use it - gave way to further research in philosophy, sociology and linguistics. In linguistics, this field has become known as sociolinguistics. It looks at how social processes inform linguistic change [31], and how language use shapes social dynamics [22]. The latter research strand, sometimes called discourse analysis, has featured work analysing emoji usage, focusing primarily on emoji as a tool for emotional expression [30, 17, 18, 23, 16, 42, 59]. This extends beyond traditional face emoji, whose emotional import is apparent. Riordan, for example, stresses how even object emoji, though having no direct emotional affect, still perform "emotion work" [47, 26].

A common theme of the work so far concerns the potential for misunderstanding or interpretation divergence [42, 59, 17]. Approaching emoji as primarily "emotional data", however, risks underplaying the social and political import of emoji usage [53, pp. 1]. Recent work in computational sociolinguistics has, for example, highlighted the 2015 inclusion of skin-tone emoji modifiers to all Apple operating systems to observe how social groups use emoji to express identity [50, 49]. Further work has analysed cultural differences in the use and interpretation of emoji [23, 54], and observed how emoji are used as stand-ins for political symbols during online campaigns [2]. This work recasts the literature's focus on emoji "miscommunication", and points towards the interpretation of emoji as negotiated and embedded in social groups [41, 25, pp. 1].

2.3. Symbolic Boundaries

Beyond considering how emoji use is tied to specific social groups, little attention has been paid to whether it plays a role in constructing social group identities. Social Identity Theory (SIT) posits that our sense of identity, rooted in the social group we are part of, is constructed through a "human capacity - rooted in language - to know 'who's who' and 'what's what'" [27, pp. 6]. As with Wittgenstein's language games, SIT suggests that social identity is a process - not something we have, but something we do. Language is central to this process of identity construction, and often plays a role through symbolic boundaries [32, 57, 6] - lines that "include and define" a social group [33, pp. 1]. Symbolic boundaries are constructed iteratively through use of symbols such as clothing, images and linguistic patterns to define, and redefine, in-group and out-group [32]. This process is known as boundary work. Group-based linguistic variation

in use and interpretation of emoji indicates that emoji use could play a role in boundary work's online performance.

This is significant since group boundaries play an important role in collective mobilisation, strengthening shared definitions of "us/them" and bolstering "feelings of similarity and group membership" as a prelude to action [15, 58, 40, pp. 232].[1] Similarly, language games enable group mobilisation. If emoji are used to communicate political affiliations and develop collective political identities, this becomes relevant for understanding online political mobilisation and group polarisation.

Unlike symbolic boundaries, however, the theory of languages games suggests that linguistic patterns underpinning group identity are not symbols of that group, but actions distinguishing that group from another. Rather than using an emoji to signal group membership, the very use of emoji enables the group to exist. Consequently, while symbolic boundaries view the tie between language and group identity as something which must be "recognised by outsiders for an objectified collective identity to emerge" [32, pp. 170], language games theory suggests the tie can occur unconsciously and contribute to group identification even it not recognised by outsiders. This provides a helpful framework for understanding emoji use, and the unique ways in which emoji such as 🌱 and 💯 might assist collective identity building without directly appealing to symbolic boundaries.[2]

We aim to extend the work on emoji beyond their use in "emotion work" and offer a new theoretical framework for viewing emoji as a foundation for digital language games.

3. Methods

3.1. Data & Methods

To investigate the questions outlined Section 2 we selected the case of the political Twitter sphere in Poland. Twitter is broadly used in Poland, but Polish language tweets make up a small proportion of Twitter content, and mostly produced by Polish users. This enables our sample to capture a maximally broad section of the population, while avoiding spillover effects introduced by users from multiple countries. This is important because we aim to estimate patterns of language use within a single political community.

To produce estimates of ideological positions of a sufficiently large Twitter population involved in political online debates, we selected the ideal point estimation method for social media data [5]. In particular for Twitter data and multidimensional political scales in European settings, this method, called ideological embedding [46], leverages political homophily in online social networks and political survey data to produce interpretable scales of positions for large numbers of users along dimensions of political issues and ideologies. This method requires us to select a seed group of political references users, typically members of parliament in a country [45]. We annotated 334 members of parliament (MPs) in Poland in October 2020, building on the Twitter Parliamentary Database [60], and belonging to 9 political parties. We then collected

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[1] Dubbed *entitativity* within SIT [7]

[2] This also enables the use of emoji to "communicate via coded workarounds", for example the famous 🤠 emoji used by the far-right to signal group membership only to 'those in the know'. See Albury [1] for a description of emoji as "off-label" uses of digital media.

their 1.288.950 Twitter followers, and – following Ramaciotti Morales, Cointet, and Zolotoochin [46] filtered those that had less than 25 followers or that had published less than 100 tweets, so as to minimise the probability of including bots in our dataset. We also excluded followers that followed less than 3 of our 334 MPs, so as to assure that a following link conveys an ideological signal, and is not due to other reasons (e.g., some MPs are celebrities in the public sphere). This resulted in 71.884 followers in our dataset.

3.2. Estimating and Interpreting Ideal Points

Following the methodology described in [46], we compute an approximation of a multidimensional ideal point estimation in our MP-follower network using the Correspondence Analysis of the adjacency table of this bipartite network [36] (with MPs in columns and followers in rows, with values 0 and 1 indicating whether an MPs is followed by each user). The result of this operation is a multidimensional latent position for each MP and each one of the 71.884 followers in our dataset. Positions in this space explain how followers follow MPs by proximity: the closest they are, the higher the probability of one following the other. To interpret to which political issues and dimensions these dimensions are related, we will use the Chapel Hill Expert Survey (CHES) data [28]. The CHES data contains party positions, as evaluated by experts, along 51 dimensions of political issues and ideologies; 5 of our 9 political parties are present in the CHES data. Fig. 1 shows the distribution of MPs and followers along the first two dimensions of this latent space, with MPs colored according to the 5 parties available in the CHES data to which they belong.

To provide an illustration of the amounts of users that use emoji in our dataset, Fig. 2 shows the amount of users in our dataset according to their position along the first latent dimension, together with the proportion of those that have a Twitter bio (i.e., a profile description), and those that include emoji on them.

4. Results

In this section we outline the results of the study, presenting them in response to the three research questions.

4.1. RQ1: Which political issue clusters arise from the network of political accounts and their followers on Twitter?

To answer this question we leverage the CHES data described in the previous section as detailed in [46]. For a given dimension of our latent space, we compare party positions along this dimension with party positions in the CHES dimensions.

To do this comparison, we attribute MPs the position of their parties on the one hand, and consider positions in the latent space in the other, to then assess the degree to which CHES and latent are aligned via correlation.

We systematically run a Pearson correlation r between party positioning according to our first dimension, and according to all CHES dimensions and retain those were correlation is
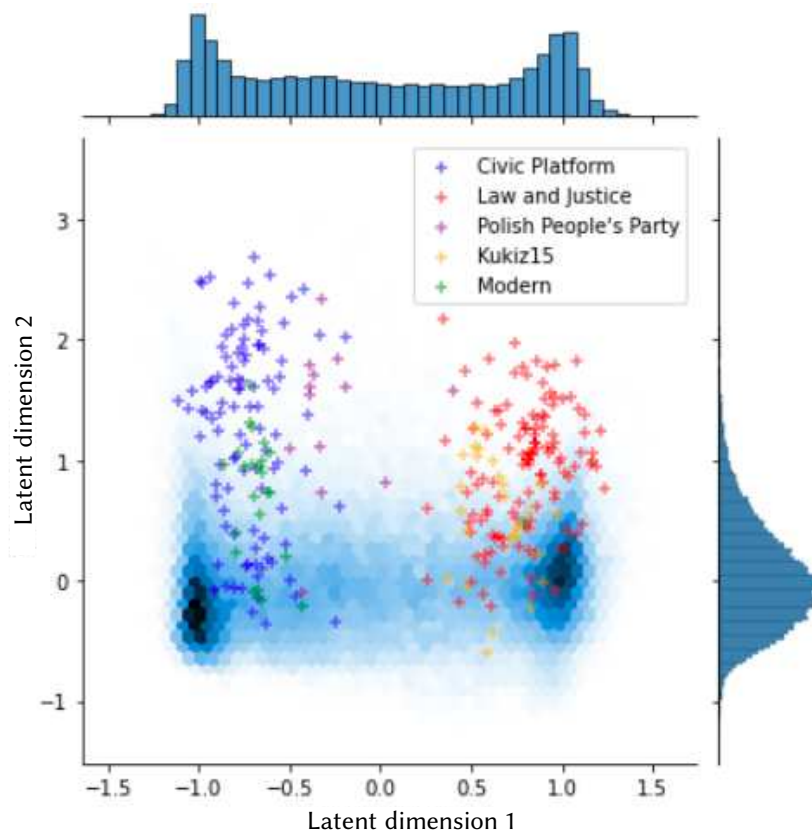
Figure 1: Distribution of MPs (positions in crosses +) and followers (density shown in shades of blue) along the first two dimensions of the ideological latent space to the MP-follower network. MPs are colored according to the 5 parties available in the CHES data to which they belong.

$|r| \geq 0.9$. The CHES dimensions highly correlated with the first latent dimension of our MP-follower Twitter network are (with correlation value r and p-value): attitudes towards elites and institutions ($r=0.99, p \leq 0.001$), anti-islam rhetoric ($r=0.99, p \leq 0.001$), attitudes towards EU integration ($r=-0.98, p \leq 0.01$), EU foreign policy ($r=-0.97, p \leq 0.01$), EU asylum policy ($r=-0.95, p \leq 0.05$) EU budget authority ($r=-0.95, p \leq 0.05$), towards multiculturalism ($r=-0.98, p \leq 0.01$), attitudes against liberal immigration policy ($r=0.94, p \leq 0.05$), attitudes towards economic growth over environmental protection ($r=0.94, p \leq 0.05$), against ethnic minorities ($r=0.94, p \leq 0.05$), towards nationalism ($r=0.91, p \leq 0.05$), towards law and order over civil liberties ($r=0.96, p \leq 0.01$), ideological Left-Right ($r=0.96, p \leq 0.01$), and the importance granted to the question of immigration ($r=0.90, p \leq 0.05$). This is interpreted as follows. The first latent dimension obtained via the ideal point estimation procedure stands as an indicator of several political ideologies and issues that are highly aligned and that are measured in the CHES data.

Users with high values in the scale of this first latent dimension display high negative attitudes towards the EU, immigration, multiculturalism, Islam, and elites. They also display right-wing ideological positions (as measured by the CHES data). They attribute more importance to law and order than civil liberties and to economic growth over the protection of the environment.
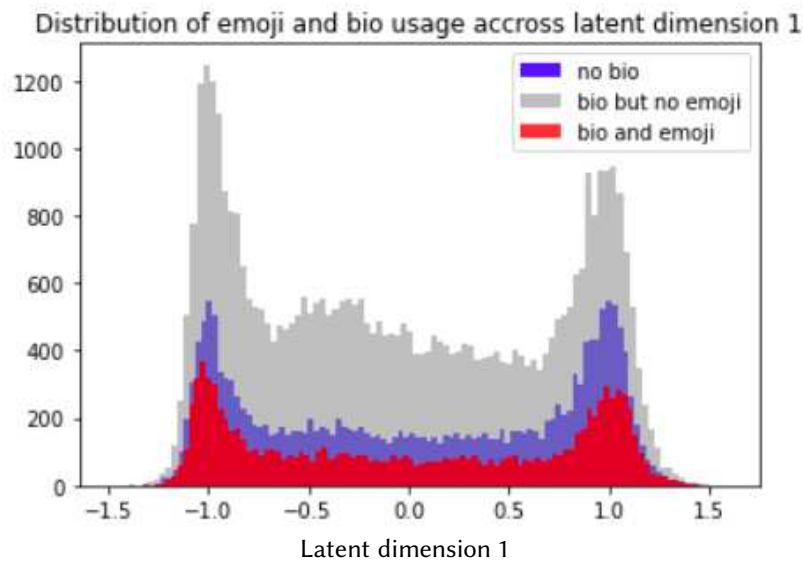
Figure 2: Amount of users in our dataset according to their position along the first latent dimension, together with the proportion of those that have a Twitter bio (i.e., a profile description), and those that include emoji on their them

They are also more nationalistic. User with low values in the scale of this first latent dimension display positive attitudes towards the EU, they are more left-leaning, are less nationalistic, and more acceptance of liberal immigration policy and multiculturalism. While the first latent dimension of has an explained inertia of 5.1% (see the annex for more details), these correlations show this dimension already captures left-right differences that can be leveraged in analyses of online activity. The user is referred to the Codebook of the CHES data for more detailed description of the substance of the CHES dimensions that attribute now meaning to our first latent dimension. Fig. 3 explicitly illustrates the computation of the correlation using the position of MPs of political parties on a few dimensions.

Fig. 3 illustrates that parties clustered on the lower end of latent dimension 1 include opposition party Civic Platform and the parties politically closest to it: Polish People's Party and the socially liberal Modern party (Nowoczesna). We will call these parties 'left' wing for simplicity.[3] Parties clustered on the higher end of latent dimension 1 include the incumbent populist right-wing PiS and the national conservative party Kukiz'15. Figure. 3 below demonstrates the relative dispersion of MPs within each party, with smaller parties being more dispersed. Party centroids (average of MP positions) are shown in black.

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[3]In the Polish political context, the 'left' platform (Civic Platform, Modern etc) refers to support for liberal social policies and free-market economics. While the 'right' platform (PiS, Kukiz'15) refers to support for conservative social policies and social welfare. Religion figures heavily in this left-right division [8, 9, 63].
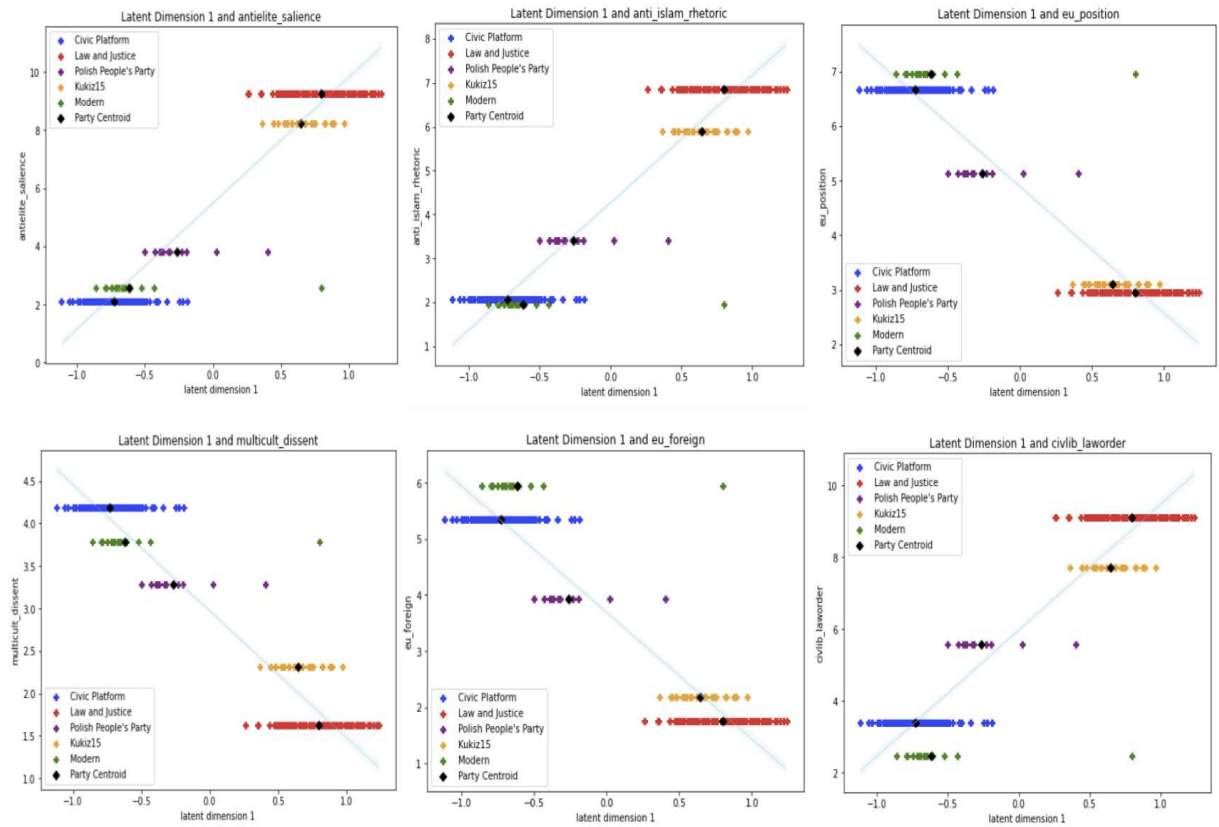
Figure 3: Computation of the correlation of positioning of MPs according to the first dimension of the latent space and according to the position of their parties as provided in the Chapel Hill Expert Data.

4.2. RQ2: Does the use of *recognised political emoji* in user bios vary across the political network?

We start by splitting latent dimension 1 into deciles. Twitter accounts are roughly evenly-distributed across deciles (see table 1). The decile to which an account is attributed based on its latent dimension score forms its 'target' class. Below, we present our analysis of tendencies in bio emoji usage across these deciles. We first report summary statistics.

Table 1
Total number of emoji and average per bio, by decile (left → right)

decile	count emoji	avg emoji
left 5	5373	3.3
left 4	5311	3.2
left 3	5434	3.2
left 2	5532	2.9
left 1	5545	3.2
right 1	5441	3.0
right 2	5251	2.9
right 3	5077	3.0
right 4	4891	2.8
right 5	5059	2.8

The total number of (non-MP) accounts in the sample is 71884, with a total of 52914 possessing bios (74%). Only users with bios are included in the analysis. This gives us a final sample of 10232 bio-accounts which include at least one emoji in their bio (19.3%), with average of 3 emoji per bio (sd: 3.1; variance: 9.6). The mode emoji usage is 1 (3571 accounts), followed by 2 (2238 accounts). The maximum number of emoji used in any bio is 71. Table 1 demonstrates that the average number of emoji-per-bio is consistent across deciles, hovering around the sample average of 3.

The most frequently used emoji across the sample are 🇵🇱, 🇪🇺 and ❤️. Below we outline the most frequently used emoji by decile.

Table 2
Most frequently used emoji by latent dimension decile (left → right)

Note: Top 5 most frequently used emoji, by % (corresponding to indices 1-5).

Interestingly, the Polish flag is the most common emoji regardless of decile. This offers a useful corroboration of research findings that this flag is a nonpartisan symbol in Poland, unlike for example the English or British flags [29]. In contrast, the EU flag appears more partisan.

Figure 4: Distribution of Accounts Using Politically Associated Emoji Across Latent Dimension 1
x-axes from 0 - 400
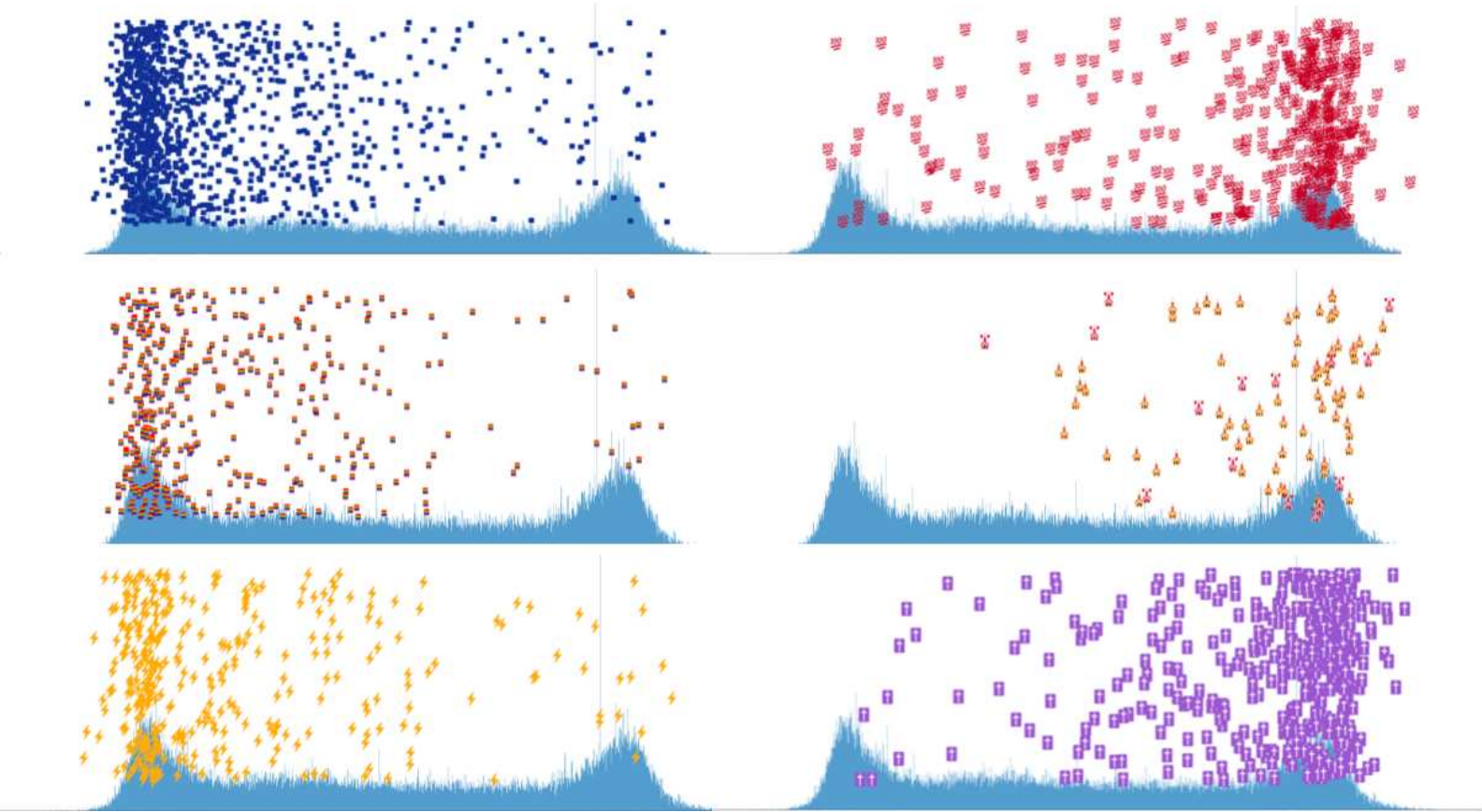
The dominant symbols on the left and right are 🇪🇺 and ✝️ respectively. This fits strikingly within expectations from the literature, and popular conception, that the primary cleavage in Poland is based on attitudes towards the EU and Catholicism [61]. Indeed, the incumbent PiS emphasise religion in their rhetoric, alongside an infamously anti-EU stance[35, 56].

Beyond this, a social attitudes divide also emerges, with the 🌈 emoji emerging as the most popular on the far left, fading out in the centre, before being replaced by the ✝️. These two emoji seem to be representing the dominant social attitudes associated with both sides of the political cleavage. Curiously, the ⚽ dominates among the centre and centre-right deciles.

Some particularly interesting cases emerge. One of the most popular emoji on the farthest left is ⚡, the emojified lightening-bolt. This is also the symbol of the Polish feminist Women's Strike movement (Ogólnopolski Strajk Kobiet, OSK). This movement gained prominence following national anti-abortion laws. Inclusion of this emoji in a bio, therefore, would serve to express that account's pro-choice, feminist political stance.

Table 3
Prevalence of the emoji umbrella ☂️ among bios with emoji by ideological deciles.

	left 5	left 4	left 3	left 2	left 1	right 1	right 2	right 3	right 4	right 5
☂️	17%	11%	0%	2%	0%	0%	0%	0%	0%	0%

A second symbol closely associated with the abortion rights movement in Poland is the umbrella, which became a symbol following protests which took place in the rain.[4] In line with expectations, the emojified umbrella also appears to be being used for political self-representation by accounts on the left. For accounts on the farthest left, the umbrella emoji makes up 17% of all the emoji used in bios, as visible in 3. See Appendix for further detail on ⚡ and ☂️.

The emoji described above, whose use is associated with a user's political position, all correspond to recognised offline political symbols, including flags, religious and protest symbols. There are other emoji in the table above whose use is also associated with a user's political position, but which do not correspond to known political symbols. These relate to our third research question.

4.3. RQ3: Does the use of *unrecognised political emoji* in user bios vary across the political network?

Unlike the flags and political symbols explored above, the political meaning of some emoji visible in the table (💪, 💯 & ✌️) are harder to explain. These emoji do not have recognisable political associations, but serve the purpose of communicating tone, affect, or even body-language[18]. The striking difference in the 'body-language' of emoji on either side of the political network, from strong and assertive to open-palmed and peaceful, indicates the use of emoji in delivering political affect. This, we argue, points to the development of a language game of emoji, whereby

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[4]See for example a media report by Notes from Poland.

certain emoji carrying a particular tone or expressive mode become associated with a political stance.

To illustrate this further, we calculate Pearson correlations based on % use of each emoji by decile and where that decile resides on the latent dimension (ie. lower value deciles are associated with proximity to 'left' wing parties and vice versa). Below we present the 10 emoji whose use is most strongly correlated with accounts on the 'right' (ie. associated with higher latent dimension scores), sorted by effect size (p≤0.005).

Table 4
Pearson correlations based on % of use of emoji by decile of the latent dimension for emoji associated with the right-leaning users.

	unicode	coef	pval
	:church:	0.916	0.000193
	:latin cross:	0.913	0.000229
	:right arrow:	0.889	0.000561
	:hundred points:	0.884	0.000677
	:wedding church:	0.878	0.000824
	:folded hands:	0.861	0.001388
	:oncoming fist:	0.850	0.001826
	:Hungary:	0.844	0.002160
	:baby:	0.833	0.002774
	:prayer beads:	0.832	0.002864

Remarkably, these emoji communicate multiple social and political values associated with the right in Poland. The use of emoji depicting church (both 🏛 & 💒, used interchangeably) for self-representation are both associated with a 9.2% and 8.8% increase in use for each decile shift to the right. While a one decile shift to the right is associated with a 9.1% increase in use of the latin cross. Other religious emoji emerge as part of users' self-descriptions including prayer-beads and folded hands.

Curiously, use of the baby emoji emerges as strongly associated with accounts on the right, perhaps capturing the political salience of Poland's record low birth rates, it's feminist tie-ins, and PiS's subsequent election pledge to increase birth rates.[5] The baby emoji is an interesting example both of political value signalling through emoji, but also a fascinating illustration of the incumbent party's cornerstone policy through it's supporters choice of emoji [10, 39, 14].

Meanwhile, the presence of the Hungarian flag as an emoji highly correlated with the rightmost deciles in latent Polish political Twitter space is testament to the political association between the right in these two countries (which are both associated with anti-EU, far-right governments). As described above, the two 'body-language' emoji here, the 👊 and 💯, both express a political affect which is strong and assertive.

As expected, political symbols associated with the Polish left, including the rainbow, EU flag

[5]See here for a discussion about the controversial Family 500+ social welfare programme which has been a cornerstone of the Law and Justice party's political programme

Table 5

Pearson correlations based on % of use of emoji by decile of the latent dimension for emoji associated with the left-leaning users.

	unicode	coef	pval
🌈	:rainbow:	−0.941	0.000049
🟫	:medium skin tone:	−0.940	0.000055
🇪🇺	:European Union:	−0.921	0.000153
🌱	:seedling:	−0.913	0.000226
⚡	:high voltage:	−0.905	0.000321
🟧	:medium light skin tone:	−0.902	0.000355
♑	:Capricorn:	−0.896	0.000458
💜	:purple heart:	−0.886	0.000645
☮	:peace symbol:	−0.879	0.000815
🇺🇬	:Uganda:	−0.875	0.000931

and feminist lightening-bolt are highly correlated with accounts on the 'left' of the network. A one decile shift to the left is associated with an increase in percentage use of these emoji by 9.4% (rainbow), 9.2% (EU) and 9.1% (lightening-bolt). The 🌱 emoji, commonly used on social media to signify veganism or environmentalism, echoes research on the association between veganism and politically left attitudes[21] as well as the CHES environmentalism issue dimension captured in the network.

A one-decile shift to the left is also associated with a 9.4% and 9% increase in use of the medium skin tone and medium-light skin tone. The literature on skin-tone modifiers suggests that while their use doesn't necessarily reflect the skin-tone of the user, the use of any skin-tone modifier in the first place does appear to be associated with skin-tone [48, 55]. These findings indicate that use of skin-tone modifiers is likewise associated with 'left' political positions in Poland. The Capricorn and Ugandan flag emoji are more difficult to interpret but could pose interesting questions for further research, particularly since interest in astrological signs has been associated with political attitudes in previous research[34]. Beyond these, the peace symbol and the purple heart emerge as potential examples of political affect. Below we develop a more in depth discussion about the potential mechanisms behind these emoji.

4.4. Analysis of the 💯 emoji

💯 was consistently associated with users on the right of the political spectrum. We argue that unrecognised political emoji such as this play a role in political language games online, by communicating political affect. To further test whether this emoji is being used in communicating political values, we ran a frequency count to identify the single-word terms most frequently co-occurring with 💯.[6] For users who include this emoji to describe themselves, the table above shows the 22 Polish terms most frequently used alongside it. Among all single-word

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[6]Stop words removed: the, in, of, to be

Table 6

Terms co-occurring with hundred emoji in bios

terms associated with 💯		
side	44	*strona*
right	68	*prawy, prawo*
Polish/Poland	52	*polski, polska*
fatherland	20	*ojczyzna*
Catholic	17	*katolik*
heart	16	*serce*
man	14	*czowiek*
honour	14	*honor*
leftist	12	*lewactwo*
God	23	*bg*
babieslivesmatter	10	*babieslivesmatter*
Polish man	10	*Polak*
to love	9	*kocha*
patriot	9	*patriota*
life	9	*ycie*
mother	9	*matka*
Polish woman	9	*polka*
power/strength	8	*moc*
year	8	*rok*
Law & Justice party (PiS)	7	*pis*
husband	7	*m*
Law & Justice leader	7	*duda*2020

terms used for self-representation in these bios, babieslivesmatter, God, catholic, fatherland, patriot, power and honour are among those appearing most often. "Lewactwo" is derogatory in tone, similar to 'lefties', while "duda2020" refers to Andrzej Duda's PiS Presidential campaign. See Appendix for equivalent table for a comparative emoji associated with the left: ⚡. The affective impression of 💯 in a bio imbues elements of Social Dominance Orientation and Big Five personality traits associated with right-wing political values [44, 52]. However, the use of emoji to communicate this affect, and the implications for nuance and polarisation, have extensive relevance for political identity construction online.

5. Conclusion

The dictionary of 3633 emoji that sits in our phones is a smorgasbord of values, ideals, roles and preferences, containing a wealth of normative political content. Analysing which we use to describe ourselves, and when, has the potential for a unique and alternative avenue for understanding political values and expression. This paper has found that emoji play a role in political self-representation, and that Twitter users in different political circles choose to put different emoji in their bio, even when those emoji are not recognisably connected with their political position. Emoji offer users a medium through which to associate affect with political value, making use of language games to build stronger collective identity around shared political positions. However, to heed McLuhan's famous maxim "the medium is the message"[38, pp. 7], emoji are a comparatively reductive and inflexible medium to expressing political values. Further multi-sample investigation would be necessary to understand the broader implications on polarisation when emoji, as opposed to natural language, are used to express political values.

Acknowledgments

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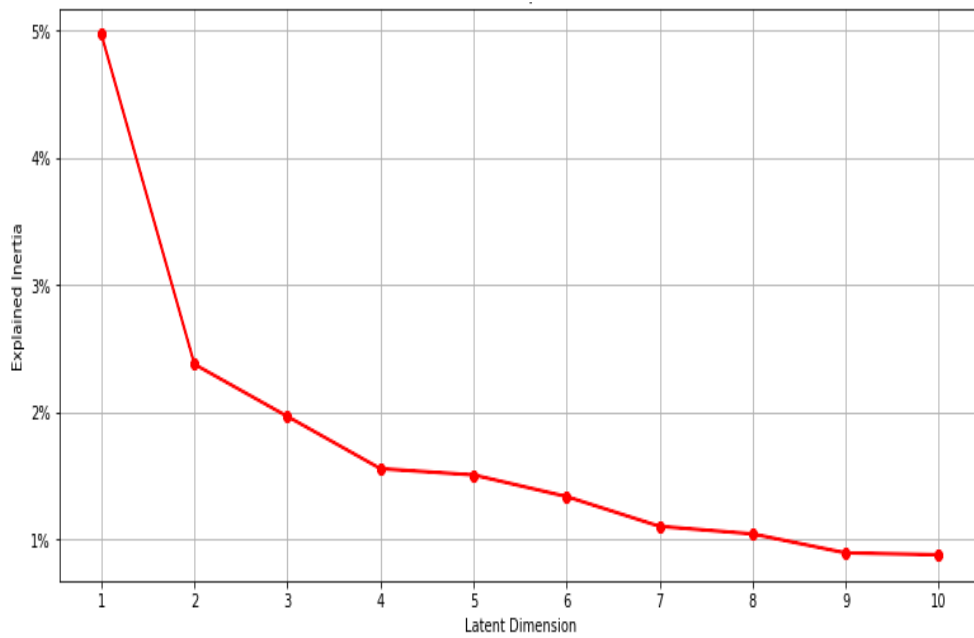
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6. Appendix

Figure 5: Inertia Scores and Eigenvalues for each latent dimension (PC)

PC	eigenvalues	explained inertia
1	0.497	0.051
2	0.238	0.024
3	0.197	0.02
4	0.155	0.016
5	0.151	0.015
6	0.134	0.014
7	0.11	0.011
8	0.104	0.011
9	0.089	0.009
10	0.088	0.009

Figure 6: Scree plot for Correspondence Analysis

Use of Feminist Symbols in Twitter Bios Accross Political Latent Space

Distribution of party-associated terms accross latent dimension 1
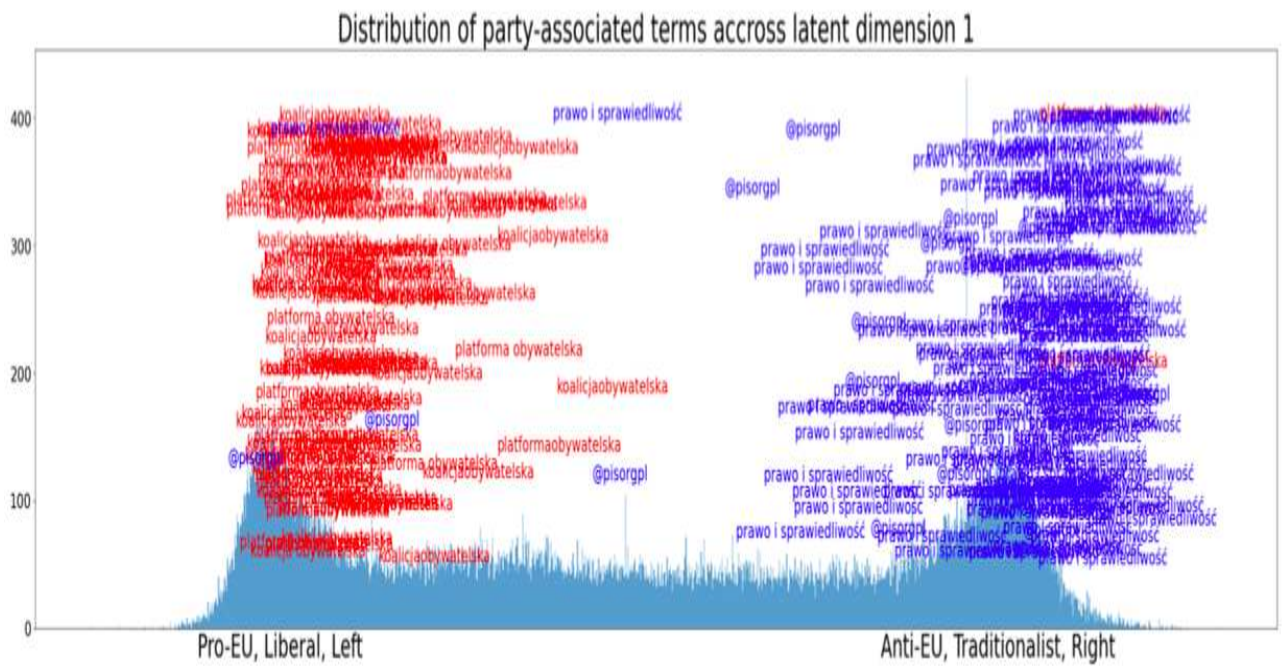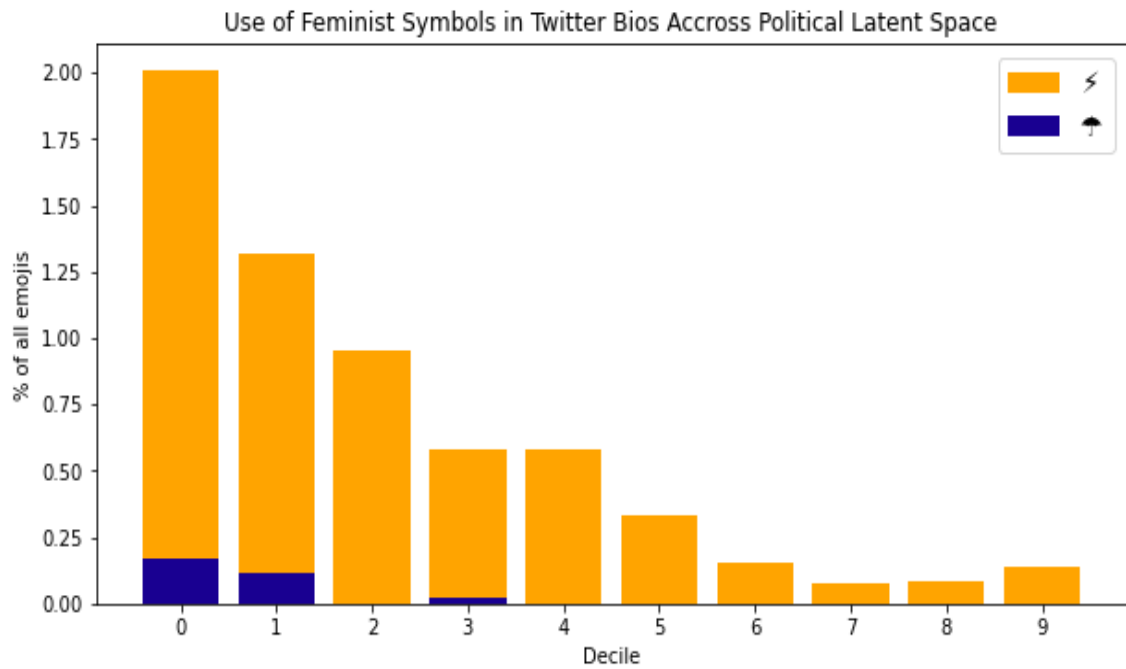
Figure 7: Terms associated with left: 'koalicja obywatelska', '@KO_Obywatelska', 'koalicjaobywatel-ska', 'KO', 'platforma obywatelska', '@Platforma_org', 'platformaobywatelska', 'PO'
Terms associated with right: 'prawo i sprawiedliwość', '@pisorgpl','prawoisprawiedliwość', 'PiS'

Figure 8: Most frequently used single word terms in bios that use ⚡

terms associated with ⚡	count	terms Polish
strongertogether	42	silnirazem
Freedom	30	wolny, wolność
Law and Justice party	29	pis
her, she	19	her, she
Womens Strike	16	strajkkobiet
he, him	16	he, him
man	15	człowiek
to like	13	lubić
sort	12	sort
to love	11	kochać
politics	11	polityka
Polish	9	polski
woman	8	kobieta
right	8	prawo
lgbt	8	lgbt
worse	7	gorszy
book	7	książka
life	7	życie
democracy	6	demokracja