

Emotions in International Assemblies Debating Human Rights in the UN Human Rights Council *

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Abstract

Debates in international assemblies can become heated at times. This is reflected in the language used by speakers and the emotions expressed in their speech delivery. Scholars interested in international assemblies have not yet, however, taken full advantage of video recordings to systematically study debates from this perspective. This study draws on quantitative text analysis methods and recent developments in automated emotion recognition to analyze the content and delivery of speeches in the United Nations Human Rights Council (UNHRC). Given that international debates on human rights norms are highly emotionally charged, this is a promising context for studying emotions in international assemblies. Initial results suggest that emotions come more to the forefront in debates on proximate topics and are especially detectable for speakers with direct stakes in the debated topic. Thus, we contribute to our understanding of the role of emotions in international assemblies and, shed light on variation in the type and intensity of expressed emotions across topics and countries. We also propose a framework how these vast quantities of video data can be automatically processed in the future. Moreover, the study provides novel insights into the degree of international polarization of different human rights norms, which leaves observable traces in delivery of speeches in the UNHRC.

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1 Introduction

The United Nations Human Rights Council (UNHRC) has been lauded as major improvement over its predecessor, the United Nations Commission on Human Rights (UNCHR), that was decried as ineffective and described as just a “caterpillar with lipstick” (remark made by the US ambassador to the UN, John Bolton, see Rajagopal, 2007). These arguments have been hashed over by considering the human rights records of the member-states in the two organs (Cox, 2010; Seligman, 2011) and their voting record (Seligman, 2011; Hug, 2016), by studying the resolutions introduced (often targeting particular member states, see Cox, 2010; Seligman, 2011; Voss, 2013; Hug, 2014), or the operating of the new Universal Periodic Review (UPR, see Gaer, 2007; McMahan and Ascherio, 2012; Dominguez-Redondo, 2012; Freedman, 2013; Dominguez-Redondo and McMahan, 2014a). A common theme in these controversies is the question how politicized the UNHRC still is (especially compared to its predecessor, see Freedman and Houghton, 2017; Terman and Voeten, 2018). While the studies mentioned look in different ways at the politicization of these two assemblies, few if any rely on the speeches and thus the debates taking place in these organs in a systematic way.¹

Drawing on recent work allowing for both textual and visual sources to be analyzed in terms of the emotionality expressed in speeches, we propose an initial and preliminary study offering a new glimpse at the UNHRC. More specifically, as a more or less commonly shared assessment of the UNHRC is that if anything has changed for the better it is the UPR (McMahan and Ascherio, 2012; Freedman, 2013), we consider how debates differ between regular sessions and meetings devoted to the discussion of specific countries in the UPR. Taking two topical cases as examples, we consider how the debates on Israel and Russia differ between the two contexts. More specifically, as the conflict in the Middle East is a fixed item (Agenda item 7) of the UNHRC, Israel and its human rights record are systematically debated in the UNHRC. Relatedly, after the invasion of Ukraine by Russia a special session considered the human rights situation in this conflict. Thus, comparing these debates with those having occurred in the respective examinations of the UPR of the two countries, allows us to assess whether this latter innovation lives up to its promises, at least when it comes to the character of the debates. Incidentally, given that in the first days of October 2023 Item 7 appeared on the agenda and a few months later (i.e., after the October 7th, 2023 attacks and the ensuing war in Gaza) this item was discussed again, we will also assess how such events affect the nature of the debate.

In both cases we find to a considerable extent the expected effects. First, debates in the context of the UPR are notably different when it comes to the sentiments and emotions expressed by speakers. Secondly, the events following up on the attacks of October 7th, 2023, have led to more negative sentiments expressed in debates of Agenda Item 7.

¹Some anthropological work on the UNHRC implicitly draws on some of these debates (e.g., Cowan and Billaud, 2015, 2017).

In what follows, we first discuss the literature that has focused on the (expected) changes due to the switch from the UNCHR to the UNHRC. We also offer a broader discussion of recent work drawing on audio- and video-recordings, both in the analysis of debates and those focusing on other settings. Based on this discussion we offer, drawing on some theoretical underpinnings related to the way in which human rights are debated in international assemblies, some initial hypotheses that we will subsequently evaluate. We then present our goals of the broader project of which the initial analysis presented in this paper is part of. This allows us to introduce the tools of analysis that we deploy as well as the data we use, before we present in section six our preliminary results. In the last section we conclude and sketch out the next steps in our research project, while also highlighting other promising avenues that, at least for the moment, we intend not to pursue.

2 Literature review

2.1 UNCHR and UNHCR

The United Nations Commission on Human Rights (UNCHR) had fallen into disgrace due to widespread allegations of bias and inefficiency, leading to its replacement by the United Nations Human Rights Council (UNHRC) in 2006, with the goal of restoring credibility and effectiveness in promoting human rights globally. The criticism of the UNCHR focused particularly on its membership composition, which included states with poor human rights records, its status as subsidiary body of the ECOSOC, its perceived ineffectiveness, and its inability to convene emergency sessions in response to timely human rights situations (Cox, 2010; Lauren, 2007; Rajagopal, 2007; Schrijver, 2007). In an April 2005 speech, former UN Secretary-General Kofi Annan highlighted that the UNCHR's ability to protect human rights has been "undermined by the politicization of its sessions and the selectivity of its work" and that its "declining credibility has cast a shadow on the reputation of the United Nations system as a whole" (quoted in Lebovic and Voeten, 2006, p. 862). The critique of the UNCHR was widely shared within the international community—despite highly divergent perceptions on the causes of the problems—providing a window of opportunity for a major institutional reform (Alston, 2006; Freedman, 2011; Gaer, 2007).

The creation of the UNHRC in 2006 as a replacement for the UNCHR was the result of a complex political compromise (Cox, 2010; Landolt and Woo, 2017; Lauren, 2007; Schrijver, 2007). To address the deficiencies of the UNCHR, the UNHRC has undergone several institutional reforms compared to its predecessor. First, members of the UNHRC are elected by majority vote in a secret ballot in the UN General Assembly. When electing UNHRC members, states "shall take into account the contribution of candidates to the promotion and protection of

human right” and “their voluntary pledges and commitments made thereto” (UNGA, 2006).² Second, the number of members was reduced from 53 to 47, a two-term limit was introduced, and the General Assembly was given the right to suspend the membership of states that commit gross and systematic human rights violations (Eudes, 2006, p. 606).³ Third, the UNHRC holds three regular sessions per year (the UNCHR met only once a year) and it can convene special sessions to address urgent human rights situations, like the one “on the deteriorating human rights situation in Ukraine stemming from the Russian aggression” of May 2022.

However, the most significant innovation of the UNHRC was the introduction of the Universal Periodic Review (UPR, see e.g., Dominguez-Redondo, 2012; Duggan-Larkin, 2010; Freedman, 2013; Freedman and Houghton, 2017; McMahon and Ascherio, 2012; Terman and Byun, 2022). The UPR represents the first international human rights mechanism with universal participation, involving every UN member state (Terman and Voeten, 2018). It is a mechanism of the UNHRC in which each UN member state undergoes a peer review of its human rights record on a regular cycle of 4.5 years. UPR reviews take place through an interactive dialogue between the state under review and other UN member states. During the interactive dialogue, any UN member state can make recommendations for the improvement of human rights in the state under review. Reviewed states may decide which recommendations they accept, leading to subsequent evaluation and a requirement to report on their implementation.

By ensuring that the human rights records of *every* state are reviewed, the UPR has been praised for ending the selectivity that characterized the UNCHR (Dominguez-Redondo and McMahon, 2014b; Freedman, 2013; Gaer, 2007). The global coverage comes along with the objective of moderating the tone of international human rights debates, shifting from politicized accusations to technical assistance and policy advice. The resolution that established the UPR explicitly described it as “a cooperative mechanism based on an interactive dialogue with the full involvement of the country concerned” (UNGA, 2006). Rather than exposing countries to one-sided criticism, the UPR is intended to stimulate a constructive process of policy improvement and learning. In this vein, the UPR has been depicted as a “non-confrontational approach to human rights implementation” (see Dominguez-Redondo, 2012, p. 673). In practice the UPR reviews are carried out by UPR working groups that are formed by the 47 members of the UNHRC (thus, they are akin to “Committees of the whole”, see OHCHR, 2024). Their report is presented to the UNHRC in regular sessions by a troika of three delegates chosen by lot.

If and to what extent the dialogue-oriented format of the UPR has achieved its goal of mod-

²Critics have argued that these voluntary pledges have not been effective to prevent human rights violators from assuming UNHRC membership (Alston, 2006; Rajagopal, 2007). For instance, China has held a seat in the UNHRC for the maximum possible time since its inception (Dukalskis, 2023; Pauselli, Urdinez and Merke, 2023).

³The General Assembly can suspend members by a two-third majority (UNGA, 2006). This has only happened twice: Libya was suspended in 2011 (see Domestici-Met, 2011, 870) and Russia in 2022 (though Russia claimed it had withdrawn before this vote, see <https://news.un.org/en/story/2022/04/1115782>, accessed September 13th, 2024).

erating and formalizing international human rights debates remains an open empirical question. Empirical evidence on UPR recommendations suggests that politicization remains widespread, in the sense that the recipients, the content, and the adaptation of UPR recommendations are a function of geopolitical relations between states (Terman and Voeten, 2018; Terman and Byun, 2022; Terman, 2013). We also know from voting data that the lines of conflict in the UNHRC have remained largely the same as in the UNCHR, and that the degree of polarization has even slightly increased (McMahon and Ascherio, 2012; Seligman, 2011; Hug, 2016). However, we lack empirical evidence on the character and tone of UPR debates (with the exception of some anthropological work by, e.g., Cowan and Billaud, 2015, 2017) and how these dimensions compare to other UNHRC debates. We believe that it is important to analyze the debates as they are causally prior to recommendations and votes, and contain more nuanced information on the nature of inter-state interactions. Beyond advancing our understanding of the UPR, the comparative evidence speaks to the broader question of how institutional characteristics can shape the tone of debates in international assemblies.

2.2 Speeches and debates, audio and video

While analyses of debates in international assemblies based on text have become more and more frequent (e.g., Baturu and Dasandi, 2017; Jankin, Baturu and Dasandi, 2017; Baturu, Dasandi and Mikhaylov, 2017; Baturu and Gray, 2024; Gray and Baturu, 2021; Djuve and Søyland, 2024) few have broadened their analyses to cover audio and video, respectively moving to the analyses of sentiments and emotions. Such analyses are much more prevalent in work on domestic legislatures (for a discussion of these possibilities, see Dietrich and Yao, 2020). Thus, Dietrich, Hayes and O'Brien (2019) rely on audio-recordings of congressional debates to assess how vocal pitch (see Bořil and Skarnitzl, 2016) reflects emotional intensity (for a related study on the German Bundestag, see Rittmann, 2023). Lükena et al. (2024), on the other hand, propose an analysis of a Dutch televised election debate (see also Vázquez et al., 2019) by focusing on sentiments extracted through word embeddings (see relatedly Rudkowsky et al., 2018; Cochrane et al., 2022) from automatically produced transcripts.

In a similar vein Proksch et al. (2019) used a dictionary approach to study sentiments in legislative speeches, while Tucker, Capps and Shamir (2020) propose a broader analysis of speeches in US Congress over more than a century based also on a sentiment analysis (for a broader discussion see Zucco et al., 2020). Finally, Dietrich, Enos and Sen (2019) attempt to assess emotions in US supreme court debates and relate them to ensuing decisions, while both Awana et al. (2023) and Ye et al. (2023) offer useful discussions focusing on the various tools for detecting emotions based on facial expression, respectively the temporal dimension of emotions in speeches.

2.3 Automation, reproducibility and digital twins

The debates of the UNHRC alone amount to roughly 12 thousand hours or 10TB of data.⁴ Manually processing this data is both too laborious and prone to human error. Although multiple approaches to processing data are outlined above, their recombination can be tedious and fickle. Processing complex data in complex data pipelines leads to unforeseen outcomes and therefore reproduction of the processing of data is of utmost importance (Grübel, 2022) and as important as the reproduction of the statistical analysis. Therefore, another crucial issue for the effective processing of audio and video data is automation and reproducibility through well-defined workflows (Grübel et al., 2023). Unpublished recent work has also made advances towards this direction (see MEXCA from Lükena et al., 2024) but we believe that a more general workflow is required (For related projects focusing on the Japanese parliament, see Masuyama, 2017, 2018, 2019, 2024).

To understand the debate as a whole, we borrow the concept of a digital twin (Grübel et al., 2022)—a digital representation of a physical object, process, or system. Typically, a digital twin is fed by sensor data, possibly in real-time. We consider the video-data from UNHRC debates to be the sensory input of our “debate digital twin.” Instead of flattening the debate into a textual representation, we opt to fully explore the richness of the audiovisual data. We use the Open Digital Twin Platform (ODTP, see Grübel et al., 2023) to generate digital twins of the debates at the UNHRC that are explorable by researchers, sharable and reproducible. Furthermore, our approach is amenable to adaptation for other video-recorded debates and allows for the integration of new measurement like posture or gesture into the pipeline.

3 Theory and expectations

While critics of the UNHRC emphasize that some of root problems of the UNCHR have not been addressed by its successor (e.g., Ghanea, 2006), for instance the rather tame requirements for eligibility,⁵ many scholars consider the UPR-process as a positive development. According to them, the interactive and comprehensive process reduces the possibilities for politicization. In the context of studies on human rights in international assemblies, several authors have highlighted that targeted resolutions are often instrumentalized. Thus, Hillman and Potrafke (2011) in a study on the UN General Assembly suggest that Israel is often targeted in such resolutions,

⁴Estimates provided by the IT administrators of the UNHRC

⁵It is worth noting that some scholars suggest that UN member states with poor human rights records may refrain from submitting their candidacy (Eudes, 2006, 605). Similarly, the withdrawal of Russia from the UNHRC after its attack on Ukraine, is considered by some as having anticipated an expulsion from the UNHRC following point 6 of resolution 60251 (Eudes, 2006, 606) as decided in Resolution A/RES/ES-11/3 (see <https://news.un.org/en/story/2022/04/1115782>, accessed September 13th, 2024). There is one instance of a country losing its seat in the UNHRC, and that is Libya 2011 (see Domestici-Met, 2011, 870).

which find support among some of the worst offenders of human rights. Consequently, they highlight a “scapegoating” mechanism, which allows human rights offenders to hide behind attacks against other member states (see the related work by Becker et al., 2015; Hillman and Potrafke, 2015).

Terman and Voeten (2018) draw on this literature, argue, however, that “naming-and-shaming” has to be considered in the context of politicization. Thus, they concede that targeting strategic partners is less likely, when it is done it has a stronger effect. They find this effect when considering the UPR-process. A corollary of their argument is that in the UPR politicization remains in place, though in a more muted fashion (see also Voeten, 2016, 61).

Hypothesis H1: Debates related to the UPR are less politicized and thus less infused by emotions, especially negative ones (**H1a**).

(Hypothesis H2:) Events highlighting human rights violations of a UN member-state (and thus subject to UPRs), lead to more politicized debates and thus are more infused by emotions, especially negative ones (**H2a**).

4 Broader project

Many parliaments (in some international assemblies like the UNGA, see Baturo, Dasandi and Mikhaylov, 2017) provide detailed minutes for analyses based on transcripts. Unfortunately, due to a limited budget and budget cuts, the UNHRC only provides minutes summarising debates and decisions and, at least until 2010, summary reports.⁶

At the same time, this provides a novel opportunity to change the scope in which debates are captured and studied. Relying on text also imposes a limitation on the context of the debate that can be considered. Text is often studied by itself and (historically) was often decomposed into words with even less context. Instead, by also using audiovisual recordings of the debate, we can explore a larger context of what has been said.

To achieve multimodal text analysis on a large scale, we propose the following workflow, see Figure 1. We use WhisperX to transcribe the audio based on large language models (Bain et al., 2023).

5 Preliminary data and tool assessment

Both of the two hypotheses we proposed and the empirical evaluation that will follow largely aim at showing the feasibility of our approach, while still producing substantively important

⁶As part of the audio recordings of the debates and based on a tool developed by THE World Intellectual Property Organization (WIPO, see <https://www.wipo.int/web/ai-tools-services/speech-to-text>) transcripts are provided. In this paper we draw on these (approximate) transcripts as our tool is still in its development phase.

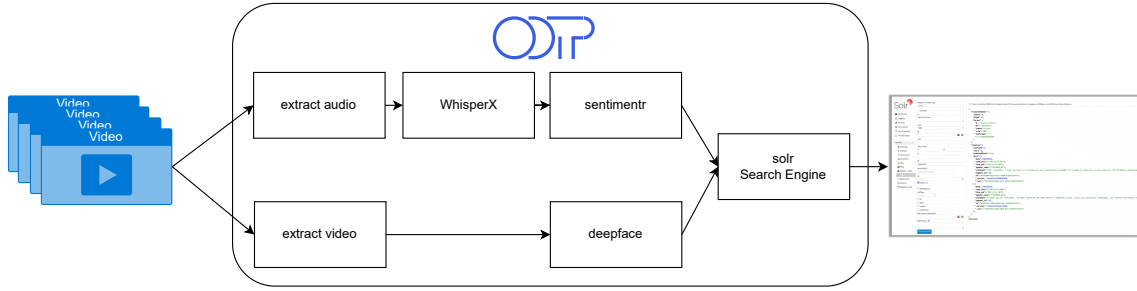


Figure 1: The architecture for our debate digital twins follows the modular approach of ODP. The video data from the debates at the UNHRC is the input and processed in multiple reproducible steps. At the final stage, a web frontend is provided to explore the data.

insights. In this section, we evaluate multiple candidate tools to become part of our audiovisual processing pipeline that we will share via debate digital twins. To make our case, we look for sessions in the UNHRC debates that can vividly demonstrate emotions. As in debates on the UPR a particular country is in the spotlight, to assess whether in these debates the tone is different, we need to compare it to other debates also focusing on this specific country. Thanks to the permanency of Agenda Item 7 one country, namely Israel, is regularly (except if no reports are submitted for this agenda item) the focus of a debate. Consequently, we analyze the debate around the report of the last UPR of Israel (43th session) and the ones having taken place on Agenda item 7 in October 2023 (before October 7th) and March 2024. As a second case we consider Russia, as we are able to compare in this case the debates around the UPR of this country (44th session) with the debates at the special session dealing with the attack by Russia of Ukraine (March 2022). In both cases, differences between the debates will allow us to assess H1 and H1a.

The latter comparison, namely the debates surrounding the UPR of Russia and the ones in the special session on Ukraine, might, however, also lead to a biased assessment, as it is likely that in the special session, shortly after the beginning of the Russo-Ukraine war, politicization and thus emotions were notably higher. Hence, the effect of the UPR, in that case and the effect of recent events related human rights violations, are likely to be perfectly collinear.

Our other case, namely Israel, allows us, however, to assess to what extent recent events related to human rights violations affect the nature of debates. This is possible because both in October 2023 (before the attacks) and in March 2024 (thus during the war in Gaza) the UNHRC had debates under agenda item 7. Comparing these two sets of debates allows us first to evaluate H2 (and H2a) and second, to put the results regarding the evaluation of H1 (and H1a) in a broader perspective.

We assess both textual and facial expressions of emotions in these debates (see the appendix for details of the sources used) with the packages `sentimentr` (Rinker, 2021) and `deepface` (Serengil and Ozpinar, 2021). The `sentimentr` package, based on a dictionary approach

to classify words in terms of their emotion, codes each sentence as reflecting particular emotions as a function of the number of words associated with this emotion. (anger, fear, joy, trust, sadness, anticipation, surprise, and disgust) The package `Deepface`,⁷ on the other hand, codes more or less continuously facial expression in terms of anger, sadness, happy, and fear with neutral as a base category.

Hence, in both cases, we have for each emotion that is coded a count variable indicating how many words, respectively how many facial expressions, reflected a particular emotion, for instance sadness. Hence, in a first step, we generate simple descriptive information on the debates and more specifically plots showing, over the temporal dimension of the debates, how prevalent particular emotions are, either based on speeches or facial expressions.⁸

In order to assess whether debates in the UPR follow a different pattern we estimate a simple model, taking into account on the one hand the limited character of the dependent and the fact that the counts for the different emotions are likely to be interdependent. Hence, we estimate in a Bayesian perspective a multivariate negative binomial regression model that accounts for the distributional specificities of the dependent variables and at the same time allows for correlated errors across the emotion-specific equations. As it is likely that there are also differences across speakers, we allow for varying intercepts across speakers. For the estimation we rely on JAGS (Plummer, 2010) code used by Frech and Hug (2024 (forthcoming)), who relied on a similar model used by Bräuninger, Brunner and Däubler (2012) but extend it to allow for correlated errors based on Winkelmann (2000) and Chib and Winkelmann (2001).

While we are only interested in whether in UPR-related debates the emotionality is less pronounced, we have to add an additional covariate that accounts for the different length in speeches. Hence, we regress the count of words reflecting a specific emotion on an UPR dummy and the log of the number of words in the respective speech.⁹ We also estimate the model with the `brms` package (Bürkner, 2017) as a multivariate negative binomial model, though without correlated errors (thus akin to a set of negative binomial models), and a similar model in which the varying intercepts by speaker are allowed to correlate (Bürkner, 2021). For the analysis relying on the automatic emotion recognition based on facial expressions, we consider the various emotions as the choices in a multinomial logit model.¹⁰

⁷See <https://github.com/serengil/deepface> and <https://github.com/harishngt/Human-Face-Emotion-Detection-using-OpenCV-and-DeepFace>

⁸As we have timestamps for both codings, we can also match the two codings. In the present version of this paper, we refrain from doing so.

⁹Strictly speaking, as we know the upper limits of our (count) dependent variable, we could also resort to a multivariate binomial regression.

¹⁰While we could, once we link the codings of facial expressions to speakers, aggregate the information to this level, we refrain from doing so for the moment. First, we have not carried out the linking of detected faces and their codings in emotions to speakers. Second, doing so would get us dangerously close to the outer limits of what our IRB allows us to do. More specifically, it would potentially reveal the emotions expressed by the face of single speakers. Hence, before we can not aggregated our information to member states (and thus hide to some extent the identity of the speaker), which requires a larger set of debates, we refrain from engaging on this path.

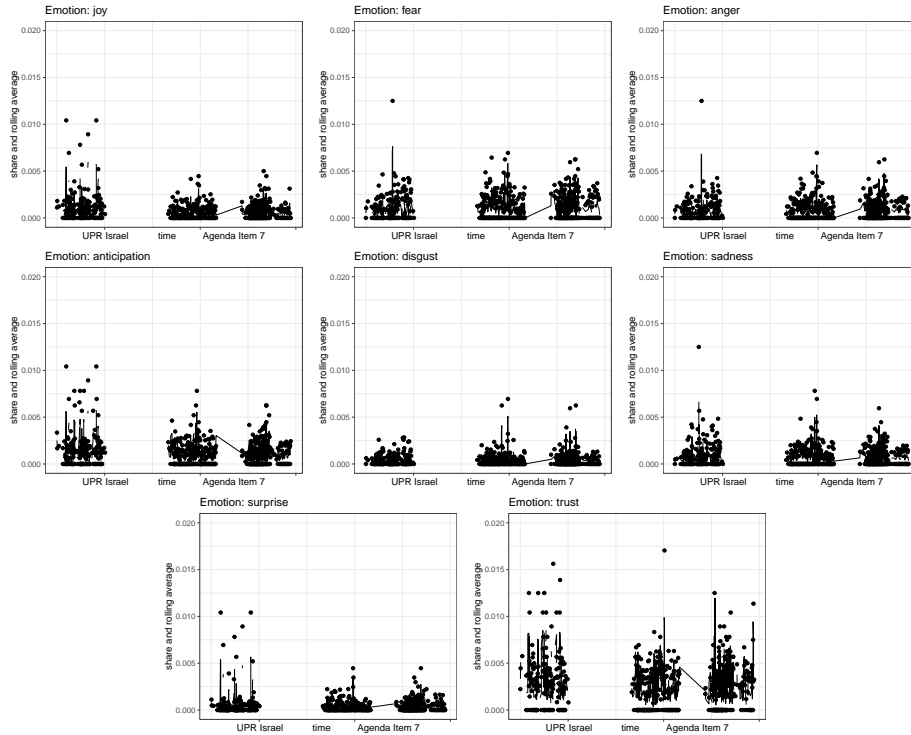


Figure 2: Emotions in debates concerning Israel, share and rolling averages (`sentimentr`)

6 Results

In a first step we offer descriptive graphs depicting the temporal evolution of recourse to particular emotions. Thus, in Figures 2 and 3 we show for the emotions detected by the `sentimentr` package at the word-level how the share per speech evolves in the course of the two debates, namely the debate in the working group dealing with the UPR for Israel and Russia,¹¹ respectively the discussions on Agenda item 7 and the debate in the special session dealing with the situation in Ukraine.¹²

Note that emotions based on facial expressions is different compared to words being used in speeches which relate to emotions in this regard. Finally, as choices might be interdependent, and thus violate the assumption related to the independence from irrelevant alternatives, we also estimated a multinomial probit model, which allows for correlated errors.

¹¹While the working group is a different organ than the one we analyze for the other debates, the members are identical. Also, while we considered taking into account the debates around the adoption of UPR reports in the regular sessions of the UNHRC, these are very short (normally only three speeches) and held in a very neutral (and thus un-emotional) way. Hence, focusing only on these debates and to compare them with the more conflictual ones in plenaries would have led to an almost artificial result in favor of our hypotheses. Similarly, adding the debates on the UPR in the plenary with the debates in the working group would not affect our results, because the former trump the latter in size quite dramatically.

¹²Note, that while the temporal sequences in each of the relevant debates depicted in the graphs is accurate, the time between the different debates (i.e., UPR debates, the two debate on Agenda item 7, and the debates on two separate days during the special session on Ukraine) has been fixed arbitrarily for presentational purposes. Also, while we provide in the appendix a list of all speakers in these debates, given the small number of interventions and the constraints of our IRB-approval, we can not present results speaker by speaker.

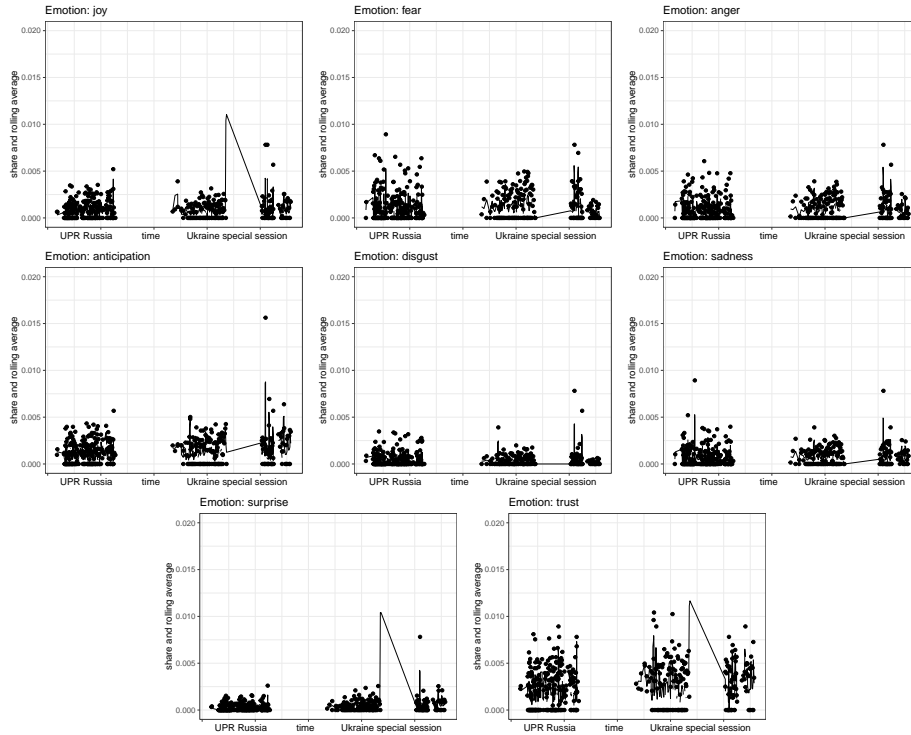


Figure 3: Emotions in debates concerning Russia, share and rolling averages (`sentimentr`)

These figures show some cursory evidence for our hypotheses. There appear to be differences across the two debate types. Thus, Figure 2 shows almost systematically across all emotions, a higher average of emotionality in debates on Agenda item 7, then in the debate on the UPR of Israel. This is mostly visible in the graphs depicting the emotions of anger and disgust. In both cases sentences comprising words related to these emotions become more frequent in the former debates, and, linked to our **H2**, especially after the events of October 7th 2023.

Figure 3 also lend some initial support for our **H1**, as the debates during the special session on the Russo-Ukrainian war saw much more emotional speeches, than the discussion of the UPR of Russia. Compared to the case of Israel, however, also some positive emotions like joy and trust appear to have been expressed more frequently in the former debates.

Turning now to the emotions coded based on facial expressions using the `Deepface` tool depicted in Figures 4- 6 we find in part similar patterns, but also some differences.¹³

For the comparisons regarding debates on the UPR and other debates focusing either on Israel or Russia, the figures do not offer a clear picture. While there are some differences and changes, the fluctuations over time are quite considerable. Figure 6, on the other hand,

¹³The results that follow and draw on this automatic emotion recognition have to be taken with a grain of salt. Currently, based on the video-recordings, the tool sometimes recognizes face (or several) that are not the one of the speaker and generates codings of the latter. Again, our proposed tool will overcome these limitations by focusing on faces that have been recognized based on photos of the speaker.

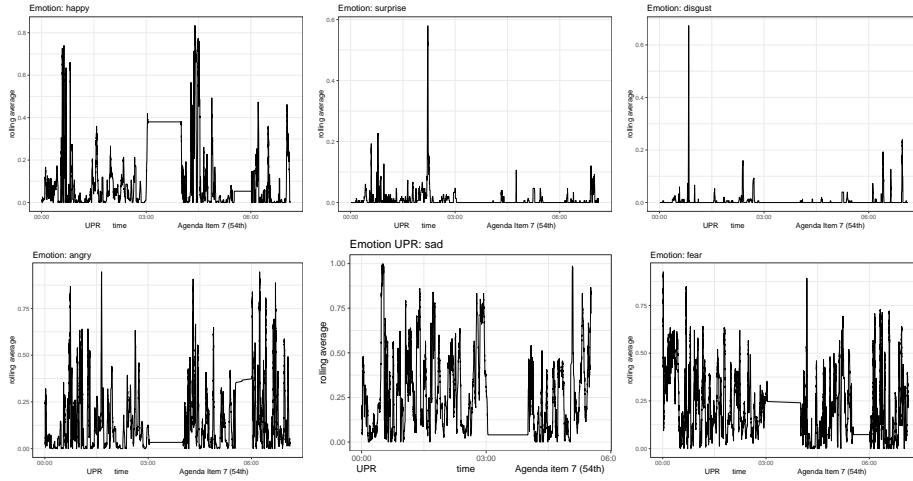


Figure 4: Emotions in facial expressions during debate on UPR of Israel and at the 54th session on Agenda item 7, rolling averages (Deepface)

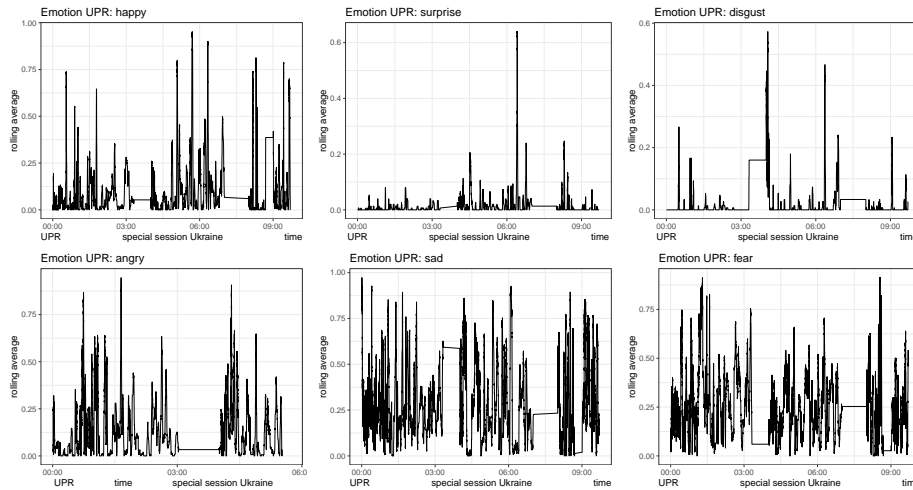


Figure 5: Emotions in facial expressions during debate on the UPR of Russia and special session on Ukraine, rolling averages (Deepface)

offers much more clearcut support for our **H2** and **H2a**. It is clearly apparent that the facial expressions turned much more angry, sad and fearful after the events since October 7th 2023 in the debates on Agenda item 7.

While these figures are illustrative, given that wide fluctuations in detected emotions appear, it is difficult to draw clear conclusions from them. Hence, for the more systematic evaluations of our hypotheses we first rely on the simple text analysis based on the dictionaries used by the `sentimentr` package. As we aggregate this data to the level of the speaker, we obtain for each emotion a count variable. Consequently, we estimate, as discussed above, a multivariate negative binomial model with correlated errors, as we suspect that the count variables are overdispersed and related to each other. To assess H1 we use as covariate the

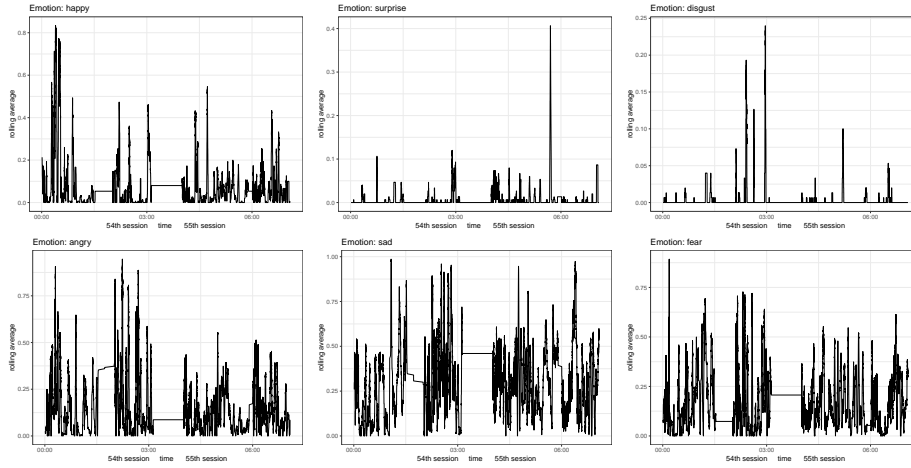


Figure 6: Emotions in facial expressions during debates on Agenda item 7, rolling averages (Deepface)

information whether a speech was made in the debate about the UPR of a country, or in another focused debate. Given that speeches also differ in terms of their length, we add as covariate the log of the number of words in each speech.

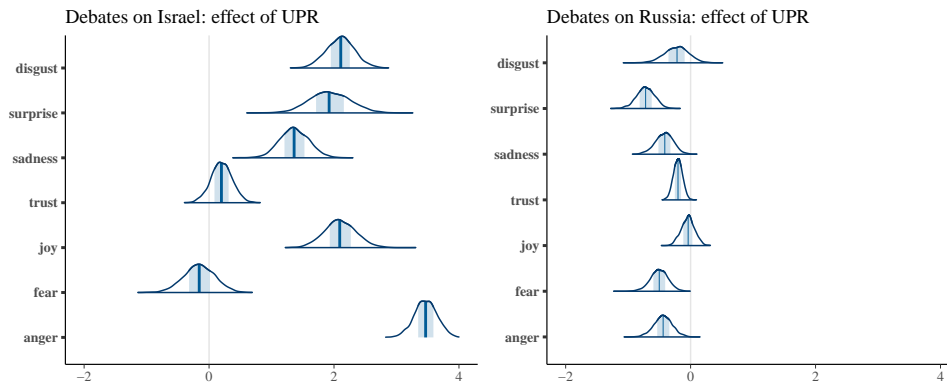


Figure 7: The effect of UPR on emotions in debates on Israel and Russia (multivariate negative binomial model with correlated errors)

As we estimate these models, one for Israel and one for Russia, in a Bayesian perspective,¹⁴ we depict in Figure 7 the posterior distribution of the coefficients for the UPR dummy.¹⁵ While

¹⁴In the appendix we depict the same posterior distributions obtained from a multivariate negative binomial model estimated with the `brms` package with four chains and 1000 burnins and 1000 draws. As this package does not allow for correlated errors in multivariate negative binomial models, this is akin to estimating one model per emotion. While the relative importance of the emotions, according to this model, follows similar patterns, it is notable that especially for Israel more positive effects are detectable (see Figure 16). Given the more flexible nature of our model, we prefer the results depicted in the main text. We also estimated multivariate negative binomial models with correlated random effects for speakers. The corresponding results appear in the appendix (Figure 12).

¹⁵We used diffuse, normal priors and sampled from 3 chains 100000 values, respectively 1000000 after 1000 warmups and 4000 adaptations. Visual inspections of the traceplots of the coefficients of most interest suggest that convergence has been achieved. Similarly, the \hat{R} statistic proposed by Gelman and Rubin (1992) suggested

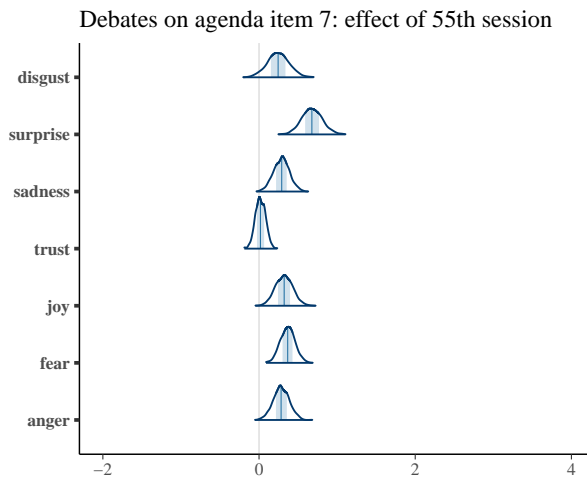


Figure 8: The effect of the 55th session on emotions in debates on agenda item 7 (multivariate negative binomial model with correlated errors)

in the right panel depicting the results for Russia we find the pattern expected according to our **H1**, namely less emotionality, this is not the case for Israel. More specifically, in this latter case, especially words related to fear appear more frequently in UPR debates than in Agenda item 7 debates. Hence, we only find support for **H1** in the case of Russia. This latter case also offers at least partial support for **H1a**, as negative emotions, with the exception of disgust, are especially less present in debates on the UPR.

While these results offer some support our hypothesis **H1**, our analysis, especially of the Russian case, is, however, not unproblematic, as we compare the debate around its UPR with the debate in the special session of spring 2022 on Ukraine, and more specifically the invasion of Russia. Consequently, the differences that appear in Figure 7 might simply reflect the fact that more emotions appeared in the latter debate. While we can not differentiate these two effects, i.e., the effect of the UPR and the one of the Russo-Ukrainian war, we can assess for the case of Israel how violent events affect debates by comparing debates on agenda item 7 before and after October 7th 2023.

The results depicted in Figure 8 offer considerable support for our hypothesis **H2**.¹⁶ The debates on agenda item 7 became much more emotional after October 7th 2023 and the ensuing war in Gaza. Each and every emotion, with the single exception of trust, found more expression in words articulated in the debate in the 55th session, i.e., in 2024, compared to the one in the 54th session, which occurred before October 7th, 2023.

The results presented so far all relied on the emotionality of particular words being used in speeches. Facial expressions, however, also reveal emotions (e.g., Zhou et al., 2020). Using

convergence for the analyses on Israel, but yielded a few problematic values for Russia.

¹⁶For this estimation the \hat{R} statistic proposed by Gelman and Rubin (1992) suggests convergence after 100000 draws from the posterior distribution.

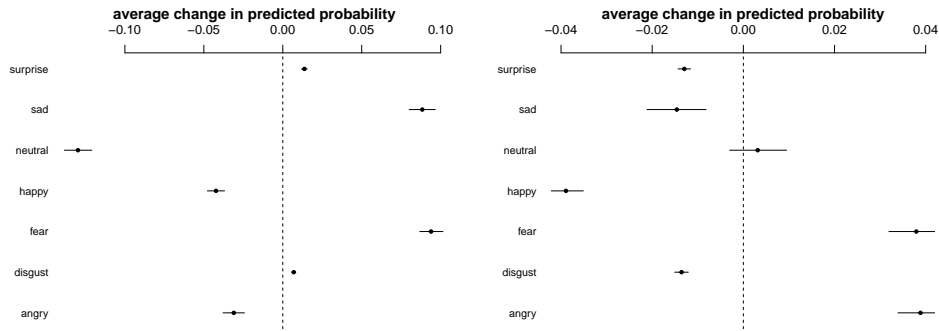


Figure 9: Change in predicted probabilities of emotions due to UPR in debates on Israel (left panel) and Russia (right panel) (multinomial logit model, median and 95 % credible intervals)

Deepface we assessed in a continuous fashion the facial expressions of speakers and let them be coded by their emotions. As we do not aggregate this information to the level of speakers, we simply know what emotion was “chosen” at a particular time. Consequently, we estimate a multinomial logit model, again to evaluate **H1** and **H2**. Instead of depicting the posterior distribution (see Figure 16 in the appendix) of the coefficients, which have to be interpreted with respect to the base category (angry), we depict in Figure 9 the average change in the predicted probabilities for each emotion, due to the UPR. This figure nicely shows that two emotions, namely sadness and fear are much more present on faces in debates of the UPR on Israel than in debates on Agenda item 7, while happiness is less present. For the debates on the UPR of Russia we find that fear and anger are more often present in facial expressions during debates on the UPR of Russia, than in other debates on Russia (right panel). On the other hand four other emotions are less prevalent in such debates. Thus, analyses based on facial expressions offer less support for our **H1** and even less for our more specific **H1a**.

As before, the results obtained for Russia might be affected by recent events related to human rights, namely this countries invasion of Ukraine. Hence, Figure 10, where we depict the corresponding average changes in predicted probabilities due to the 55th session for Israel might help us address this issue to some extent. There we find that the events ensuing after October 7th 2023 have led to much more expressions of sadness in debates on Agenda item 7, and also to some extent fear. at the same time a positive emotion like happiness is much less present, but surprisingly so is anger.

7 Conclusion

In this paper, which is currently mostly a proof of concept, we highlighted how emotions play out in debates at the UNHRC and how—in principle—emotions can become a crucial context for text analysis. Using the cases of Israel and Russia as examples, we were able to show

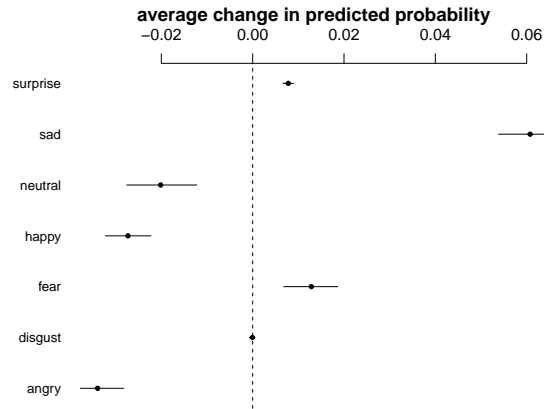


Figure 10: Change in predicted probabilities of emotions due to October 7th 2023 in debates on Israel (multinomial logit model, median and 95 % credible intervals)

that at least in the choice of words, the debates on the UPR seem to be less emotional in the latter case, but more so in the former case. When considering facial expressions, we also find mixed results, with some negative emotions becoming more prevalent, while others being less present when UPRs are debated. As in the case of Russia these results might be affected by the Russo-Ukrainian war, we also assessed how current events related to human rights affect the emotionality of debates in the UNHRC. In that case, focusing on a comparison before and after the October 7th, 2023 attacks, both words chosen in speeches and facial expressions suggest an increase in emotionality, affecting especially some negative emotions. While our analyses have focused on one way how to go beyond simple text analyses, another example of annotation for text is pitch, as used by Dietrich, Hayes and O'Brien (2019). We have embarked on some initial forays relying on this approach, but fine-tuning is still necessary. In future versions of this paper, this extension will be covered as well (also given the relevance demonstrated by Dietrich, Enos and Sen, 2019)

This being said, even the analyses offered in this paper have some limitations. Text analysis is usually based on English, meaning that for speeches given in other languages like at the UNHRC the simultaneous translation is becoming the source, with all of its shortcomings (though see Proksch et al., 2019). Similarly, we used so far a simple dictionary based assessment, while word embeddings and other approaches might prove more fruitful (see for instance Rudkowsky et al., 2018; Lükena et al., 2024) Regarding the automatic recognition of emotions based on facial expressions, we noted that as a function of skin color and posture, Deepface as other machine learning approaches have accuracy issues (Booth et al., 2021). Also, in many instances identifying the face of the speaker is also hampering analyses based on facial expressions.

Whereas our approach to automated data extraction is still in its infancy, we note that our

modular approach makes it possible to replace components with lower performance as newer algorithms become available. At this point, we cannot resolve the issues of each approach but we can provide a backdrop in which these approaches can be tested, used, and if need be replaced.

Appendix

7.1 Sources

In table 1 we list the links to the video-recordings of the debates we analyzed with the DeepFace tools. We also list for these debates the speakers that intervened (Table 2).

Table 1: Video recordings and sources

Item 7: General debate - 35th Meeting, 54th Regular Session of Human Rights Council	https://webtv.un.org/en/asset/k14/k14x7kab6y
45th Meeting - 55th Regular Session of Human Rights Council	https://webtv.un.org/en/asset/k1o/k1oviou388
46th Meeting - 55th Regular Session of Human Rights Council	https://webtv.un.org/en/asset/k1v/k1vrsodfmt
Russian Federation Review - 44th Session of Universal Periodic Review	https://webtv.un.org/en/asset/k19/k1959xvbg
Russian Federation UPR Adoption - 44th Session of Universal Periodic Review	https://webtv.un.org/en/asset/k1y/k1ybfhb159
Israel Review - 43rd Session of Universal Periodic Review	https://webtv.un.org/en/asset/k1k/k1ko00rk0j
Israel, UPR Report Consideration - 33rd Meeting, 54th Regular Session of Human Rights Council	https://webtv.un.org/en/asset/k1a/k1ac4m68yy
Israel UPR Adoption - 43rd Session of Universal Periodic Review	https://webtv.un.org/en/asset/k1b/k1b0c71n80
1st Meeting, 34th Special Session of the Human Rights Council	https://webtv.un.org/en/asset/k11/k11fhpdkf
2nd Meeting, 34th Special Session of the Human Rights Council	https://webtv.un.org/en/asset/k17/k17th0e8bd
Action on Resolution A/HRC/S-34/L.1 - 34th Special Session of the Human Rights Council	https://webtv.un.org/en/asset/k1b/k1b11bm1if

Table 2: Speakers at 54th session, agenda 7

General Debate under agenda Item 7: Human rights situation in Palestine and other occupied Arab territories, SPEAKERS:

SPEAKERS: State of Palestine (Country Concerned)	Mr. Ibrahim Khraishi
Syrian Arab Republic (Country Concerned)	Mr. Haydar Ali Ahmad
Côte d'Ivoire (on behalf of the African Group)	Ms. Ahou Rosine Kangah
Pakistan (on behalf of the OIC)	Mr. Zaman Mehdi
Venezuela (Bolivarian Republic of) (on behalf of a group of countries)	Mr. Héctor Constant Rosales
Pakistan (on behalf of a group of countries)	Mr. Zaman Mehdi
Azerbaijan (on behalf of the NAM)	Mr. Kamal Hasanli
Oman (on behalf of the Gulf Cooperation Council)	Mr. Talal Hilal Al Siyabi
Libya (on behalf of a group of Arab States)	Mr. Issam Eddin M. M. Shwehdi
Luxembourg	Mr. Marc Bichler
Qatar	Ms. Hend Abdalrahman Al-Muftah
United Arab Emirates	Mr. Ahmed Al Jarman
Chile	Ms. Claudia Fuentes
Malaysia	Ms. Nur Atiqa Md Akim
South Africa	Mr. D. Sebefelo
Bangladesh	Ms. Shanchita Haque
Maldives	Ms. Maryam Fathika Fayaz
Pakistan	Mr. Zaman Mehdi
Morocco	Mr. Omar Zniber
Cuba	Mr. Roberto Cabañas Vázquez
Algeria	Mr. Hakim Bouaziz
Senegal	Mr. Tamsir Gueye
Bolivia (Plurinational State of)	Ms. Maira Mariela Macdonal Alvarez
Sudan	Mr. Mohammed Hamad Mohammed Ahmed
China	Mr. Wang Nian
Brunei Darussalam	Ms. Mazlizah Pg Hj Mahalee
Sovereign Order of Malta	Mr. Yannick Galeazzi
Iraq	Mr. Hussein Al Safi
Bahrein	Ms. Fatema Ebrahim Aldosari
Libya	Ms. Lamia Fathi Abusedra
Jordan	Mr. Belal Hazaimh
Kuwait	Mr. Naser Alhayen
Türkiye	Mr. Güven Begeç

Egypt	Mr. Shady Hesham Elsheha
Russian Federation	Ms. Olga Opasenko
Indonesia	Mr. Febrian Ruddyard
Zimbabwe	Mr. Stuart Comberbach
Sri Lanka	Ms. Saritha Ranatunga

Table 3: Speakers at 55th session, agenda 7

ITEM 7: ID with Special Rapporteur on Occupied Palestinian Territory, SPEAKERS:

Mr. Omar Zniber	President of the Human Rights Council
Ms. Francesca Albanese	Special Rapporteur on the situation of human rights in the Palestinian Territory occupied since 1967 (Introduction)
State of Palestine (Concerned country)	Mr. Ibrahim Khraishi
Ms. Issam Abu Alhaj, Commissioner-General of the Independent Commission for Human Rights of Palestine Pakistan (on behalf of the Organization of Islamic Cooperation)	Mr. Muneeb Ahmad
Egypt (on behalf of the Group of Arab States)	Mr. Ahmed Gamaleldin
Qatar (on behalf of the GCC)	Ms. Hend Abdalrahman Al-Muftah
Brunei Darussalam	Ms. Mazlizah PG HJ Mahalee
Libya	Ms. Lamia Fathi Abusedra
Qatar	Ms. Hend Abdalrahman Al-Muftah
Kuwait	Mr. Abdullah I. A. I. Alkhubaizi
Saudi Arabia	Mr. Abdulmohsen Majed A. Binkhotaila
Luxembourg	Mr. Marc Bichler
Pakistan	Mr. Muneeb Ahmad
Türkiye	Mr. Güven Begeç
Egypt	Mr. Ahmed Gamaleldin
United Arab Emirates	Ms. Lubna Qassim
Colombia	Mr. Álvaro Ayala
Jordan	Mr. Ahmad Mohammad Eid Al Far
Indonesia	Ms. Rina Soemarno
South Africa	Ms. Gabisile Nkosi
Russian Federation	Ms. Olga Vorontsova
Iran (Islamic Republic of)	Mr. Mehdi Ali Abadi
Peru	Mr. Philip Ponce
Cuba	Ms. Greisy Cordero
Chile	Ms. Claudia Fuentes

Malaysia	Ms. Dato' Nadzirah Osman
Senegal	Mr. Mountaga Wagne
Spain	Ms. Clara Cabrera
Syrian Arab Republic	Mr. Haydar Ali Ahmad
China	Mr. Chen Xichen
Mauritania	Mr. Mohamed Lemine
Tunisia	Mr. Ramzi Louati
Bangladesh	Ms. Shanchita Haque
Yemen	Mr. Ali Majawar
Algeria	Ms. Cylia Arrous
Oman	Mr. Idris Al Khajari
Iraq	Ms. Abdul-Karim Hashim Mostafa
Lebanon	Mr. Salim Baddoura
Sovereign Order of Malta	Mr. Ralph Loren
Brazil	Mr. Tovar Da Silva
Zimbabwe	Mr. Nesbert Samasuwo
Slovenia	Ms. Jana Urh Lesjak
Honduras	Ms. Marcela Arías
European Union	Mr. Rocco Polin
Namibia	Mr. Sylvester Muchila
Venezuela (Bolivarian Republic of)	Mr. Alexander Yanez Deleuze
Bolivia (Plurinational State of)	Ms. Maira Macdonal
Norwegian Refugee Council	Mr. Itay Epshtain
United Nations Watch	Mr. Hillel Neuer
Défense for Children International	Ms. Sasha Richards
World Jewish Congress	Ms. Elizaveta Zaidman
Touro Law Center The Institute on Human Rights and The Holocaust	Ms. Anne Bayefsky
European Union of Jewish Students	Ms. Emma Hallali
State of Palestine - Point of order	Mr. Ibrahim Khraishi
Al-Haq, Law in the Service of Man	Ms. Shahd Qaddoura
Lawyers' Rights Watch Canada	Mr. Joey Doyle
The Palestinian Return Centre Ltd	Mr. Ahmad Hosain
American Association of Jurists	Mr. Gianfranco Fattorini
Ms. Francesca Albanese	Special Rapporteur on the situation of human rights in the Palestinian Territory occupied since (Final remarks)

Item 7: Presentation of HC/SG reports SPEAKERS:

Ms. Nada Al-Nashif, Deputy High Commissioner for Human Rights State of Palestine (Concerned country), Mr. Ibrahim Khraishi Syrian Arab Republic (Concerned country, Mr. Haydar Ali Ahmad
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ITEM 7: General debate SPEAKERS:

Qatar (on behalf of GCC)	Ms. Hend Abdalrahman Al-Muftah
Gambia (on behalf of the African Group)	Mr. Muhammadou Kah
Chile (on behalf of a group of countries)	Ms. Claudia Fuentes
Pakistan (on behalf of Organization of Islamic Cooperation)	Mr. Bilal Ahmad
Venezuela (Bolivarian Republic of) (on behalf of a group of countries)	Mr. Alexander Yánez Deleuze
Egypt (on behalf of the Arab Group)	Mr. Ahmed Gamaleldin
Uganda (on behalf of Non-Aligned Movement)	Mr. Arthur Kafeero
Pakistan (on behalf of a group of countries)	Mr. Bilal Ahmad
Iraq (on behalf of a group of countries)	Ms. Abdul-Karim Hashim Mostafa
Qatar	Mr. Sheikh Sultan bin Khalid Al-Thani
Luxembourg	Mr. Marc Bichler
Morocco	Mr. Abdellah Boutadghart
Indonesia	Ms. Rina Soemarno
Cuba	Ms. Greisy Cordero
Maldives	Ms. Salma Rasheed
South Africa	Ms. Gabisile Nkosi
Ghana	Mr. Mountaga Wagne
Malaysia	Ms. Nadzirah Osman

ITEM 7: General debate (Cont'd), SPEAKERS:

Mr. Darius Staniulis	Vice-President of the Human Rights Council
China	Mr. Jiang Han
Algeria	Ms. Cylia Arrous
Honduras	Ms. Marcela Arías
Sudan	Mr. Omar Shareef Hamad Eisa
United Arab Emirates	Mr. Jamal Jama Al Musharakh
Brazil	Mr. Tovar Da Silva
Chile	Ms. Claudia Fuentes Julio
Belgium	Mr. Marc Pecsteen de Buytswerve
Türkiye	Mr. Güven Begeç
Brunei Darussalam	Dk Mazlizah Pg Hj Mahalee
Saudi Arabia	Ms. Shatha Adel K. Alahmadi
Libya	Ms. Intsar F. H. Elsbaai
Egypt	Mr. Ahmed Ihab Abdelahad Gamaleldin

Bahrain	Ms. Fatema Ebrahim Aldosari
Sri Lanka	Ms. Saritha Ranatunga
Pakistan	Mr. Danyal Hasnain
Ireland	Ms. Eimear McDermott
Russian Federation	Ms. Olga Vorontsova
Jordan	Mohammad Yousef Awwad Al Aqeel
Colombia	Mr. Alvaro Ayala
Slovenia	Ms. Jana Urh Lesjak
Philippines	Ms. Kristine Leilani R. Salle
Zimbabwe	Mr. Nesbert Samasuwo
Iraq	Mr. Audey Alsoudi
Venezuela (Bolivarian Republic of)	Mr. Alexander Yáñez Deleuze
Spain	Ms. Clara Cabrera Brasero
Democratic People's Republic of Korea	Mr. PANG Kwang Hyok
Nigeria	Ms. Odunola Yetunde Oduwaiye
Oman	Mr. Talal Hilal Al Siyabi
Tunisia	Mr. Anouar Mssaoui
Afghanistan	Mr. Nasir Ahmad Andisha
Bolivia (Plurinational State of)	Ms. Inés Valeria Carrasco Alurralde
Yemen	Mr. Ali Mohamed Saeed Majawar
Djibouti	Mr. Houmed Gaba Maki Houmed Gaba
Mexico	Ms. Francisca E. Méndez Escobar
Mauritius	Ms. Usha Chandnee Dwarka-Canabady
Lebanon	Mr. Ahmad Soueidan
Iran (Islamic Republic of)	Mr. Ali Bahreini
Independent Commission for Human Rights of Palestine	Ms. Ola Adawi
Palestinian Initiative for the Promotion of Global Dialogue and Democracy (MIFTAH)	Ms. Khadeja Ibrahim
Maat for Peace Development and Human Rights Association	Mr. Ayman Okeil
Ingenieurs du Monde	Mr. Andre Lajst
Human Rights Democratic Participation Center "SHAMS"	Ms. Amal Faqih
Al-Haq Law in the Service of Man	Ms. Shahd Qaddoura
B'nai B'rith	Mr. Izhak Bashir Salam Al Ziadna
World Jewish Congress	Ms. Jenny Sividya

BADIL Resource Center for Palestinian Residency and Refugee Rights	Ms. Lubnah Shomali
Coordinating Board of Jewish Organizations	Ms. Noam Mazal Ben David
Institute for NGO Research	Ms. Anne Herzberg
Medical Support Association for Underprivileged Iranian Patients	Ms. Omeh Leila Enayati
European Union of Jewish Students	Ms. Noam Peri
International Association of Democratic Lawyers (IADL)	Ms. Micol Savia
United Nations Watch	Mr. Hillel Neuer
Palestinian Centre for Human Rights	Mr. Basel Alsourani
Norwegian Refugee Council	Mr. Itay Epshtain
Cairo Institute for Human Rights Studies	Ms. Mayssa Achek
Center for Global Nonkilling	Mr. Christophe Barbey
Minority Rights Group	Mr. Jad El Dilati
Organization for Defending Victims of Violence	Mr. Mahdi Mohebirad
International Organization for the Elimination of All Forms of Racial Discrimination	Ms. Saja Misherqi
Global Institute for Water Environment and Health	Mr. Mohammed O.H. Shehada
Association Ma'onah for Human Rights and Immigration	Ms. Gada al Rayan
Forum for Development and Human Rights Dialogue	Mr. Said Abdelhafez Said Darwish
Oeuvre d'Orient	Mr. Aymeric Fuseau
European Centre for Law and Justice The / Centre Europeen pour le droit les Justice et les droits de l'homme	Ms. Noland-Heil

Data and results

In Figure 16 we depict the posterior distributions for multivariate negative binomial models without any correlations.

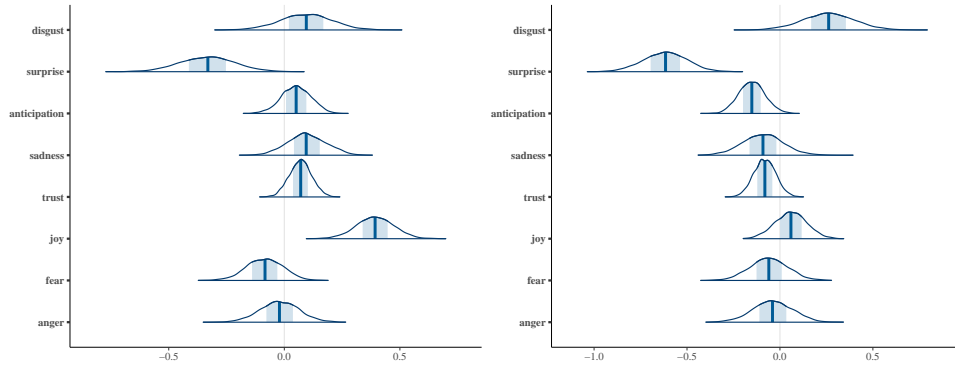


Figure 11: The effect of UPR on emotions in debates on Israel and Russia (multivariate negative binomial model)

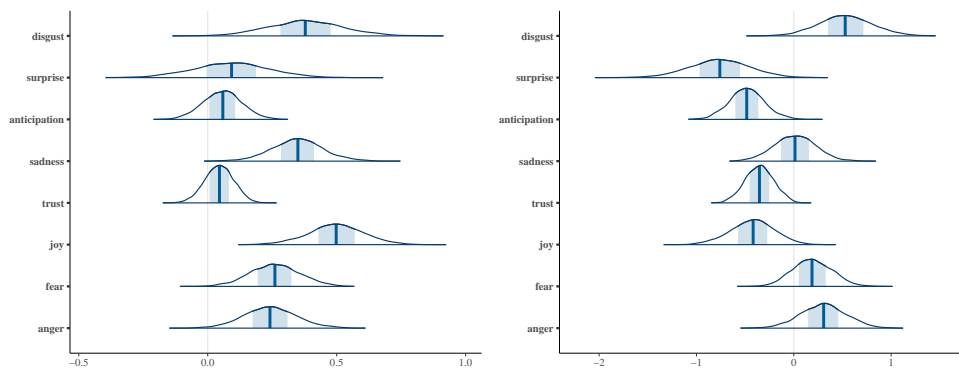


Figure 12: The effect of UPR on emotions in debates on Israel and Russia (multivariate negative binomial model, correlated random effects)

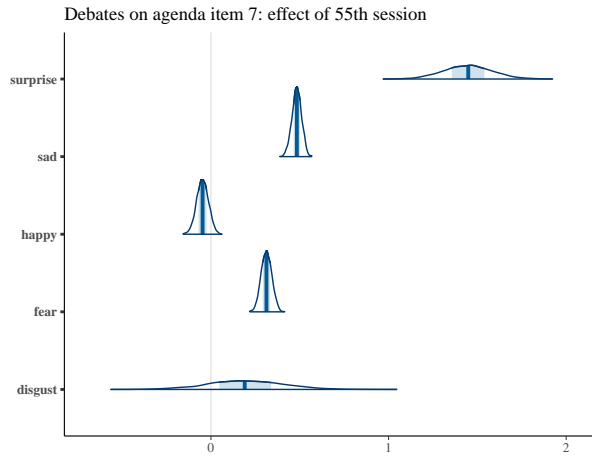


Figure 13: The effect of the 55th session on emotions in debates on Israel (multinomial logit model)

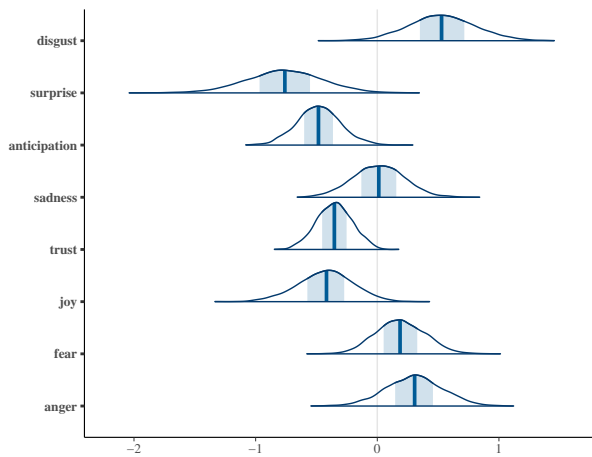


Figure 14: The effect of UPR on emotions in debates on Russia (multivariate negative binomial model with correlated random effects, countries)

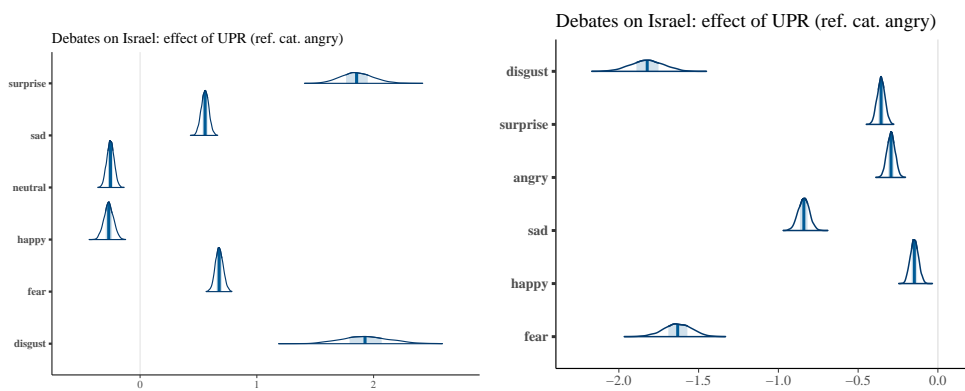


Figure 15: The effect of the UPR on emotions in debates on Russia (multinomial logit model)

	Model 1: Israel	Model 2: Russia
anger_Intercept	-8.53*	-9.01*
	[-10.34; -6.85]	[-11.28; -6.93]
fear_Intercept	-8.82*	-9.10*
	[-10.57; -7.14]	[-11.23; -7.25]
joy_Intercept	-7.58*	-8.72*
	[-9.38; -6.05]	[-10.90; -6.81]
trust_Intercept	-6.17*	-6.50*
	[-7.04; -5.37]	[-7.81; -5.31]
sadness_Intercept	-7.72*	-8.45*
	[-9.70; -5.91]	[-10.19; -6.85]
anticipation_Intercept	-7.12*	-7.47*
	[-8.37; -6.02]	[-9.07; -6.01]
surprise_Intercept	-10.09*	-9.48*
	[-12.52; -7.82]	[-12.18; -7.07]
disgust_Intercept	-9.78*	-9.68*
	[-12.35; -7.44]	[-12.37; -7.26]
anger_UPR	0.27*	0.30
	[0.05; 0.49]	[-0.16; 0.76]
anger_n.words_log	1.20*	1.29*
	[1.00; 1.42]	[1.04; 1.56]
fear_UPR	0.31*	0.19
	[0.10; 0.53]	[-0.20; 0.59]
fear_n.words_log	1.26*	1.34*
	[1.06; 1.47]	[1.12; 1.59]
joy_UPR	0.41*	-0.43
	[0.19; 0.65]	[-0.89; 0.01]
joy_n.words_log	1.07*	1.25*
	[0.88; 1.28]	[1.02; 1.50]
trust_UPR	-0.02	-0.35*
	[-0.13; 0.10]	[-0.64; -0.07]
trust_n.words_log	1.07*	1.12*
	[0.97; 1.17]	[0.98; 1.28]
sadness_UPR	0.38*	0.01
	[0.14; 0.63]	[-0.41; 0.43]
sadness_n.words_log	1.09*	1.21*
	[0.87; 1.32]	[1.02; 1.41]
anticipation_UPR	0.10	-0.48*
	[-0.07; 0.26]	[-0.83; -0.11]
anticipation_n.words_log	1.07*	1.16*
	[0.94; 1.22]	[0.99; 1.35]
surprise_UPR	0.16	-0.76*
	[-0.18; 0.51]	[-1.40; -0.16]
surprise_n.words_log	1.26*	1.27*
	[0.99; 1.55]	[0.99; 1.59]
disgust_UPR	0.42*	0.53*
	[0.11; 0.74]	[0.00; 1.09]
disgust_n.words_log	1.25*	1.26*
	[0.97; 1.55]	[0.97; 1.57]

* Null hypothesis value outside 95% credible interval.

Table 4: Negative binomial models for speeches by countries and correlated random effects

	Model 1
<i>base category: angry</i>	
b_mudisgust_Intercept	-15.42
	[-39.40; 7.08]
b_mufear_Intercept	-16.92*
	[-20.02; -13.77]
b_muhappy_Intercept	2.18
	[-1.39; 5.82]
b_muneutral_Intercept	-8.72*
	[-11.51; -6.04]
b_musad_Intercept	-25.83*
	[-28.70; -22.99]
b_musurprise_Intercept	-82.34*
	[-97.16; -68.25]
b_mudisgust_session	0.20
	[-0.21; 0.64]
b_mufear_session	0.31*
	[0.26; 0.37]
b_muhappy_session	-0.05
	[-0.11; 0.02]
b_muneutral_session	0.18*
	[0.13; 0.23]
b_musad_session	0.48*
	[0.43; 0.54]
b_musurprise_session	1.45*
	[1.20; 1.72]
N	82686

* 0 outside 95% credible interval.

Table 5: Multinomial logit model for effect on agenda item 7 debates

	Model 1: Israel	Model 2: Russia
<i>base category: angry</i>		
b_mudisgust.Intercept	-4.67*	-1.77*
	[-5.07; -4.30]	[-1.84; -1.69]
b_mufear.Intercept	-0.02	0.71*
	[-0.07; 0.03]	[0.67; 0.74]
b_muhappy.Intercept	-0.38*	-0.14*
	[-0.44; -0.32]	[-0.18; -0.10]
b_muneutral.Intercept	0.77*	0.79*
	[0.72; 0.81]	[0.76; 0.83]
b_musad.Intercept	0.28*	1.04*
	[0.24; 0.34]	[1.00; 1.07]
b_musurprise.Intercept	-3.90*	-1.87*
	[-4.17; -3.66]	[-1.95; -1.80]
b_mudisgust.UPR	1.93*	-1.63*
	[1.55; 2.35]	[-1.81; -1.46]
b_mufear.UPR	0.68*	-0.15*
	[0.61; 0.75]	[-0.20; -0.10]
b_muhappy.UPR	-0.27*	-0.84*
	[-0.35; -0.19]	[-0.91; -0.77]
b_muneutral.UPR	-0.25*	-0.29*
	[-0.31; -0.19]	[-0.34; -0.24]
b_musad.UPR	0.56*	-0.36*
	[0.49; 0.62]	[-0.40; -0.31]
b_musurprise.UPR	1.86*	-1.82*
	[1.60; 2.15]	[-2.02; -1.63]

* Null hypothesis value outside 95% credible interval.

Table 6: Multinomial logit model for effect of UPR on debates on Israel and Russia

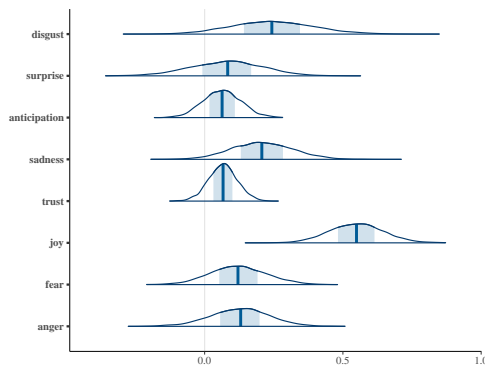


Figure 16: The effect of UPR on emotions in debates on Israel (multivariate negative binomial model, correlated random effects, lenient sample)

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