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'Is it President Obama's fault? Is it President Obama's fault?'

Gesture and emphasis in the US presidential debates of 2016

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INTRODUCTION

Emphasis as means of focalization through syntactic, prosodic, and gestural elements

Elements of the discourse will be made to stand out through the speakers' behavior

Focus on eyebrow movement (Ekman 1979) as underliners in discourse, specifically raised eyebrows (Granström & House 2005; Tabacaru 2019)

Focus on political speech, for which analyses of hand movement analyses have been carried out (e.g. Lefkowitz 2021).

Research questions:

- I. Is emphasis conveyed both verbally and non-verbally by speakers?
- II. Are raised eyebrows used for emphasis in political discourse?
- III. Is there a difference in the type of emphasis used and gestural cue?

METHOD

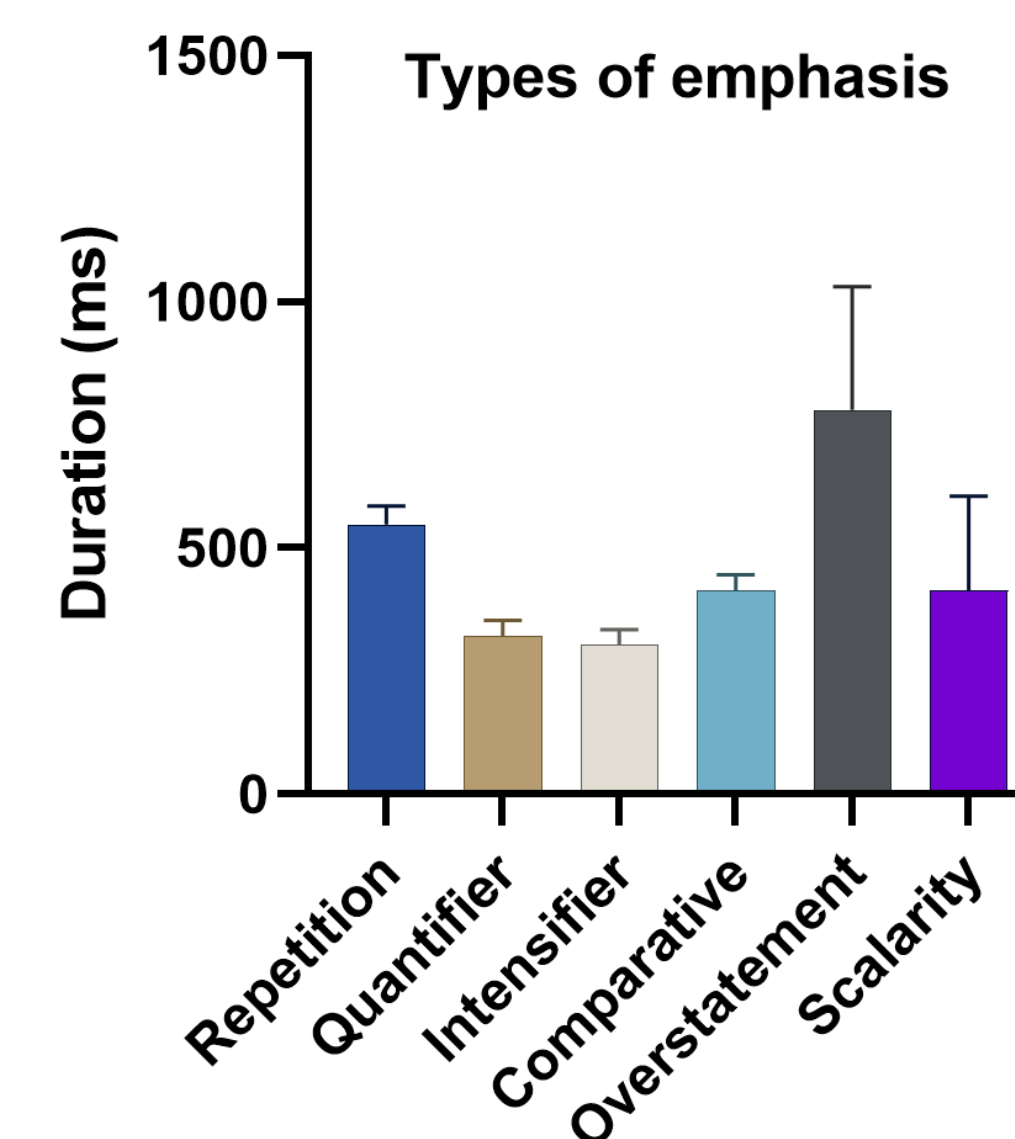
- Corpus: the 2016 first US presidential debate between Hillary Clinton and Donald Trump (©NBC News), total 1h38min
- Three annotators (2 experts, 1 naive)
- Annotations regarding verbal emphasis (Norrick 2004; Ferré 2014) as well as gestural emphasis:

- | | |
|------------------|--|
| → Repetitions | → large hand gestures (Cassell & McNeill 1990; |
| → Intensifiers | Hoetjes et al. 2015) |
| → Quantifiers | → eyebrow rises (Granström & House 2005; Al |
| → Scalarity | Moubayed et al. 2011) |
| → Comparatives | → head beats (Krahmer & Swerts 2007) |
| → Overstatements | |

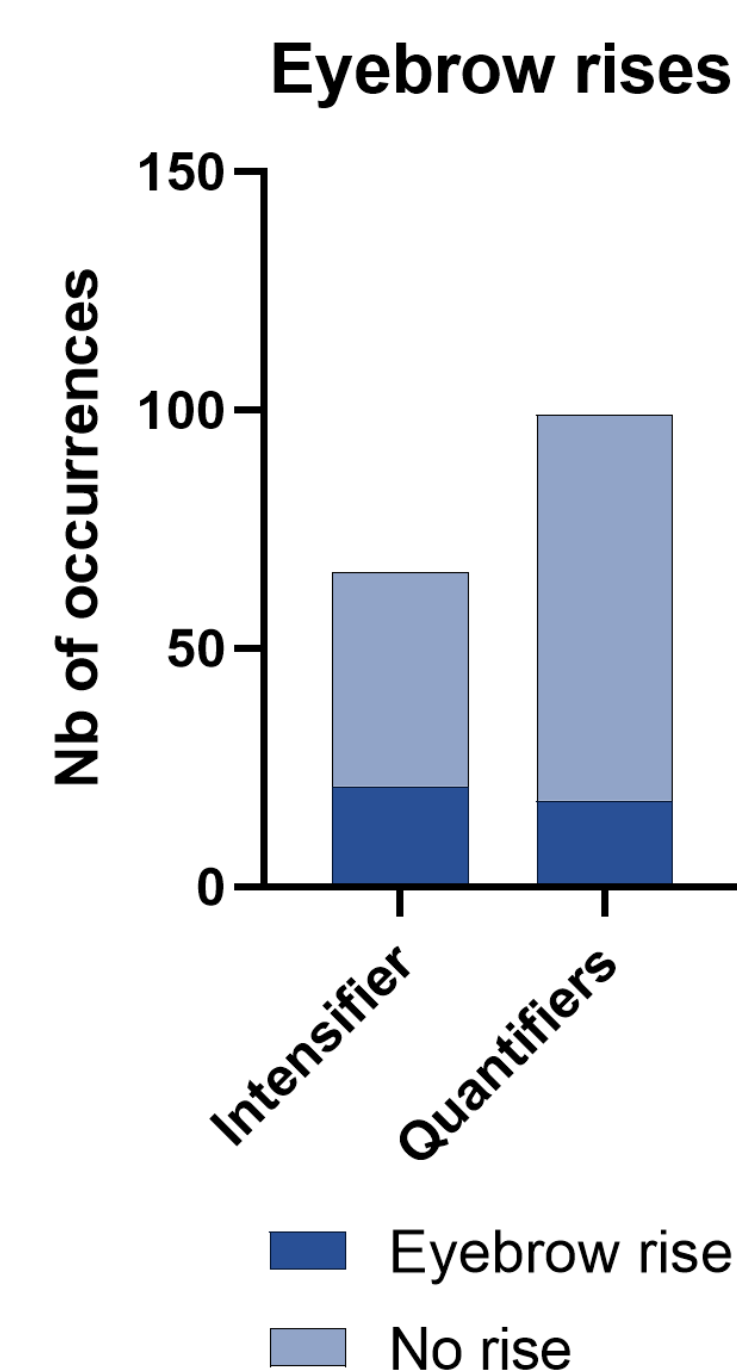
ACKNOWLEDGMENT

Special thanks to our annotator, Racha Rahal Gharbi.

RESULTS



The six different types of emphasis are produced with different durations, $H(5) = 147.9, p < .0001$. Overstatements showed the longest duration ($Mdn = 959$ ms) while intensifiers ($Mdn = 303$ ms) showed the shortest.



Eyebrows

The proportion of rises differs by emphasis in intensifiers and quantifiers, $\chi^2(2, N=165) = 4.08, p < .05$. An eyebrow rise is more likely to be produced with intensifiers (31.8% of intensifiers feature an eyebrow rise) than with quantifiers (18.2% of quantifiers feature an eyebrow rise).

Rises also show significant differences in duration according to the type of emphasis they are produced with ($H(5) = 26.52, p < .0001$). However, the relation between segment duration in emphasis and eyebrow rise duration has to be probed with a larger dataset to be meaningful.



Raised eyebrows with intensifiers

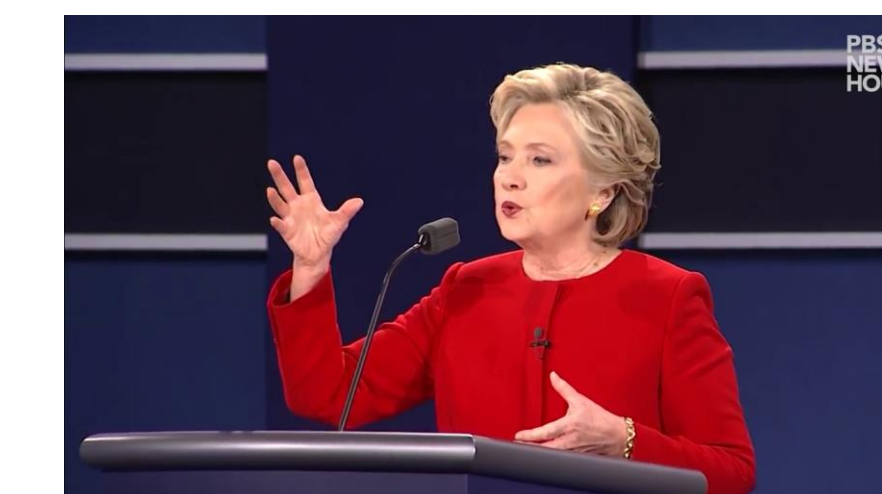
Intensifiers

Donald Trump: When she started talking about this it was really very recently she's been doing this for 30 years

Hand gestures

Scalarity ($\chi^2(1, N=659) = 6.94, p < .001$) and overstatements feature significantly more large hand gestures than the other types of emphasis ($\chi^2(1, N=659) = 4.65, p < .05$). Repetitions, on the contrary, are significantly less accompanied with large hand gestures than the other types of emphasis ($\chi^2(1, N=659) = 16.99, p < .0001$).

No difference was found in terms of hand gesture duration between these groups.



Overstatements

Hillary Clinton: We've got to do everything we can to vacuum up intelligence from Europe from the Middle East

Head gestures

No significant association between head gestures and emphasis type, whether in proportion or duration.

DISCUSSION AND CONCLUSION

- I. Emphasis is conveyed verbally and non-verbally by the speakers. After enlarging the data, the co-occurrence of gestural cues has to be investigated.
- II. Raised eyebrows are used only for some of the types of emphasis in political discourse
- III. The individual types of verbal emphasis show relations to different gestural cues. However, head gestures are used consistently across these types in our data.

Gaze towards the co-speaker has also been shown to play a role in emphasis in interaction (Holler et al. 2014), but was not measured in this study. Given the specific interactional context of political debates, gaze towards the camera, towards the host, and towards the co-speaker will be measured. Future work will also include speech rate (Priva 2017).

We have focused on the size of gestures regardless of their semiotic type. The relation between emphasis and hand gesture semiotic type is to be investigated in future work.

We have identified differences between six types of emphatic speech. The next development is the creation of a control group to compare emphatic speech to non-emphatic speech.

