

Characteristics of pauses in fast, casual and slow speech

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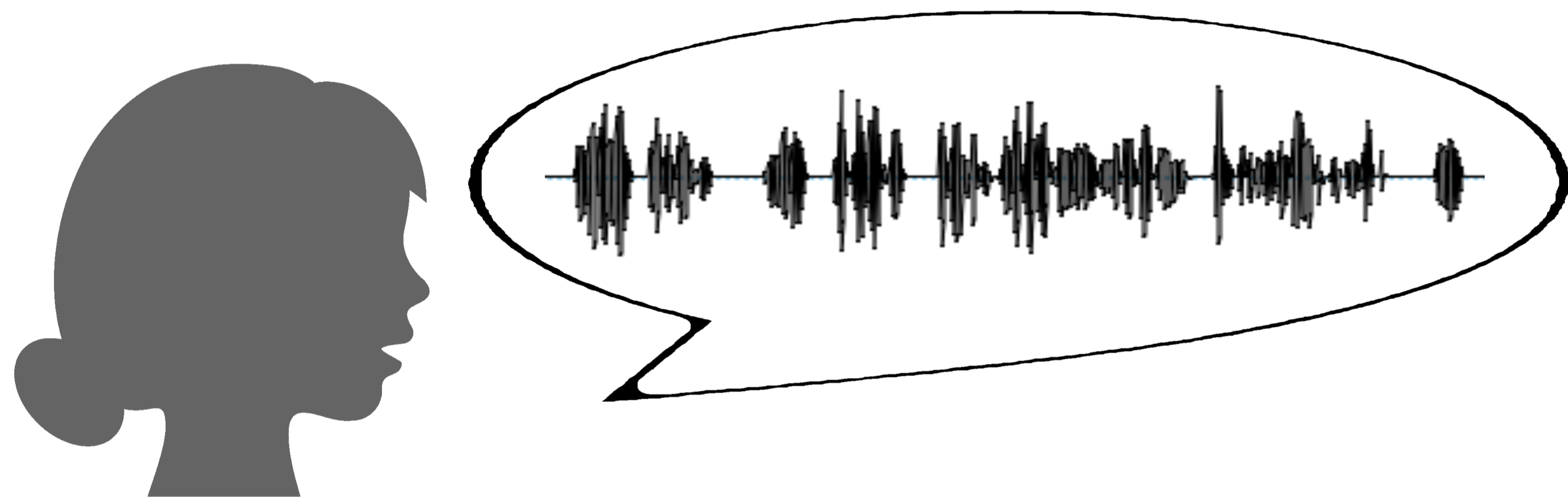


Introduction

Pauses are important features of prosody that are involved in determining speech tempo and rhythm. They also belong to the most efficient speech structuring cues, and are more relevant than other prosodic markers such as pitch or amplitude [1]. Pauses perform multiple functions, including breathing, marking grammatical boundaries, dealing with syntactic complexity, planning new utterances, providing semantic focus or rhetorical emphasis [2]. There are also language-specific differences in pausing behaviour: French speakers have been reported to pause less frequently than English speakers [3].

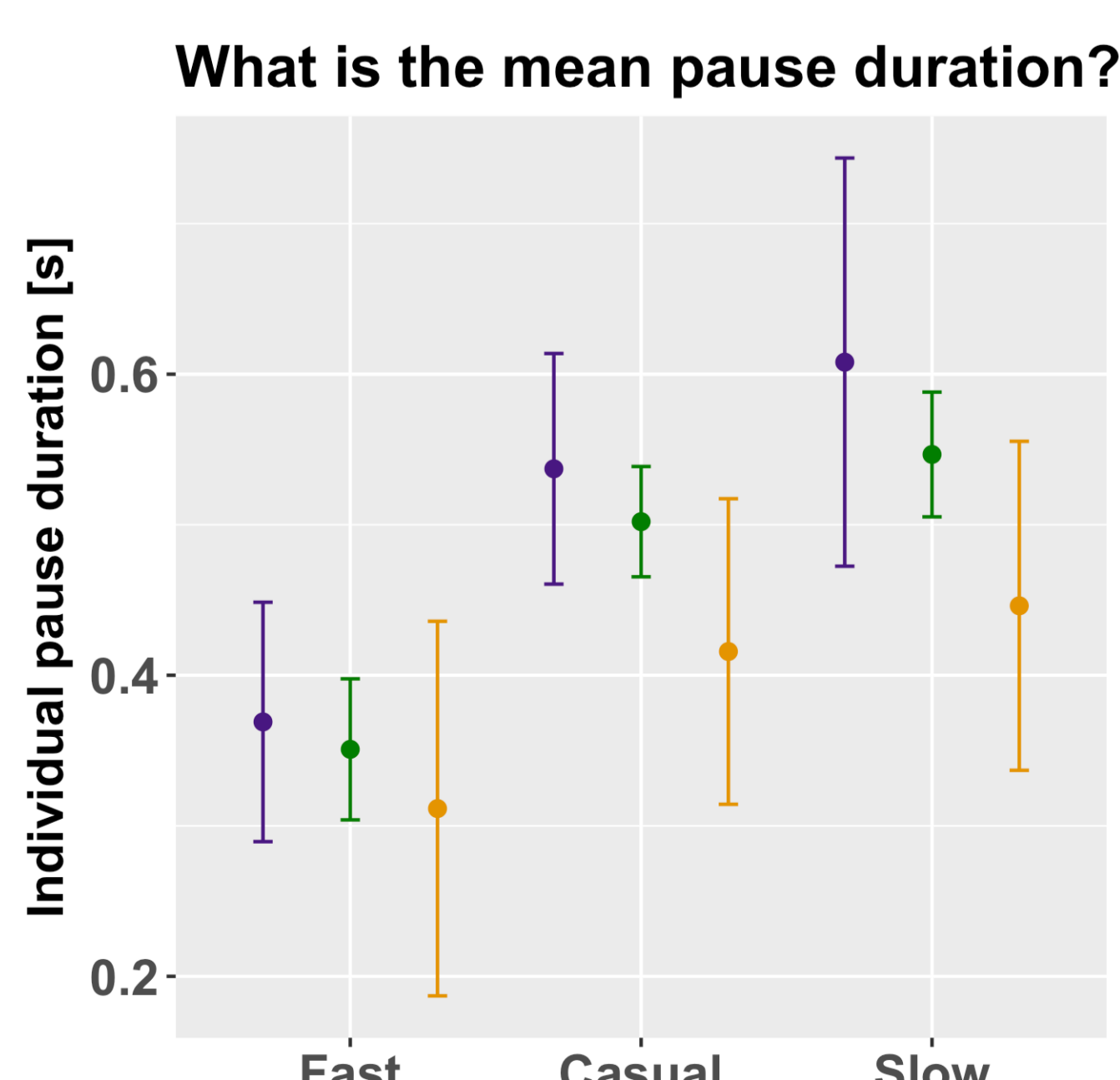
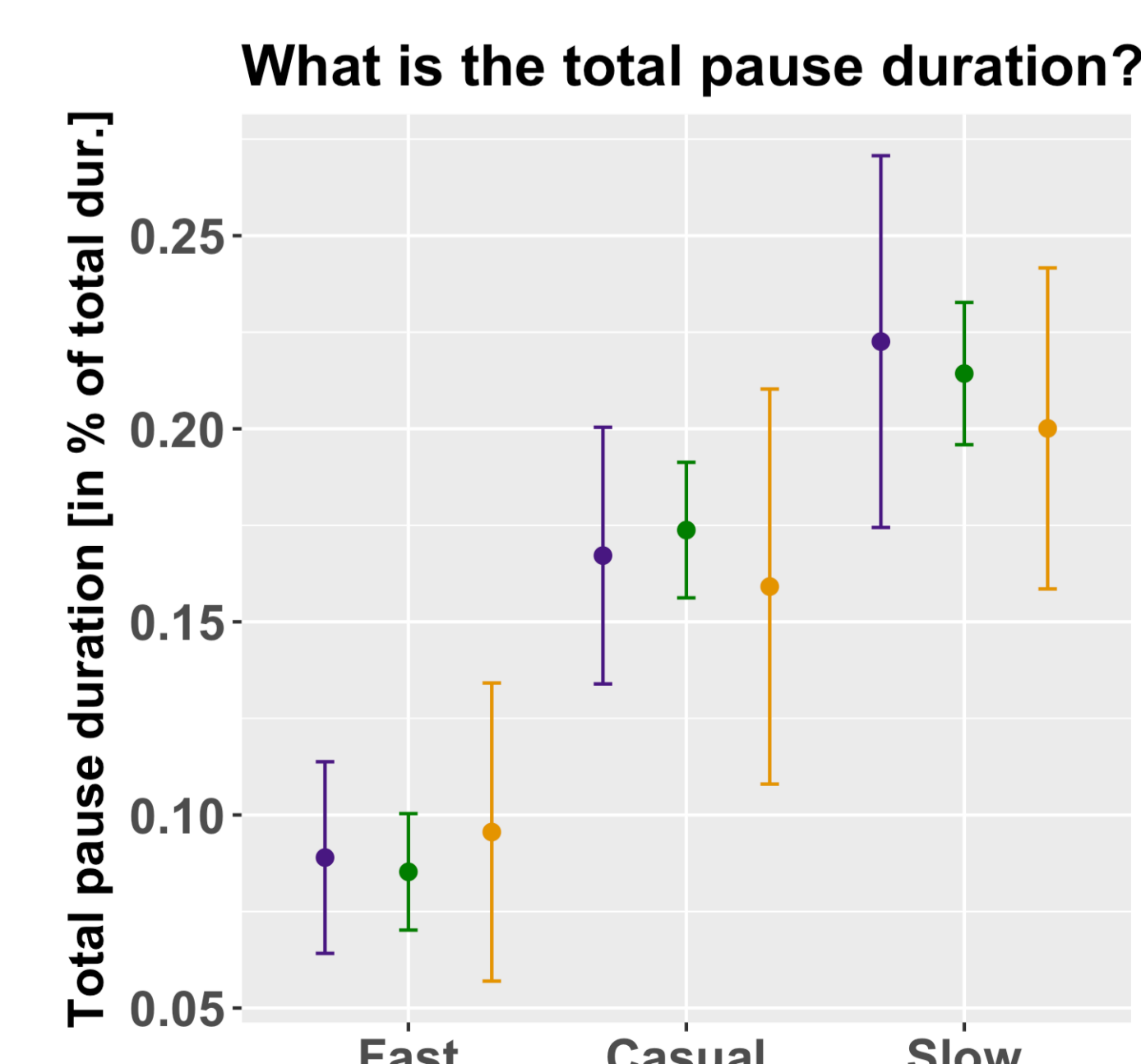
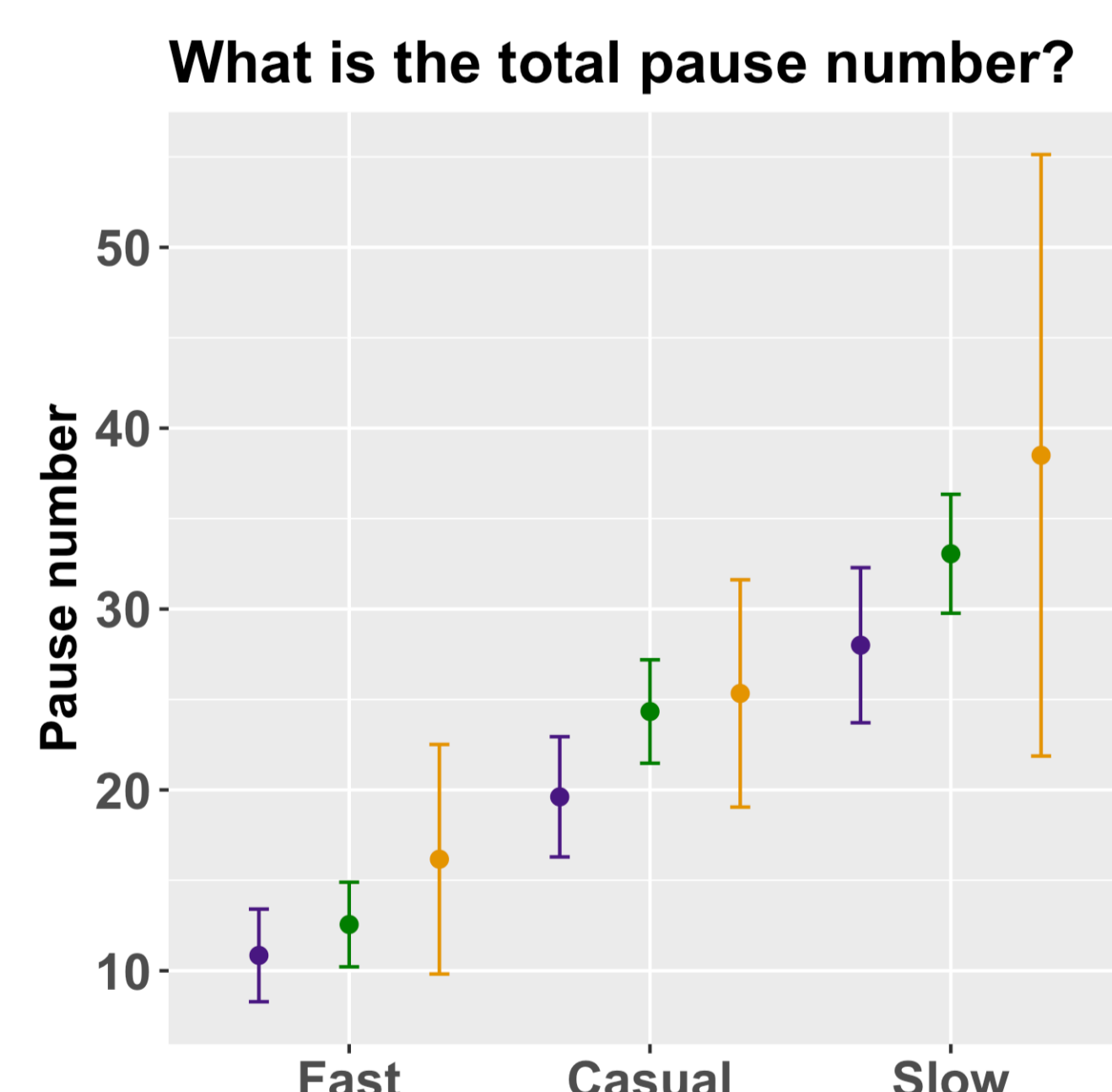
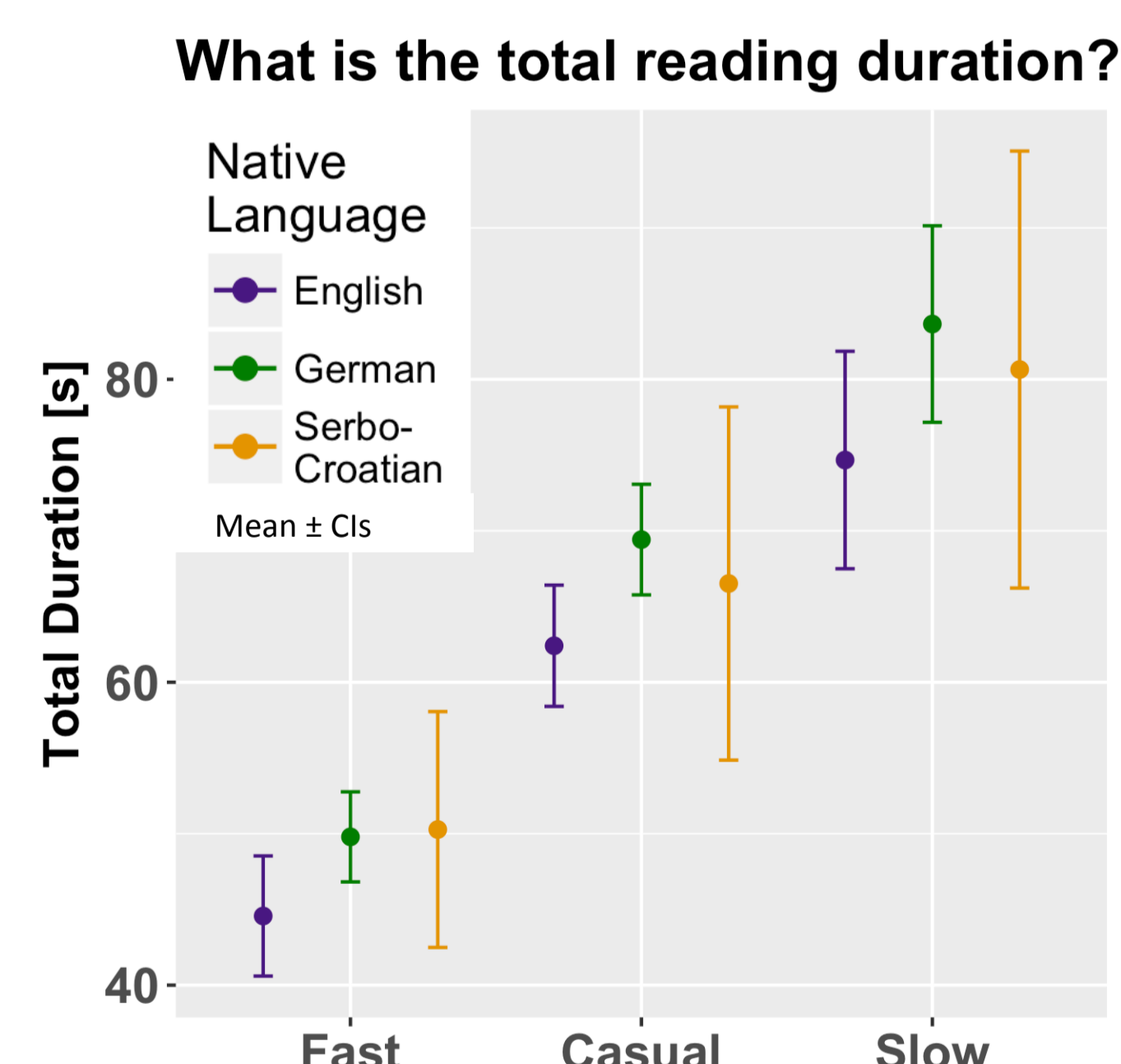
Questions

- How are speech pauses related to speech tempo?
- How easily are pause characteristics acquired in a foreign language?
- At which positions in a text do speakers pause?
→ How universal are pausing cues?



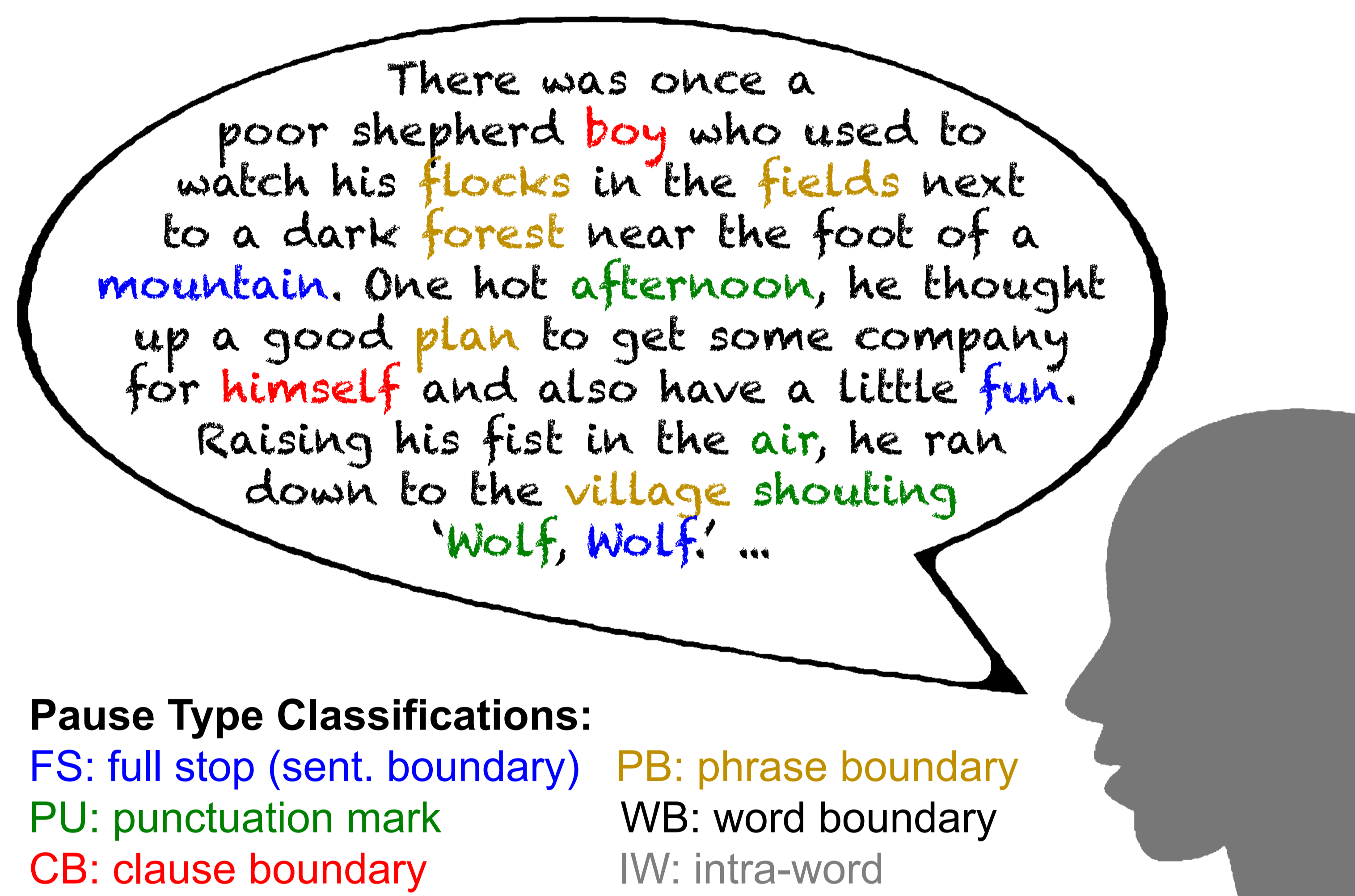
Results

- How are speech pauses related to speech tempo?
- How easily are pause characteristics acquired?



Methods

- Recording speakers of 3 different native languages (English: 5f 5m, German: 10f, 8m, Serbo-Croatian: 3f, 3m) reading out an English text in 3 different tempi: fast, casual and slow.
- Semi-automatic annotation of pause characteristics in Praat
- Classification of pauses according to their position in the text

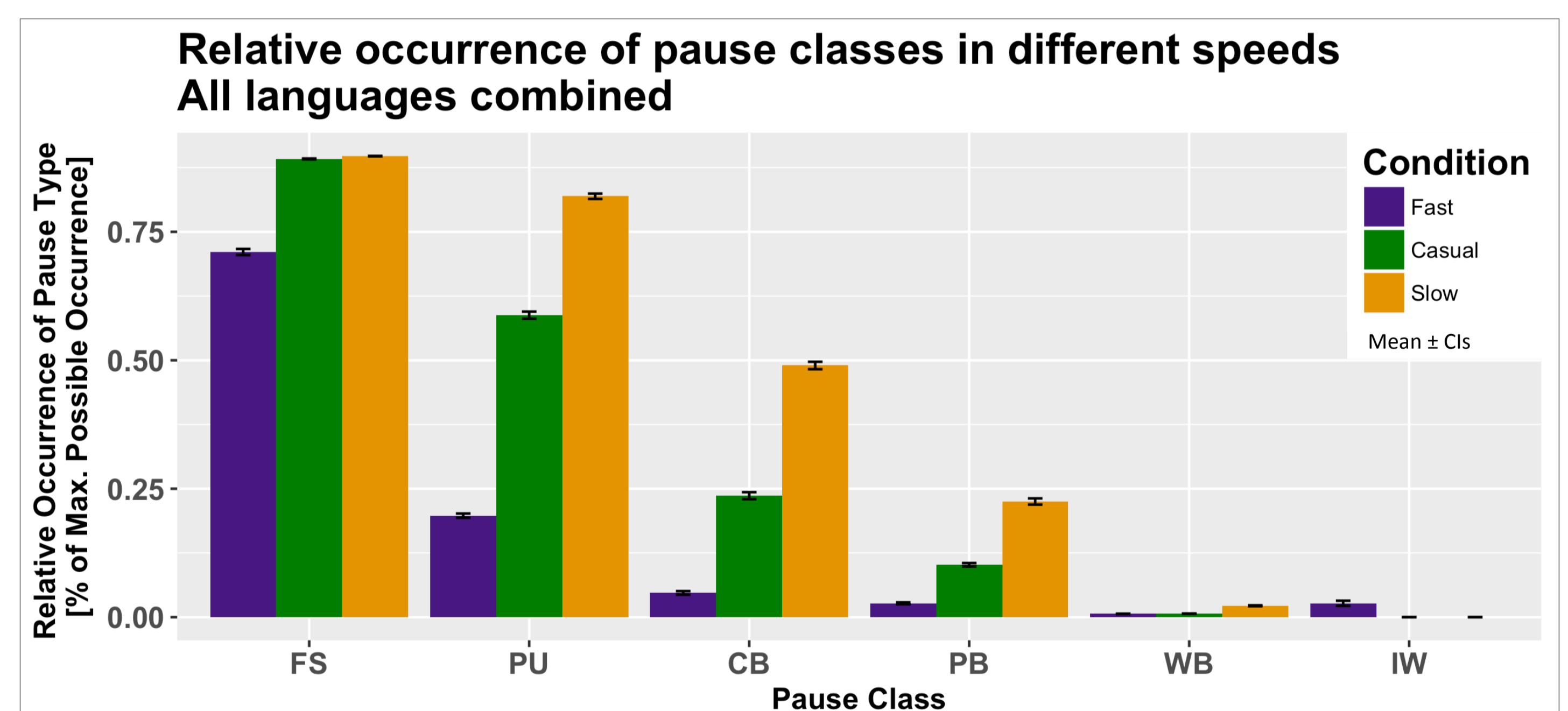


Pause Type Classifications:

FS: full stop (sent. boundary) PB: phrase boundary
PU: punctuation mark WB: word boundary
CB: clause boundary IW: intra-word

Results

C. At which positions in a text do speakers pause?



Conclusion

- With an increase in speech tempo, the number of pauses, the total pause duration and the individual pause duration decrease. Pauses were shortened more than articulated speech.
- Similar patterns apply for all three languages tested. Speakers of German and Serbo-Croatian have successfully acquired the characteristics of pauses in English. Tendency: English speakers make less, but longer pauses, whereas Serbo-Croatian speakers make fewer, but shorter pauses.
- Participants showed a strong preference for pausing at major syntactic boundaries. Also in fast speech tempo, breathing coincided with syntactic boundaries.

[1] Männel C., Schipke CS, Friederici AD. 2013. *Developmental Cognitive Neuroscience*, 5, 86–94.

[2] Fletcher J. 2010. In Hardcastle WJ, Laver J, Gibbon, FE (eds.). *The Handbook of Phonetic Sciences*. Oxford: Blackwell, 521–602.

[3] Grosjean F, Deschamps A, 1975. *Phonetica* 31, 144–84.