

# **The processing of Intonational Phrase boundaries and working memory: Evidence from brain imaging and behaviour**

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Intonational Phrases (IPh) are relevant processing units during speech and language processing. For instance, IPhs help to structure sentences into smaller sequences, and to disambiguate sentence content.

A better knowledge of the nature of IPhs can instruct speakers on how to structure long sentences. This is important for teachers and lecturers, news speakers etc., as it may result in better speech and language understanding for listeners. Such an improvement can help people with Dyslexia/Developmental Language Disorder.

In this talk, I will discuss neuro-imaging data (electroencephalography, EEG) on the processing of IPhs in listening (German; Steinhauer, Alter & Friederici, 1999) and reading (Swedish; Roll, Lindgren, Alter, Horne, 2012) of sentences in brain laboratory environments.

I will talk about the potential impact of limits on the optimal size of IPhs with respect to length/time and length/number of words. Both length and number of items are also related to working memory, i.e., Miller (1956) and his magical number of seven words to be recalled. I will present recent results of behavioural on-line studies (English; unpublished data) with varying size related variables and their impact on working memory performance.

As this is on-going research, I would be delighted to discuss future directions into the research of IPhs and working memory.