

Scalar implicature and epistemic content

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Spsychalska et al. (2016) showed that critical words in underinformative sentences with *some* elicited larger N400s and late positivities than critical words in true and informative sentences with *some* only for so-called pragmatic responders, i.e. those who evaluated underinformative sentences as false in their truth-value judgment. In contrast, the difference in the N400 and the late positivity evoked by critical words in false and underinformative sentences was larger for the logical responders. These effects were shown to be dependent only on the truth-value evaluation of the underinformative sentences and independent of the subjects' Autistic Spectrum Quotients or the lexico-semantic relationship between the critical words and the main noun phrases in the tested sentences. In our new experiment we extend this paradigm to include the epistemic reasoning step in the process of implicature generation. In the initial study by Spsychalska et al. (2016) the scenarios contained all the relevant information needed to evaluate the truth-value of sentences with *all* or *some*. However, scalar inferences are often argued to occur as results of global reasoning processes based on assumptions regarding the speakers intentions and information states. Therefore, *not all* is inferred from *some* based on the reasoning that no informationally stronger utterance (i.e. with *all*) is available for the speaker. This could be the case if such a stronger sentence with *all* is known to be false, or if the speaker does not know, whether a stronger statement is true. If the speaker is known to have only partial access to the model, we need to include the information regarding her epistemic state to evaluate whether the use of a statement with *some* or *all* is justified. By manipulating the epistemic context of a presumed virtual agent in the experimental scenario (by means of avatar-based communication) we can investigate whether our participants perform this sort of epistemic reasoning.

References

- Spsychalska, M., Kontinen, J., & Werning, M. (2016). Investigating scalar implicatures in a truth-value judgment task: Evidence from event-related brain potentials. *Language, Cognition and Neuroscience*. (Doi:10.1080/23273798.2016.1161806) doi: 10.1080/23273798.2016.1161806