Speaker Characteristics and Negation in Context

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There is evidence that speaker characteristics are integrated early in the process of sentence comprehension. If the characteristics of a speaker do not match the content of a sentence, this leads to disruptions in sentence processing, which in turn is reflected in early components of ERPs (e.g., the N400, van Berkum, van den Brink, Tesink, Kos, & Hagoort, 2008) or in longer reading times on the critical word of the sentence (Rück, de la Vega, Leuthold, & Kaup, 2017) compared to the same sentence spoken by a matching speaker ("I bought a dress" by a male or a female speaker, respectively). However, in the self-paced reading study by Rück et al. (2017), negated sentences showed the same pattern as their affirmative counterparts on the critical word, although the negation makes the content of the sentence now plausible for the former mismatching speaker (not to buy a dress is normal for a man). One explanation might be that the results do not reflect early integration of linguistic and extra-linguistic context, but merely lexical associations (Huang & Gordon, 2011). Another explanation lies within the pragmatics of negation. Negation often marks the deviation of an expectancy (Mœschler, 1992). Although the described event of not buying a dress is normal for the male speaker, we do not expect him to buy a dress, so why would someone tell us he did not? Therefore, the content of the sentence is now plausible, but the sentence itself is still pragmatically odd for the speaker.

Following Tian and Breheny (2016), we created contexts to differentiate between these two explanations. In "suitable contexts", the stated fact was an answer to the explicit topic of the discussion whereas in "unsuitable contexts" it was not. If the question under discussion (QUD) is who bought a dress, it is pragmatically ok for a man to deny this fact. For a more general QUD asking who bought what, the negated sentence is still pragmatically odd. We varied the factors speaker congruency, context and polarity in a partial 2*2*2-design. For affirmative sentences, we only had suitable contexts.

Linear mixed effect models (LMEMs) revealed an effect of congruency for affirmative sentences. As in former self-paced reading studies (Rück et al., 2017), mismatching speakers led to longer reading times on the critical word. Regarding the negated sentences, LMEMs showed an effect of the factor context, but not of the factor congruency nor the interaction of both. Reading times on the critical word in negated sentences were longer for unsuitable contexts than for suitable contexts independent of congruency. These results suggest that not only extra-linguistic variables like speaker characteristics but also the pragmatics of negation are integrated with the context in an early stage of sentence comprehension.

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