

# **The Effect of Emotional Cues on Situated Language Processing in Children**

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Two visual world eye-tracking studies investigated the effect of emotions and actions on thematic role assignment of 4 to 5 year old children and 18 to 30 year old adults. Positively emotionally-valenced German non-canonical object-verb-subject (OVS) sentences were paired with a scene depicting three characters (agent-patient-distractor) performing the action described by the sentence (vs. no action). The scene-sentence pairs were preceded by a positive prime in the form of a happy looking smiley (vs. no smiley). 4-5 year old German children are able to comprehend canonical SVO sentences without problems. However, they are at chance regarding the comprehension of non-canonical (unambiguous) German OVS sentences. Dittmar et al. (2008) showed an ongoing development until age 7 from relying on word order only to also using case marking on its own for incremental sentence comprehension. Still, previous research has demonstrated that direct visual cues, such as depicted actions, have a facilitatory effect on thematic role assignment of German OVS sentences for both children and adults (Zhang & Knoeferle, 2012). Moreover, prominent social cues, such as emotional facial expressions, facilitate sentence processing for older and younger adults (Carminati & Knoeferle, 2013). We did not yet know, however, how facial emotions and depicted actions as social and contextual visual cues affect visually situated spoken sentence processing of structurally difficult sentences at a young age. These insights lead to the hypotheses that young children would not only profit from depicted action events, but that sentence processing might also be positively affected by emotional cues. Our studies thus assessed to which extent different kinds of (visual) cues can help young children to overcome difficulties in comprehending non-canonical sentences. The results replicate the predicted effect of action depiction (vs. no action depiction) in both 5-year-olds and adults. However, although the expected facilitatory effect of emotional priming is trending for the adults, children do not seem to make use of the positive emotional prime in processing the OVS sentence in the same way as adults do. Subtle emotional cues might therefore only be integrated in a later developmental phase into processing of difficult sentence structures. Hence, for thematic role assignment the emotional effects seem to be weaker than the action effects. These studies yield first insights into the influence of different types of visual cues on thematic role assignment and into the age at which those different kinds of cues can be integrated and used in language processing.

## References

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