
I see what you mean – investigating the interplay of linguistic and non-linguistic cues during reference resolution in a real-world design

Robert Voigt¹

¹*Universität zu Köln*
rvoigt4@uni-koeln.de

In this talk, I report the methodology and initial results of an interactive real-world experiment investigating the interaction of linguistic and non-linguistic cues in referential communication. I hypothesize that, during reference resolution towards objects in the real world, interlocutors will follow the eye gaze of each other directed to the potential referents whenever possible and that this behavior will speed up reference resolution in comparison to situations where they just follow the linguistic information presented to them (Hanna et al. 2020).

15 pairs of two naïve participants will play a referential communication game as in Keysar et al. (2000), where each of them sits on one side of a shelf with 4 rows of 4 compartments each and they jointly have to move objects from one compartment into the other. One participant, the director, sees pictures of certain object configurations and needs to tell the other participant, the matcher, how to move the objects so that their order resembles the order on the pictures. Crucially, in one condition (no-gaze condition), the compartments in front of the director's face are covered. Thus, the matcher is unable to see the face of the director. In the other condition (gaze condition), the face of the director is visible to the matcher.

The key dependent variable I measure are the eye movements of the matcher and the director using a mobile eye tracking device. I aim at analyzing the eye movements of the matchers depending on the eye movements of the directors. Furthermore, I measure the reaction times of both participants using automatically annotated video recordings of the participants. I hypothesize that matchers will use the eye gaze of the director as main cue for reference resolution. Thus, I expect them to follow the directors' gaze in the gaze condition and fixate the target object before the disambiguating linguistic expression and earlier than in the no-gaze condition. In the no-gaze conditions, they should focus more strongly on the linguistic cues and fixate the target objects later at the linguistic point of disambiguation. Furthermore, I expect the matchers to move the object more quickly in the gaze condition than in the no-gaze condition.

References: Hanna, J. E., Brennan, S. E. & K. J. Savietta (2020). Eye gaze and head orientation cues in face-to-face referential communication. *Discourse Processes* 57 (2020). 201–223. • Keysar, B, Barr D., Balin, J. & J. Brauner (2000). Taking perspective in conversation: the role of mutual knowledge in comprehension. *Psychological Science* 11(1). 32–38.