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# Action Speaks Louder than Words and Gaze: The Relative Importance of Modalities in Deictic Reference

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## Abstract

Deictic communication is fundamentally multimodal. Spatial demonstratives frequently co-occur with eye gaze and physical pointing to draw the attention of an addressee to an object location (e.g. this cup; that chair). Yet the relative importance of language, gesture and eye gaze in deictic reference has not this far been elucidated. In three online experiments, we manipulated the congruency of pointing, gazing and verbal cues to establish their relative importance for demonstrative choice (Experiment 1) and choice of referent (Experiments 2 and 3). Participants saw an image with a person sitting behind a table, interacting with items placed proximally or distally relative to the pictured person, with manipulation of pointing, eye gaze and language (and congruence/incongruence of these modalities). While all three modalities affected demonstrative choice (Experiment 1) and referent choice (Experiments 2 and 3), results show that pointing is the dominant deictic cue to demonstrative/referent choice.