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Mouse-tracking meta-cognitive ratings of comprehension during garden-path sentences.

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Abstract

Research on movement in linguistic production and the perceptions of such movements are well established, with direct applications in co-speech gesture and signed languages. Underexplored, however, is leveraging movement itself to investigate language comprehension and perception. In the following experiment, we introduce a novel use of mouse-tracking as a tool for continuous self-reporting of comprehension felicity. This method yields a direct and informationally dense datastream whose properties may shed insight into real-time meta-cognitive sentence processing. The dense-sampling measure affords use of nonlinear time series analysis methods not yet applied to sentence comprehension. Participants (N=46) gave continuous ratings of ease-of-comprehension while listening to reduced relative clause garden-path and control sentences. We compare these ratings and examine our results in the context of competing garden-path processing theories: an all-or-nothing account and a competitive account.