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Interference and Case Marker Effects in Dependency Locality: Insights from Hindi

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Abstract

Decades of sentence comprehension research have focused on the cognitive factors that determine the processing difficulty. In this work, we investigate how locality and interference effects interact with each other in Hindi, a head-final language with flexible word order and a rich case-marking system. Using linear regression, we examine the extent to which the dependency distance of a sentence, which is based on retrieving previously-stored elements in the working memory can be predicted by various other backward-looking measures of processing complexity. We evaluate how dependency distance is influenced by similarity-based interference, case density, information structure, and finally, a forward surprisal measure proposed recently to model planning processes in comprehension and production systems. Overall, our results indicate that similarity-based interference and case density are significant positive predictors of dependency length, lending credence to the view in the literature that the mechanisms underlying locality might be driven by interference.