

# Existing Models May Not be Able to Explain Letter-Position Encoding in Hindi: Evidence from a Priming Study

**Suraj Kumar**

Indian Institute of Technology Kanpur, Kanpur, Uttar Pradesh, India

**Anurag Khare**

Indian Institute of Technology Kanpur, Kanpur, Uttar Pradesh, India

**Ark Verma**

Indian Institute of Technology Kanpur, Kanpur, Uttar Pradesh, India

## Abstract

Letter-position encoding is one of the constituent processes in visual word recognition. While the existing models attempt to explain letter-position encoding in English & other European languages written using the Roman Script, letter-position encoding in Hindi written using the Devanagari Script has not been studied in detail. Given that Hindi is spoken/read by over 520 million people in India and the unique properties of the Devnagari Script (Vaid & Gupta, 2002; Kandhadai & Sproat, 2010; Share et al., 2015), the current study sought to investigate letter-position encoding in Hindi. 66 participants performed a lexical decision task that employed six-prime conditions to compare hypotheses from a) the position-specific coding scheme, b) local context sensitive coding scheme and the c) position overlap coding scheme. Interestingly, the results showed that none of the aforementioned coding schemes could satisfactorily explain the obtained data. These findings may be used to question the generalizability of the extant letter- position encoding schemes to the relatively understudied languages such as Hindi, which use scripts different from the Roman script.