
Modelling the influence of individual differences in real-time language processing: Introducing the sCIA+ – an extension of the social Coordinated Interplay Account

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Psycholinguistic research increasingly examines how social context and individual differences shape comprehension (e.g., Maquate et al. 2024). In an eye-tracking study, Maquate et al. (2024) exposed younger and middle-aged adults to formal or informal contexts via prime sentences, followed by register-(in)congruent targets. Verb-argument congruency was also manipulated. Results showed that both context formality and age modulate and interact with verb-argument processing.

Despite this sort of evidence, sentence processing models have yet to fully integrate social and individual influences (e.g., Altmann & Mirković 2009). The social Coordinated Interplay Account (sCIA, Münster & Knoeferle 2018) already accommodates some social contexts and individual comprehender characteristics but is underspecified regarding key features relevant for language processing in situational-functional variation, e.g., register differences.

We propose an extension (sCIA+) with three key updates: 1. Context scope: Redefines “social context” within broader communicative situations (com-sits; Wiese 2023). 2. Individual differences: Expands the sCIA distinction between biological and experiential comprehender characteristics by drawing on intersectionality (McCormick-Huhn et al. 2019). 3. Time parameter: Refines temporal modeling for continuity across steps and links to empirical markers (e.g., N400), enhancing testability and predictive power. We illustrate the sCIA+ with recent eye-tracking and EEG findings and outline predictions for register studies involving adolescent heritage speakers of Russian.

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