Exploring the nature of the gender-congruency effect

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In this study we explored whether grammatical gender activation can be biased by lexical information related to gender. To this aim, we designed two priming tasks in Spanish in which native speakers decided the grammatical gender of a pronoun (target) while ignoring the preceding noun (prime). The primes could have arbitrary gender (epicene nouns – tortuga FE *turtle* – or inanimate nouns – vaso MAS *glass*) or semantic gender (biological nouns – amiga FE *friend*—or stereotypical nouns– bombero MAS *fireman*). We expected to find a facilitation in the activation of linguistic information congruent in gender, as shown by faster RT and lower amplitudes of the N400 and P300 components. Moreover, we expected to find stronger congruency effect with semantic gender words than arbitrary gender words, as the former maps biological sex. The results showed that target's gender was processed faster and evoked lower amplitudes of the N400 and P300 components when preceded by gender congruent primes, including arbitrary gender primes. At neural level, gender congruency for inanimate nouns was exclusive of feminine targets, and for epicene nouns of masculine targets. Altogether, we corroborated that the activation of grammatical gender information at the lexical level bias access to grammatical gender, and this bias is stronger with semantic than arbitrary gender nouns, what indicates a transfer from lexical to semantic levels. For the first time, we showed that the feminine is the marked gender. Additionally, we found that in epicene nouns the masculine form works as the generic gender, activating both male and female referents.