Are men less sensitive to gender stereotypes in their foreign language? An ERP study

Katarzyna Jankowiak, Marcin Naranowicz, Joanna Pawelczyk & Dariusz Drążkowski
(Adam Mickiewicz University, Poznań)

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Language serves as the primary medium through which we convey societal and cultural norms and attitudes (Goodhew et al., 2022) and plays a pivotal role in perpetuating stereotypical beliefs including those regarding men and women (Kiełkiewicz-Janowiak & Pawelczyk 2006; Holtgraves & Kashima 2008; Kashima et al., 2014). While previous studies have demonstrated automatic activation of gender stereotypes in native language processing (e.g., Osterhout et al. 1997; Proverbio et al. 2018), it has not been examined how stereotypes are stored and accessed in the bilingual mind. The present event-related potential (ERP) study aims to fill this gap by providing first insights into the neurophysiology of stereotype processing in bilingualism. Specifically, we investigate whether bilingual male and female speakers exhibit reduced sensitivity to societal norms conveyed through gender stereotypes when operating in their foreign (L2) compared to native (L1) language. We tested 61 (31 women, 30 men) Polish (L1) – English (L2) highly proficient unbalanced (L1-dominant) bilingual speakers, who performed a semantic decision task comprising semantically-correct (e.g., *The factory produces a top-selling dollhouse for porcelain dolls.*), semantically-anomalous (e.g., *Movies are directed by a dollhouse and its trainees.*), stereotype-congruent (e.g., *The girl got her dream dollhouse from her parents.*), and stereotype-incongruent (e.g., *The boy got his dream dollhouse from his parents.*) sentences in L1 and L2. The results showed gender- and language-dependent modulations by sentence type within the N400 (marking lexico-semantic processing) and Late Positive Complex (LPC; marking semantic integration and re-evaluation) time frames. In females, both the N400 and LPC responses to semantically correct sentences aligned with those observed in stereotypically congruent and incongruent conditions in both languages, indicating a deep-rooted internalization of gender stereotype-laden content. Conversely, males displayed a heightened gender-stereotypical bias only in L1. In L2, they exhibited a reduced sensitivity to gender stereotypes, whereby semantically incorrect sentences converged with both stereotypically congruent and incongruent conditions in the N400 time window, and with stereotypically incongruent sentences in the LPC time frame. Altogether, the present study extends the foreign language effect (Keysar et al., 2012; Costa et al., 2014) to the processing of gender stereotypes in L2, and highlights the possibility that male bilingual speakers exhibiting more stereotype-driven attitudes may use their L2 to engage in less stereotypical behavior. This might hold a significance for various domains, including social, political, and job contexts, where the use of a foreign language may facilitate gender-fair language and mitigate gender stereotyping and discrimination.

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