Emotion Word Choice Dependent on Language Mode and Proficiency

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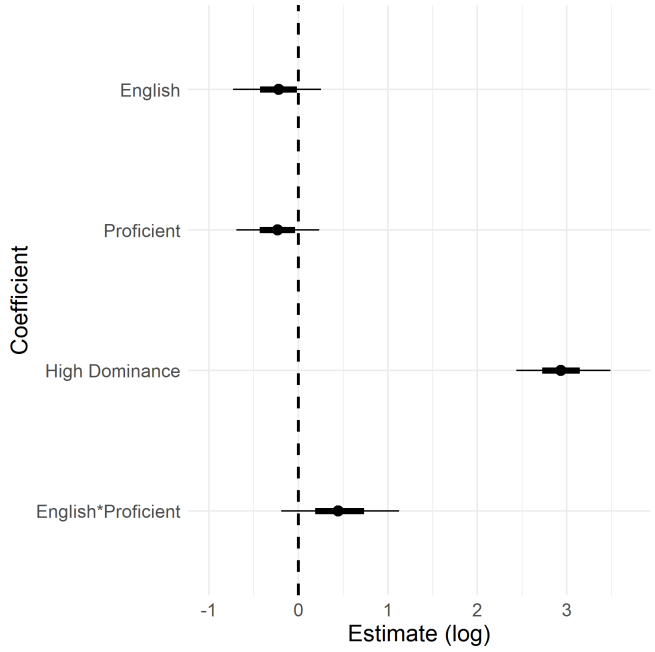
Introduction. In the present study we investigate whether language choice and user proficiency in L2 are predictive of emotional arousal and dominance levels by examining L1 Turkish L2 English speakers through a text-based sentiment analysis. The expression of emotion varies from one culture to another because of different cultural regulations, with emotional dominance and submission levels having been positively correlated with emotional arousal [1, 2]. Emotional granularity research indicates that in individualistic cultures (e.g., the USA), people tend to use high arousal (e.g., "alarmed," or "excited") emotional self-markers whereas collectivistic societies (e.g., Turkey) most prominently use low arousal (e.g., "calm," or "content") relationship-markers [3, 4]. On a similar ground, the emotional concepts of bilinguals may change in accordance with the monolingual counterparts in each code [5] or they may alternatively be subject to L1 transfer effects in L2 [6].

Method. We report data from 52 L1 Turkish L2 English speaking undergraduate students, 27 of whom had high L2 proficiency (C2) and the remaining 25 were intermediate learners (B1) enrolled in the English preparatory program. We used PsyToolkit [7, 8] for online data collection. For the text-based sentiment analysis, we designed an online survey including 12 questions, all of which necessitated the free-form elicitation of an intended emotion in response to a story prompt. All participants completed the first 6 questions in Turkish and the remaining 6 in English. We transferred the responses to the Sentiment Analysis and Cognition Engine [9], a Python-run NLP tool for sentiment identification. In line with the Psychoevolutionary Theory of Emotion [10], we first identified eight Main Emotions and derived twenty-four Emotion Dyads using the EmoLex index [11], and dichotomously determined arousal and dominance levels using the ANEW index [12] for each response. Mixed or no emotion was coded incorrect.

Result. We fit two logistic linear regression models using the brms package [13] in R, one for arousal levels and another for incorrect responses. The results of the first model indicate an interaction where High Proficiency increased the number of High Arousal emotions when the questions were responded in English (Figure 1). The choice of language alone had wide posterior probability distributions and did not affect the arousal levels. High Dominance also greatly increased High Arousal responses. The second model shows that participants produced a higher number of Incorrect Responses when the task language was in English (Figure 2). Being proficient in turn decreased Incorrect Responses.

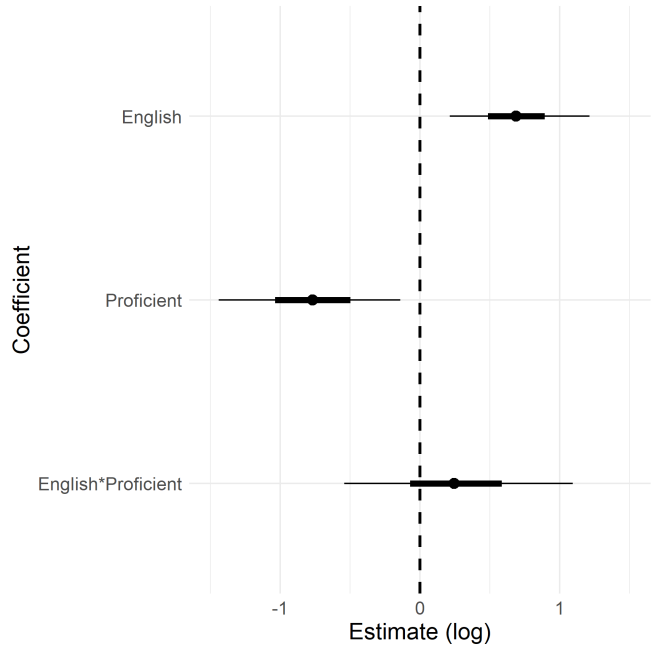
Discussion. We argue that the emotion word choices of the proficient speakers of L2 English are line with [5] in that their emotional granularity labeling was consistent with the cultural orientation of the tested language, and they generated fewer incorrect responses in the target language. In contrast, we claim that intermediate learners depend more on L1 transfer and make more word choice errors when expressing their emotions in their second language. It is possible to associate lower L2 proficiency with a less developed pragmatic competence in the target language as intermediate learners may find it difficult to adopt a clear and appropriate emotionality when switching to another code.

Figure 1. *Regression Model for High Arousal Responses*



Note. The point represents the median estimate, the thick line represents 50% credible intervals, and the thin line represents 95% credible intervals.

Figure 2. *Regression Model for Incorrect Responses*



Note. The point represents the median estimate, the thick line represents 50% credible intervals, and the thin line represents 95% credible intervals.

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