

Emotion- and emotion-laden words effects in Polish-English and Romanian-English bilinguals

Katarzyna Bromberek-Dyzman UAM, Poznań (kasia.dyzman@wa.amu.edu.pl), Rafał Jończyk UAM, Poznań (rjonczyk@wa.amu.edu.pl), Halszka Bąk UAM, Poznań (hbak@wa.amu.edu.pl), Monica Vasileanu Romanian Academy, Bucharest (monica.vasileanu@gmail.com), and Anabella-Gloria Niculescu-Gorpin, Romanian Academy, Bucharest (anabellaniculescu@hotmail.com)

Emotions have been shown to alter language processing patterns (1, 2). Recent experimental research has demonstrated that emotional language processing might be modulated by word type category. Specifically, emotion words (i.e., words that label an emotional state, e.g. *happy, sad*) have been found to be processed more efficiently relative to emotion-laden words (i.e., words that elicit an emotion, e.g. *kitten, butterfly*) across a variety of cognitive tasks (3–6).

Recently, the question of potential differences between emotion and emotion-laden words processing was also addressed in a study with bilingual participants to see whether this effect might be modulated by the language of input. In a masked priming lexical decision task, Kazanas and Altarriba (4) investigated potential processing differences between emotion and emotion-laden prime-target word pairs in both the languages of Spanish-English bilinguals. The authors reported shorter reaction times (RTs) to emotion-laden words, an effect that was observed for the dominant L2 English only. This study was the first to address the issue of emotion vs. emotion-laden word processing in bilinguals.

The current study sets out to investigate whether the reported processing advantage for emotion words might be modulated by task effects and different language background. Based on recent electrophysiological research demonstrating that emotional content processing exhibits robust task effects (7–9), we have compared the effects of emotion vs. emotion-laden word processing in a masked priming lexical decision task (LDT; replication of 4), and in a masked priming emotive decision task (EDT). Further, the participants in the study are unbalanced, highly proficient Polish-English and Romanian-English bilinguals, which allows us to compare the effects from two distinct bilingual populations, and thus provide a comprehensive picture of emotion-language interactions in bilingualism.

160 participants (80 per each bilingual group) participate in the study, which is in progress. Both bilingual groups perform the tasks in their two languages in a language-blocked design. In the LDT task, participants are asked to distinguish real words from pseudo-words. In the EDT task, they are instructed to identify whether a word is positive or negative. A 2(relatedness) x 2(word type) x 2(valence) x 2(language) x 2(group) x 2(task) Repeated Measures Anova, with relatedness, word type, valence, and language as within-subject variables, and group and task as between-subject variables was run on preliminary data from 25 participants per group. The analysis revealed that positive emotion words were processed significantly faster than negative emotion words ($p < .05$), and a trend towards facilitatory processing of emotion-laden words ($p = .075$), with no interlanguage and intergroup differences ($ps > .05$). The main effect of task also approached significance, with overall shorter response latencies in the EDT relative to LDT task ($p = .077$). We expect more robust effects with full data analysis.

References:

1. F. M. Citron, Neural correlates of written emotion word processing: A review of recent electrophysiological and hemodynamic neuroimaging studies. *Brain Lang.* **122**, 211–226 (2012).
2. S.-T. Kousta, D. P. Vinson, G. Vigliocco, Emotion words, regardless of polarity, have a processing advantage over neutral words. *Cognition.* **112**, 473–481 (2009).
3. J. Altarriba, D. M. Basnight-Brown, The representation of emotion vs. emotion-laden words in English and Spanish in the Affective Simon Task. *Int. J. Biling.* **15**, 310–328 (2011).

4. S. A. Kazanas, J. Altarriba, Emotion Word Processing: Effects of Word Type and Valence in Spanish-English Bilinguals. *J. Psycholinguist. Res.* (2015), doi:10.1007/s10936-015-9357-3.
5. S. A. Kazanas, J. Altarriba, The Automatic Activation of Emotion and Emotion-Laden Words: Evidence from a Masked and Unmasked Priming Paradigm. *Am. J. Psychol.* **128**, 323–336 (2015).
6. A. Pavlenko, Emotion and emotion-laden words in the bilingual lexicon. *Biling. Lang. Cogn.* **11**, 147–164 (2008).
7. S. Frühholz, A. Jellinghaus, M. Herrmann, Time course of implicit processing and explicit processing of emotional faces and emotional words. *Biol. Psychol.* **87**, 265–274 (2011).
8. A. J. González-Villar, Y. Triñanes, M. Zurrón, M. T. Carrillo-de-la-Peña, Brain processing of task-relevant and task-irrelevant emotional words: An ERP study. *Cogn. Affect. Behav. Neurosci.* **14**, 939–950 (2014).
9. L. Lichtenstein-Vidne, A. Henik, Z. Safadi, Task relevance modulates processing of distracting emotional stimuli. *Cogn. Emot.* **26**, 42–52 (2012).