Hemispheric asymmetries for emotional verbal stimuli in Polish-English bilinguals

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To date, the phenomenon of neural correlates of emotional language in the field of bilingualism has not been given enough attention. There exists some psychophysiological evidence which demonstrates that words in a second/foreign language carry less emotional load relative to emotional words in the native language (cf. Pavlenko 2012). Studies investigating emotional language from the angle of neuroscience, on the other hand, have reported potential hemispheric asymmetries for emotional language; however, seldom do they take into account bilingualism (Ali and Cimino 1997; Mneimne et al. 2010; Borkenau and Mauer 2006). The goal of this study was to fill in this gap by investigating hemispheric specialization for emotional words in Polish-English bilinguals by means of the Divided Visual Field (DVF) paradigm (cf. Brysbaert et al. 2012).

64 female participants were invited to the present study. All participants were highly proficient Polish-English bilinguals. The stimuli in the study comprised 12 positive words (e.g. “love”), 12 negative words (e.g. “hurt”), 12 non-emotional words (e.g. “insight”) and 36 pseudo-words (e.g. “falp”). To examine the hemispheric specialization for emotion, the stimuli were presented unilaterally for 180ms using the DVF. During the experiment the participants were supposed to distinguish between real English words and pseudo-words in a lexical decision task. Following the on-line task, a free-word recall task and a subsequent word recognition task were administered to investigate the potential hemispheric asymmetries of memory for emotional verbal stimuli.

The perceptual data collected in the study pointed to the inhibition of the effect of hemispheric specialization for emotional words. The analysis of memory data, on the other hand, provided partial support for the right cerebral sensitivity to negative verbal stimuli. Furthermore, the study provided solid support for the negativity-bias reported in previous research (e.g. Carretié et al. 2001;Ito et al. 1998), which was reflected in perceptual and memory advantage for negative words relative to positive and non-emotional words.

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