Abstract

The present study aimed at studying the interaction between emotional prosody and semantic information in Cantonese speech communication, as well as the gender differences in emotional prosody processing among Chinese. Participants listened to semantically positive and negative words spoken with either happy or sad prosody. They were asked to make forced-choice semantic judgment of whether the words they heard were positive or negative while ignoring the emotional prosody. Behaviorally, participants responded more slowly and less accurately to incongruent than congruent happy prosody stimuli. While men did not differ in reaction time for positive and negative words, women responded significantly slower in response to negative words than to positive words. The event-related potential (ERP) data showed that significantly larger negativity was elicited in right hemisphere for women in response to stimuli, while there was no significant difference between the left and right hemisphere ERP amplitude for men. Moreover, women but not men, showed a larger positivity towards prosodic-semantic incongruent stimuli compared to congruent stimuli between 750 and 1400 msec post-stimulus onset. Results of the present study suggest that although an emotional Stroop effect exists among Cantonese speakers, there were differences between the present data and past findings in terms of the processing time courses and ERP components. Finally, the gender difference in emotional prosody processing was specific to sad prosody and negative meaning words for Cantonese speakers.