The brain response of the recognition processing of words which associated with emotional picture

Ji-Won Chun
1Institute of Behavioral Science in Medicine, Yonsei University College of Medicine, Seoul, KOREA 2Department of Diagnostic Radiology and Research Institute of Radiological Science, Nuclear Medicine, Yonsei University College of Medicine, Seoul, KOREA 3Brain Korea 21 Project for Medical Science, Yonsei University College of Medicine, Seoul, KOREA

Jae-Jin Kim
1Institute of Behavioral Science in Medicine, Yonsei University College of Medicine, Seoul, KOREA 2Department of Diagnostic Radiology and Research Institute of Radiological Science, Nuclear Medicine, Yonsei University College of Medicine, Seoul, KOREA 3Brain Korea 21 Project for Medical Science, Yonsei University College of Medicine, Seoul, KOREA 4Department of Psychiatry, Yonsei University College of Medicine, Seoul, KOREA

Hae-Jeong Park
1Institute of Behavioral Science in Medicine, Yonsei University College of Medicine, Seoul, KOREA 2Department of Diagnostic Radiology and Research Institute of Radiological Science, Nuclear Medicine, Yonsei University College of Medicine, Seoul, KOREA 3Brain Korea 21 Project for Medical Science, Yonsei University College of Medicine, Seoul, KOREA

Se Joo Kim
1Institute of Behavioral Science in Medicine, Yonsei University College of Medicine, Seoul, KOREA 4Department of Psychiatry, Yonsei University College of Medicine, Seoul, KOREA

Il-Ho Park
1Institute of Behavioral Science in Medicine, Yonsei University College of Medicine, Seoul, KOREA 4Department of Psychiatry, Yonsei University College of Medicine, Seoul, KOREA

Abstract: The aim of this study was to investigate the recognition processing of words which associated with emotional picture using fMRI. Fifteen normal volunteers were participated in this study. All participants performed finding main theme task for emotional picture before recognition task. They had to select main theme among three words (main theme, related to main theme, unrelated to main theme) for each emotional picture. In recognition task using fMRI, participants had to discriminate old and new words. In the main condition compared with new condition, participants showed activities in the right lingual gyrus, the bilateral anterior cerebellum and the middle frontal gyrus (uncorrected p¡0.001, cluster size¿30). In the main condition compare with related condition, participants showed activities in the right insula and the bilateral middle frontal gyrus. In this study, we found that they showed significant activity in the region related to memory retrieval including the medial frontal gyrus on the main condition.