平成 21 年度　博士前期課程学位論文要旨

学位論文題名（注：学位論文題名が欧文の場合は和訳をつけること）

自伝的記憶想起時の感情に関わる神経機構　- fMRI を用いた検討 -
The Neural Mechanisms of Warm Feeling Associated with
Remote Autobiographical Memory Retrieval　- An fMRI Study -

学位の種類：　修士（ 学術 ）
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When we retrieve our personal past episode (autobiographical memory), we sometimes feel warm, pleasant emotion called "Natsukashisa" in Japanese. It seems that such a positive emotion occurs involuntarily triggered by cue information knocking the door of remote memory. In the present study, we aimed to clarify the neural mechanisms of autobiographical memory retrieval and reward system underlying this unique emotion using functional magnetic resonance imaging (fMRI). Before the experiment, we selected task pictures that could make subject retrieve old memories accompanied with positive emotion. These were consisted of object image such as "stationery" or "toy" and scene image such as "classroom" or "preparation for school lunch" closely related to childhood. As a control picture, we selected object and scene images containing the contents similar to those in task picture but lesser emotional intensity. Fourteen young female subjects (mean age=22.1±0.6) were scanned brain activity during looking at task and control pictures. Post scanning debriefing showed that subjects recalled memories related to their early elementary school days (about 13 years ago) during they saw task pictures. Compared with control condition, task condition elicited greater activity in the regions associated with visual/spatial processing (fusiform gyrus and posterior parahippocampal gyrus), reward system (substantia nigra and orbitofrontal cortex) and autobiographical memory retrieval (medial temporal lobe including hippocampus and parahippocampal gyrus, posterior cingulate cortex / retrosplenial cortex and medial prefrontal cortex). These brain activities suggest that feeling of "Natsukashisa" which may be unique to human is a reward based on our remote autobiographical memory.