# Improving Facial Expression Recognition in Parkinson's Disease Using Meditation

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Parkinson’s Disease (PD) results in deterioration of dopaminergic cells in the brain. The Amygdala and Orbitofrontal Cortex (OFC), areas associated with facial expresion recognition, suffer from this deterioration in those suffering from PD. Meditation in heatlhy subjects has been shown to trigger the growth of Grey matter in the amygdala and OFC. It was hypothesized that a guided meditation program given to patients with (PD) will improve emotion recognition more than a control group of subjects without PD and a second control group of non-meditating subjects with PD, as measured by the Ekman Friesen task. Subjects were recruited and divided into experimantal and 2 control groups through an online website. All groups first underwent a screening process, then were administered a 24 item Ekman Task to determine their initial facial expression recognition accuracy. The experimental PD group and the non-PD control received a total of 3 hours of guided meditation over the course of 21 days, the PD control group did not receive meditation. All subjects were then retested on the 24 item Ekman task. There was a significant improvement in expression recognition in the Meditating PD group after 21 sessions of meditation. The meditating non-PD group, and non-meditating PD group did not have a significant improvement in recognition. This supports the hypothesis that mindfulness mediation results in a significant imporvement in those with PD. This is the first study to show this relationship and the first to show a way to improve this cognitive deficit with meditation.

**Awards Won:**
Fourth Award of $500
American Psychological Association: Certificate of Honorable Mention