

The University of Hong Kong
Department of Psychology

Departmental Seminar

THE NEUROPLASTIC EFFECT OF MEDITATION

Date: September 17, 2013 (Tuesday)
Time: 11:30 a.m. – 12:30 p.m.
Venue: Room 813, 8/F, The Jockey Club Tower, Centennial Campus, HKU
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The human brain is a plastic and malleable organ that can be shaped by daily experience. Experience such as learning modifies the architecture and functioning of the brain. Meditation is an experiential process of cultivation of different mental states in the attention or emotion domains. Whilst the effect of meditation practice on the cultivation of attention has mainly been observed in attentional neural systems, its effects on emotion processing are less well understood. Among the many forms of meditation, loving-kindness meditation (LKM) is one that is loaded on emotion processing because it focuses on cultivating positive emotional qualities, such as compassion and kindness, and at the same time, it works to reduce negative emotions. The neuroplastic effect of LKM is worth investigation because of its potential effect on changing neural activity in brain regions for empathy and theory-of-mind. Furthermore, to provide a complete picture of the effect of LKM on affective processing, it is worth exploring the functional connectivity of regions for emotion processing, for example the amygdala.

My thesis reports two studies examining the neuroplastic effect of compassionate meditation. Study One examined the impact of long-term LKM practice on gray matter, neural activity and amygdalar functional coupling during emotion processing. To further confirm the direct effect of meditation and the corresponding neuroplastic changes, Study Two investigated the longitudinal neuroplastic changes induced by a 6-week attention-based compassion meditation (ABCM) program compared with a matched active-control relaxation program. Taken together, the findings of the studies reported in this thesis add to the literature of neuroplastic changes associated with loving-kindness compassionate meditation. The data carry important implications for the design of intervention programs that incorporate the cultivation of attention-based compassion for alleviating affective dysregulation.