

## EXISTENTIAL NEUROSCIENCE INVESTIGATIONS WITH LONG-TERM MEDITATION PRACTITIONERS

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### Grant 264/22

**Background:** Awareness of mortality is a central existential concern that can elicit anxiety and defensive responses. However, long-term engagement in contemplative practices may modulate these responses. Investigating the cognitive and neurophysiological mechanisms underlying such effects can clarify how contemplative practices influence coping with existential threats. As a first empirical investigation, we examined Sufi meditators, a contemplative tradition explicitly addressing mortality, to explore whether sustained engagement with existential themes reduces defensive reactions and fosters open engagement with death-related cognition. An ongoing neurophysiological study will extend this investigation using EEG/ERP recordings in a distinct sample of long-term meditators from a different contemplative tradition.

**Aims:** Examine how long-term meditation influences responses to mortality salience at behavioral and neural levels, and whether experienced meditators exhibit reduced defensive responses compared to non-meditators.

**Methods:** In the first study, fifty-five Iranian participants (24 long-term Sufi meditators, 31 non-meditators) completed implicit measures of self- versus other-oriented attitudes before and after mortality salience induction, along with self-report assessments of anxiety, affect, and death-thought accessibility. The study controlled for dispositional variables including mindfulness, spiritual transcendence, and presence of meaning in life.

**Preliminary Results:** Findings from the first study indicate that Sufi meditators report lower anxiety and negative affect and exhibit higher accessibility of death-related thoughts than non-meditators. In contrast, non-meditators show increased implicit prosocial orientation following mortality salience, consistent with defensive coping. Greater meditation experience is associated with reduced defensive responses, providing a foundation for ongoing neurophysiological investigations into the neural mechanisms of existential coping.

**Keywords:** Contemplative practice, Existential neuroscience, Mortality awareness, Implicit cognition, Death anxiety

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