

Does Equanimity Predict Slower Aging? Association among Trait Mindfulness, Leukocyte Telomere Length, and Psychological Symptoms in Han Chinese

Shian-Ling Keng¹, Onn-Siong Yim², Poh San Lai², Soo Hong Chew², Anne Chong², Richard Ebstein²

¹*Yale-NUS College, Singapore, Singapore*

²*National University of Singapore, Singapore, Singapore*

Background and Objectives: Research has demonstrated a positive association between mindfulness meditation and physical health. More recently, there is emerging evidence that mindfulness meditation may be associated with slower cellular aging, as reflected by increased telomerase activity, the enzyme required for telomere extension. Little work however has examined the association between trait mindfulness and actual leukocyte telomere length (LTL), an emerging marker of cellular aging. The present study aimed to examine whether facets of trait mindfulness are correlated with longer LTL in a Singaporean Han Chinese sample, and whether these facets may mediate the association between psychological symptoms and LTL.

Methods: 158 adults (mean age = 27.24 years) completed measures assessing trait mindfulness and psychological symptoms (i.e., depression and stress) and provided blood samples for analyses of LTL using qPCR. Multiple regression analyses were conducted to assess the association between facets of trait mindfulness and LTL. Bootstrapping-based mediational analyses were run to examine the role of trait mindfulness as a mediator of the association between psychological symptoms and LTL.

Results: Of five facets of trait mindfulness (describe, act with awareness, observe, nonreactivity, and nonjudging), nonreactivity was significantly associated with LTL, after controlling for the effects of age, gender, and education, $\beta = .21$, $p = .006$. Further, there was a trend for overall trait mindfulness, $\beta = .15$, $p = .06$, and nonjudging, $\beta = .13$, $p = .095$, to each predict longer LTL. Nonreactivity significantly mediated the association between depression and LTL, BCa 95% CI [-.004, -.0004], $p = .03$, as well as the association between stress and LTL, BCa 95% CI [-.004, -.0004], $p = .04$.

Discussion and Conclusion: The results provide preliminary evidence for a positive association between selected facets of trait mindfulness and slower cellular aging, indexed by LTL. The findings suggest that individuals who are high on equanimity may experience slower aging at the cellular level, presumably through engaging in more effective coping mechanisms and modulation of stress. The findings also highlight the role of nonreactivity as a potential mechanism that underlies the association between LTL and psychological symptoms.