

ASSOCIATION BETWEEN LEUKOCYTE TELOMERE LENGTH AND PERSONALITY TRAITS

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It has been reported that certain personality traits are related to mortality and disease morbidity, but the biological mechanism linking them remains unclear. Telomeres are tandem repeat DNA sequences located at the ends of chromosomes, and shorter telomere length is a predictor of mortality and late-life disease morbidity. Thus, it is possible that personality traits influence telomere length. In the present study, we examined the relationship of leukocyte telomere length with personality traits in healthy subjects. The subjects were 209 unrelated physically healthy Japanese who were recruited from medical students at 4th-5th grade. None had psychiatric disorders. 128 subjects were males, and 81 were females. The mean±SD (range) of age was 23.3±1.7 (20-30) years. Personality traits were assessed by the revised NEO Personality Inventory (NEO-PI-R) and the Temperament and Character Inventory (TCI). Leukocyte relative telomere length was determined by a quantitative real-time PCR method for a ratio of telomere/single copy gene. In the stepwise multiple regression analysis, shorter telomere length was related to lower scores of Neuroticism ($\beta=0.208$, $p<0.01$) and Conscientiousness ($\beta=0.146$, $p<0.05$) of the NEO-PI-R, and lower scores of Harm avoidance ($\beta=0.144$, $p<0.05$) and Reward dependence ($\beta=0.170$, $p<0.05$) of the TCI. The present study suggests that leukocyte telomere length is associated with some personality traits, and this association may be implicated in the relationship between personality traits and mortality.