

DEPARTMENT OF COMMUNITY AND PREVENTIVE MEDICINE RESEARCH PROPOSAL

Statistical Learning Models of the Prognostic Value of Personality Phenotype for Interleukin-6 8 Months Later in Older Persons

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Interleukin (IL)-6 is a pro-inflammatory cytokine predictive of mortality in older adults. IL-6 holds clinical utility as a prognostic indicator, and is also a potential target for intervention. Biopsychosocial models of health posit complex links between psychological factors and biomarkers such as IL-6.

Personality traits reflect partially genetic, partially environmentally- acquired basic psychological and behavioral tendencies. Therefore, they provide a convenient general summary of numerous psychosocial factors, including stress response and coping, potentially relevant to inflammatory processes.

We examined the predictive value of personality phenotype--operationalized by the "Big 5" taxonomy—for IL-6 8 months later, in a sample of 200 older adults.

Our goal was two-fold: first, to derive a model of IL-6 both maximally predictive and maximally generalizable; and second, to identify specific facets of personality phenotype indicative of future IL-6 levels.

We utilized a technique from the field of statistical learning called *regression boosting*, designed to achieve optimal prediction of an outcome without overfitting the data to the sample.

Results can inform clinical prognosis by incorporating psychosocial information into inflammatory risk-factor profiles, as well as advance understanding of possible psychobiological pathways to inflammation.

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12:00PM – 12:30PM

Helen Wood Hall, Room 4W301

EVERYONE IS WELCOME