

Evaluation of vascular determinant for cognitive decline in old age: Coordinated analysis of within-person associations using data from four longitudinal aging studies

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Country

Sweden

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Evaluation of vascular determinant for cognitive decline in old age: Coordinated analysis of within-person associations using data from four longitudinal aging studies

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3

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Research Abstract

In this project we take advantage of collected data from four longitudinal aging studies and evaluate hypotheses of vascular origin for cognitive decline and impairment in old age. We employ methodological approaches using dynamic statistical modeling with focus on

determinants of within-person variability and covariability. Data is drawn from H70, OCTO-Twin, Lund80+, and Göteborg MCI studies, all including multiple measurements and follow-ups on conditions related to vascular health and cognition. Analyses are conducted within frameworks of multivariate multilevel modeling, structural equation modeling, item response theory, and Bayesian estimation methods. Some of the specific research questions are: i) do changes in vascular factors account for between-person differences and within-person variability in cognitive impairment and dementia risk; ii) are there systematic changes in vascular factors in preclinical dementia and terminal decline and are these changes associated with cognitive changes; iii) are associations between vascular factors and cognitive impairment mediated through pathology indexed by CSF markers and are the associations moderated by the APOE gene; iv) can levels and changes in vascular factors in combination with levels and changes in cognition and CSF markers improve detection of subsequent dementia. Results will provide evaluations of consistency of findings across studies and inquire guidelines of causal mechanisms of cognitive impairment in old age.

Further information available at:

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