

Researchers Study Blood Pressure, Physical Ability, Cognition Correlations

July 2 2010

(PhysOrg.com) -- According to a new study led by University of Maine psychologists and epidemiologists, high blood pressure is indirectly related to lowered physical ability by way of lowered cognition.

Professor Pete Elias (Merrill F. Elias) and colleagues have established the relationships using a comprehensive battery of [cognitive](#) and physical tests in conjunction with blood pressure monitoring on study participants who are part of a larger and ongoing Maine-Syracuse Longitudinal Study.

The study involved the use of path analysis, a statistical procedure for evaluating plausibility of a set of hypothesized relations among variables without assuming causality, according to Elias, professor of psychology and cooperating professor in the UMaine Graduate School of Biomedical Sciences, and a leading researcher in [cardiovascular risk factors](#) and cognitive function.

“We found that blood pressure-related deficits in [cognitive functioning](#) result in deficits in simple physical abilities, such as standing, walking and turning, which means cognition mediates between blood pressure and physical ability,” Elias says. “However, blood pressure also relates directly to physical ability.”

Elias says two possible explanations come from previous findings by others. People with a higher level of mental ability tend to be healthier and engage in physical activity, and that areas of the brain that control

cognition also control physical activity.

“If you are having problems with cognition, you have a higher likelihood of having problems with simple physical abilities,” he says.

Other researchers involved with the study include UMaine graduate student Gregory Dore and faculty researchers Michael Robbins and Penelope Elias; and Adam Davey of the Department of Public Health at Temple University. The research was funded in part by a grant from the National Heart, Lung and Blood Institute, but the conclusions reached are those of the authors.

The research is published in the June 2010 issue of *Hypertension*, a journal of the American Heart Association.

Provided by University of Maine

Citation: Researchers Study Blood Pressure, Physical Ability, Cognition Correlations (2010, July 2) retrieved 24 April 2024 from

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