

# Vascular risk factors and cognitive aging

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research, based in the psychology of cognition and emotion, that has addressed these issues.

### 20605.03 The 'Door in your Face': Conditions of the Decline of Urban Civility

**Moser, Gabriel** (*Lab. de Psyc. Univ. René Descartes-Paris V, FRANCE*) Casal, Aimée (*Université René Descartes-Paris V*) Corroyer, Denis (*Université René Descartes-Paris V*)

Traditionally civility and politeness have characterized urban life. However, today it is widely acknowledged that urban living destroys politeness. The reported research examines this decline through systematic observations of how people under high or low density open the door for others entering a department store in Paris and in a province town. In Paris people are significantly less polite, and high density diminishes polite behavior in both urban environments. Results are discussed in terms of cumulative effects: long-term adaptation to urban life resulting in adoption of specific norms strengthened by immediate reaction to a stressful situation.

### 20605.04 Cognitive Maps and Urban Travel

**Golledge, Reginald G.** (*Univ. of California, Santa Barbara, UNITED STATES*) Gärling, Tommy (*Dept. of Psych. Göteborg Univ.*)

Automobile traffic in cities is a serious threat to the quality of urban environments around the world, for aesthetic, health, and efficiency reasons. In this presentation we will first summarize principles established in interdisciplinary research on how people acquire and use cognitive maps of urban environments. We will then describe research showing how the design of urban environments frequently makes it difficult for drivers to form such cognitive maps so that they can navigate and choose shortest paths, thus leading to unnecessary travel. How road informatics may help drivers will also be illustrated.

## 20606SYM

### Health and Cognitive Function in Old Age

Convener and Chair: Hill, Robert D. (*University of Utah, Salt Lake City, UNITED STATES*)

#### 20606.01 Vascular risk factors and cognitive aging

**van Boxtel, Martin P. J.** (*Maastricht University, NETHERLANDS*) Houx, Peter J. (*Maastricht University, The Netherlands*) Jolles, Jellemer (*Maastricht University, The Netherlands*) Ponds, Rudolph M. (*Maastricht University, The Netherlands*)

Vascular risk factors have been implicated in cognitive change during adult life. Estimation of the impact of such factors, including blood pressure status, diabetes, and physical activity level on different aspects of cognitive functioning in a normal aging population (24 to 81 years at baseline) is one of the main themes of the Maastricht Aging Study. This paper will discuss cross sectional and longitudinal findings from the MAAS with respect to their capacity to explain the relationship of individual differences in physiological functioning in health and disease (e.g., blood pressure and diabetes) on memory and information processing performance.

#### 20606.02 Longitudinal study of basal cortisol levels, cognitive function, emotional state and hippocampal volume in a healthy elderly human population

**Lupien, Sonia** (*Mc Gill University, Montreal, CANADA*) Briere, S. (*Mc Gill University, Montreal*) Maheu, F. (*Mc Gill Univ. & Montreal Geriatric Inst.*) Meaney, M.J. (*Mc Gill University, Montreal*) Nair, N.P.V. (*Mc Gill University, Montreal*) Tu, M. (*Mc Gill Univ. & Montreal Geriatric Inst.*)

The main objective of our research program is to understand the basis of individual differences in neurological function amongst the elderly. We are examining whether individual differences in hypothalamic-pituitary-adrenal (HPA) activity might contribute to the variability in neuropsychological function in elderly humans. We propose that prolonged exposure to elevated levels of cortisol, the principle glucocorticoid in humans, comprises hippocampal integrity leading to impairments in cognitive functions that depend upon hippocampal function. Our results have a direct implication in the study of depression and/or dementia in the elderly, two disorders characterized by elevated levels of cortisol and preliminary results from psychoneuroendocrine studies in these two populations will be discussed.

#### 20606.03 Biomarkers, health and cognitive aging: Results from Australian studies

**Anstey, Kaarin** (*Flinders University of South Australia, AUSTRALIA*) Lord, Stephen (*Flinders University of South Australia*) Luszcz, Mary (*Flinders University of South Australia*)

This presentation will present both cross-sectional and longitudinal data from population studies on the relationships among biological markers of aging (vision, hearing, FEV1, vibration sense, muscle strength), health and cognitive performance in old age. Biomarkers will be compared with information processing speed as key predictors of memory and cognitive aging. Substantive interpretations of the observed relationships among these factors will be discussed.

#### 20606.04 Effects of physical exercise on cognitive functioning among older adults

**Emery, Charles F.** (*Ohio State University, Columbus, Ohio, UNITED STATES*)

Data suggest that physical exercise may be associated with improvements in cognitive performance among older adults. Following advances in studying effects of both chronic (long-term) exercise outcomes and acute (immediate) exercise outcomes, several theories have been hypothesized to explain the mechanism by which exercise may contribute to cognitive effects. Exercise outcome data from healthy older adults as well as from older adults with chronic illness, such as chronic obstructive pulmonary disease (COPD) will provide working models for describing research in this area. Review of strengths and limitations of current data in this area indicates several new directions for future research.

#### 20606.05 Cigarette smoking in older adults: A naturalistic test of the nicotine hypothesis as a mediator of age-related cognitive change

**Hill, Robert D.** (*University of Utah, Salt Lake City, UNITED STATES*) Cundick, Kirt (*University of Utah, Salt Lake City, UT*) Nilsson, Lars-Göran (*Stockholm University, Sweden*) Nyberg, Lars (*Umeå University, Sweden*)

This presentation will explore the impact of cigarette smoking on cognitive functioning in two groups of older adults. The first is a cross sectional study of smokers and non-smokers from Salt Lake City, Utah. These individuals received a range of neuropsychological tests varying with regard to their demand on information processing resources. The second was drawn from the Betula Prospective Cohort Study of Aging, Memory, and Health. In this population-based study, the role of nicotine will be examined as a predictor of selected indices of cognitive performance longitudinally and across age cohorts. Within the Betula study, the interplay between various naturalistic mechanisms of nicotine delivery (e.g., cigarette smoking and snuff use) and age-related cognitive decline will be discussed with respect to explanatory mechanism linking long-term nicotine intake and cognitive performance.

## 20607SYM

### Origin and Development of Scientific Psychology in Different Parts of the World: Retrospect and Prospect at the Turn of the Century

Convener and Chair: Imada, Hiroshi (*Kwansei Gakuin University, Nishinomiya, JAPAN*)

#### 20607.01 Shaping of Scientific Psychology in Japan: With Special Emphasis upon the Contributions of Y. Motora and M. Matsumoto

**Oyama, Tadasu** (*Dept. of Psychology, Nihon Univ., Tokyo, JAPAN*)

In Japan, scientific psychology began with Yujiro Motora in 1888 at the University of Tokyo, immediately after he had taken Ph.D under Stanley Hall. Motora was interested in the mind-body problem and tried to study it experimentally under the name of psychophysics. Matataro Matsumoto, one of the first students of Motora, studied at Tokyo, Yale, and Leipzig and then taught at Tokyo and Kyoto, where he established laboratories. He encouraged objective, experimental studies of human performance. After the foundation of scientific psychology by these two great leaders, strong influence of Gestalt psychology, Neo-Behaviorism and Cognitive Psychology came to Japan, successively.

#### 20607.02 Modern Chinese Psychology: Its Indigenous Roots and International Influences

**Jing, Qicheng** (*Inst. of Psycho., Chinese Academy of Sc., CHINA*)

Psychological thinking in China originated two thousand years ago when Chinese philosophers debated about the essence of human nature. Issues such as heredity and environment, harmony between heaven (nature) and human beings, were discussed. Modern Chinese psychology of the early 20th century was introduced from Europe and America, later greatly influenced by Marxist psychology of the former Soviet