Cultural Influences on Thinking and Language in the Brain

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Abstract: Cultural experience influences the mind and brain in fundamental ways, and recent neuroimaging research has provided initial views on how culture influences brain function related to social cognition and to reading. Social cognition research differentiates cultural contexts that emphasize ideas and practices of interdependence (e.g., East Asian cultures in China, Japan, and Korea) from those that emphasize ideas and practices of independence (e.g., Western contexts in North America and Western Europe). I will report a study using functional magnetic resonance imaging (fMRI) with a simple visuospatial task that revealed activation differences related to both cultural upbringing and to culturetypic identity. Learning to reading and dyslexia, a difficulty in learning to read, are also influenced by differences in written languages across cultures. I will review similarities and differences between brain function and structure associated with dyslexia in individuals growing up in Chinese, which has a logographic writing system, and English, which has an alphabetic writing system, language cultures.

About the speaker: John D. E. Gabrieli, PhD, Grover Hermann Professor of Health Sciences and Technology and Cognitive Neuroscience at Harvard-MIT Division of Health Sciences and Technology (HST) and Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology. He seeks to understand the principles for healthy brain organization that empowers the human capacities for memory, thought, and emotion. To discover how experience, aging, and disease alter functional brain organization (brain plasticity), he examines brain-behavior relations across the life span, from children through the elderly, and in developmental disorders (dyslexia, ADHD, autism), age-related disorders (Alzheimer's Disease, Parkinson's Disease), and psychiatric disorders (depression, social phobia, schizophrenia). His primary methods are functional and structural brain imaging, and behavioral studies of patients with brain injuries.