

# Special Neuroscience Issue

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The April issue of *Current Directions in Psychological Science* is a special neuroscience edition, synthesizing the latest research in this cutting edge field. The articles in this issue detail neural mechanisms involved in perception, attention, categorization, memory, recognition, attitudes, social cognition, language, motor coordination, emotional regulation, executive function, decision making, and depression.

In the editors' introduction, Russell Poldrack, University of California, Los Angeles, and Anthony Wagner, Stanford University, address some of the exciting developments in neuroscience over the past two decades. In 1980, neural science data rarely accompanied basic psychological theories in any cognitive psychology text book. However, the 1980s saw the growth of the perspective that neuroscientific approaches can play a central role in psychological theorizing, as embodied by the founding of the Cognitive Neuroscience Society in 1992. Now, neuroscientific evidence turns up in nearly every psychological area.

In one of the articles in this special issue, University of British Columbia psychologist and APS Fellow and Charter Member Adele Diamond along with colleague Dima Amso of Cornell University argue that one of the major contributions of neuroscience to understanding cognitive development has been demonstrating the role of experience in shaping the mind, brain, and body. Their article "Contributions of Neuroscience to Our Understanding of Cognitive Development" (*Current Directions in Psychological Science* Volume 17(2)) draws examples from imitation and mirror neurons as well as maternal touch and stress reactivity. APS Fellow Ian Gotlib and J. Paul Hamilton present an overview of the neuroimaging research that has assessed the structure and function of several areas in the brain, including the amygdala, in major depression. Taking place mostly over the past decade, this research has shown that heightened activity in limbic structures, areas that underlie the experience and expression of emotion, reduces activation in brain structures involved in affect regulation. In their review "Neuroimaging and Depression: Current Status and Unresolved Issues" (*Current Directions in Psychological Science* Volume 17(2)), Gotlib and Hamilton also present several challenges and the future directions in this line of research.

In the report "Implicit Attitudes: The Neural Basis of Implicit Attitudes" (*Current Directions in Psychological Science* Volume 17 (2)), New York University psychologists Damian Stanley and APS Fellow Elizabeth Phelps, along with APS Fellow and Charter Member Mahzarin Banaji of Harvard University, focus on the recent advances in neuroscience enabling researchers to investigate the neural basis of implicit attitudes. The authors report that this research has identified that the amygdala, interior cingulate and the dorsolateral prefrontal cortices are related to the activation and regulation of implicit attitudes.

The widespread use of functional neuroimaging techniques in studies, previously considered solely behavioral, showcases the complementary power of neuroscientific evidence. As Poldrack and Wagner

write, “The aim of this special issue of *Current Directions in Psychological Science* is to highlight just how intimate the dialog between psychological and neural science has become.”