

Human mental abilities, such as intelligence, are complex and profoundly important, both in a practical sense and for what they imply about the human condition. Understanding these abilities in mechanistic terms has the potential to facilitate their enhancement. There is strong evidence that the lateral prefrontal cortex, and possibly other areas, support intelligent behaviour. Variations in intelligence and brain structure are heritable, but are also influenced by factors such as education, family environment and environmental hazards. Cognitive, psychometric, genetic and neuroimaging studies are converging, and the emergence of mechanistic models of intelligence is inevitable. These exciting scientific advances encourage renewed responsiveness to the social and ethical implications of conducting such research.