



Sexual differences of human brain

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Article type Review article Article history Received: 12 Jan 2014 Revised: 30 Jan 2014 Accepted: 4 Feb 2014 Keywords Brain Imaging sexual differences Magnetic resonance	During the last decades there has been an increasing interest in studying the differences between males and females. These differences extend from behavioral to cognitive to micro- and macro- neuro-anatomical aspects of human biology. There have been many methods to evaluate these differences and explain their determinants. The most studied cause of this dimorphism is the prenatal sex hormones and their organizational effect on brain and behavior. However, there have been new and recent attentions to hormone's activational influences in puberty and also the effects of genomic imprinting. In this paper, we reviewed the sex differences of brain, the evidences for possible determinants of these differences and also the methods that have been used to discover them. We reviewed the most conspicuous findings with specific attention to macro-anatomical differences based on Magnetic Resonance Imaging (MRI) data. We finally reviewed the findings and the many opportunities for future studies.

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Introduction

Sexuality affects the human brain and behavior, as other species. Men and women are dimorphic in many aspects; their physics, sexual orientation, gender identity, cognitive features, the preferences for short- and long- term partner, the rate by

which they are afflicted with psychological and physical health conditions(1). The key question is what are the causes of these differences? The supremacy of behaviorism of the 20th century left no doubt; "One is not born, but rather becomes, a woman" (2).

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