

Module:

Biological Foundations of Mental Health

Week 5:

Reward, emotion and action



Professor
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Topic 1:

**Cerebral cortex and
mental health**

Part 1 of 3

Topic list



This week, we will be looking at the following topics:

- **Topic 1: Cerebral cortex and mental health**
- Topic 2: The structure and function of the basal ganglia
- Topic 3: The reward system of the brain

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Part 1

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Topic 1: Cerebral cortex and mental health

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Overview

In this topic, we will look at:

- the function of the association cortex and specifically the frontal lobes
- high-order control functions
- the vital role of the frontal lobes and what happens when they are affected by acquired or neurodevelopmental disorders

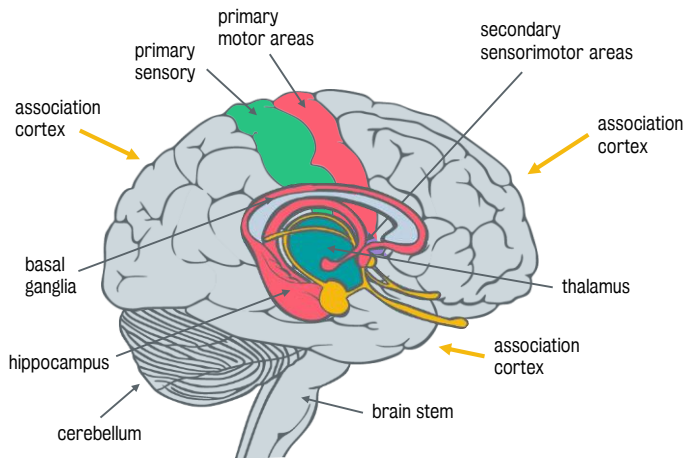


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Topic 1: Cerebral cortex and mental health

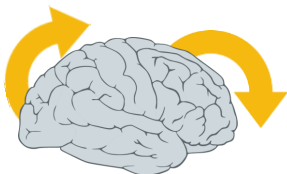
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Areas of the brain



We will focus on the functions of the association cortex and the relevance of this part of the brain for understanding acquired, developmental, and psychiatric disorders.

Top-down effects on perception

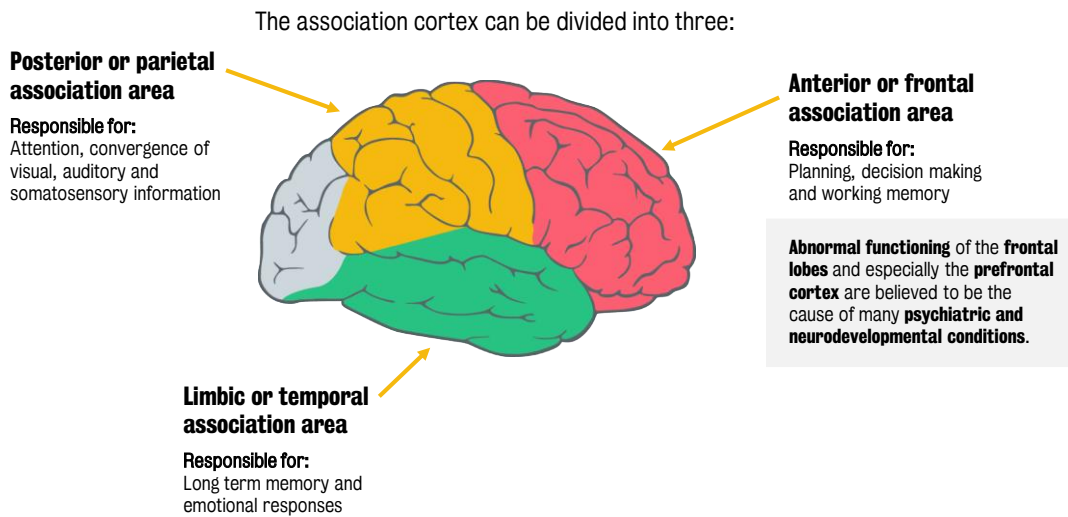


The **association cortex** integrates sensory and motor information to produce a **meaningful perception** of the world around us, as well as allowing for **abstract representation** and **flexible behaviour**.



Porter (1954)

Subdivisions of the association cortex-down effects on perception



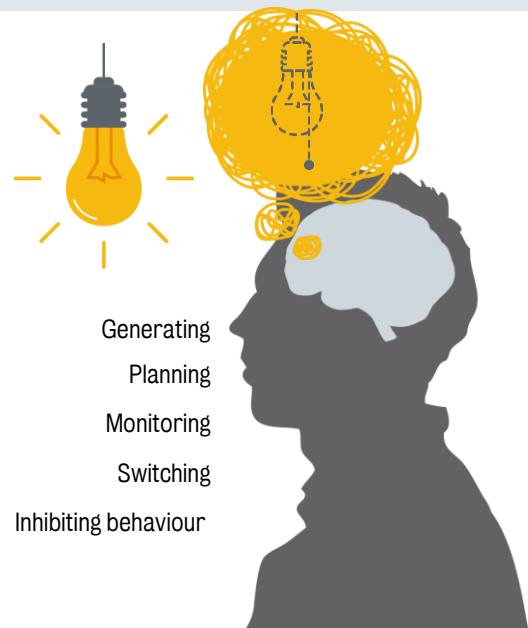
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Executive functions

Executive functions are especially important when we are faced with **novel situations or challenges**.



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End of part 1