Seminar 1

Episodic memory: a review on current theories & controversies

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Abstract

Memory is the mental process of acquiring, storing, and retrieving information. It allows us to learn from our experiences and shape our future actions. Memory can also be classified into different types based on the nature and duration of the information. Some of the major types of memory are sensory memory, short-term memory and long-term memory. Episodic memory is a type of long-term memory that involves remembering specific events, situations, and experiences that one has personally lived through. It is part of the explicit or declarative memory system, which means it can be consciously accessed and verbally reported. In this seminar, the different types of memory, the process of creating memory, and the neurotransmitters involved in this process will be discussed. Additionally, the different methods used in cognitive neuroscience to study memory, including the activation model, seed-based functional connectivity model, and the network model, will be discussed and their strengths and weaknesses examined. Scientists have discovered that these methods have provided unique insights into how the brain carries out memory processing, but there are still significant challenges to overcome in the future, such as standardizing best practices in the field, exploring the relationships between different measures of brain function, and applying network models to other types of data such as electroencephalography and magnetoencephalography. Overall, the study of memory processing in the brain is a complex and ongoing endeavor, but with the development of new tools and techniques, our understanding about how information is stored and retrieved in the human brain will be improved.

Key words: Types of memory, Memory creation, Neurotransmitters, Cognitive neuroscience, Brain processing