

The State of Cognitive Psychology Today

Sowmya Vennam*

Department of Pharmacy, Jawaharlal Nehru Technological University, Hyderabad, Telangana, India

Accepted on June 19, 2021

Editorial

Cognitive psychology is a subset of cognitive science, which is a much larger field. Cognitive science is a multidisciplinary discipline that encompasses Psychology, Philosophy, Linguistics, Anthropology, Artificial Intelligence, and Neuroscience as part of its scope. Some experts go so far as to incorporate sociology and economics. Emotions and individual differences are largely ignored by cognitive psychologists.

The following are some of the primary areas where a lot of research has been done:

- Artificial intelligence
- Neuroscience

Neuroscience

The field of cognitive neuroscience studies how the structure and function of the brain explains cognitive behaviour. The following are some of the neuroscientists' methodologies that have supplied useful knowledge for cognitive psychology:

Brain lesions: These are tissue destructions that are frequently caused by strokes, tumours, or accidents. It's one of the oldest methods for studying cognitive processes, and it's helped us learn a lot more about how the brain works. Individuals with brain lesions, on the other hand, frequently correct for their defects in a short period of time, making the research findings conclusive.

Regional Cerebral Blood-Flow Studies (RCBF): In this procedure, researchers inject a small quantity of radioactive chemical that looks like glucose (the brain's main metabolic fuel) into the active area of the brain and then record the cerebral blood flow (as the active part of the brain requires more metabolic fuel). The regional blood flow into distinct parts of the brain increases as different cognitive tasks rise. The individual can be given various tasks and the areas of the brain that are stimulated can be recorded. This method is also used to classify the differences between various types of memory. Position Emission Tomography is another name for this method (PET).

Researchers use electrodes on a person's scalp to capture electrical signals generated by a large number of neurons beneath the electrodes in the Evoked Potential Technique. Unlike the RCBF technique, this method cannot detect a single neuron's response, but it can detect electrical changes over a short period of time.

Evoked Potential Technique

Researchers use electrodes on a person's scalp to record electrical impulses generated by a large number of neurons beneath the electrodes in this approach. Unlike the RCBF technique, this

method cannot detect a single neuron's response, but it can detect electrical changes over a short period of time.

Single Cell Recording Technique

This method is not suitable for human use. As a result, researchers employed this technique on animals, inserting a small electrode into a single neuron to analyse nervous system properties.

Using this technique, Hubel and Wiesel in 1965 and 1975, respectively discovered that some types of cells in the visual cortex responded strongly only when lines were presented in a specific orientation. Other types of cells have even more narrow preferences.

Artificial Intelligence

Human Mind vs. Computer

The human mind has been compared to a machine by philosophers. A wax tablet, a torn house, and an exhaustively index library are some of the early metaphors for memory. The brain's activity is compared to that of a telephone switchboard and weaving on a loom. The computational or computer metaphor, on the other hand, is the most recent.

The computer, according to the computational metaphor, is a complicated multipurpose machine that processes data fast and precisely. Despite the physical distinctions between the computer and the human mind, both can work on the same general principles, such as:

- The internal mechanisms of a computer are diverse. They have a limited-capacity central processing system. This is similar to a human's limited attention span.
- A computer system distinguishes between an active process and data storage with a big capacity. Human memory can also be divided into two types: short-term and long-term.
- Both the machine and the human are capable of making decisions and comparing symbols.

Computer Stimulation

Computer stimulation tries to adjust for human limitations. Basic visual processing is one of the areas where computer stimulation research has been conducted; nevertheless, linguistic preprocessing cannot be handled by a computer. A computer, for example, cannot proclaim the time in the same way that a ten-year-old child can. In terms of learning languages, recognising objects, and solving problems, a computer cannot equal the intelligence of a human. Despite these limitations, artificial intelligence has had an impact on cognitive psychology research hypothesis.

***Correspondence to:**

Sowmya Vennam
Department of Pharmacy
Jawaharlal Nehru Technological University
Hyderabad, Telangana
India
E-mail: Sowmya.vennam@gmail.com