Cognitive psychology is the scientific study of the mind as an information processor. During the 1960s, a new perspective known as cognitive psychology emerged. This area of psychology focuses on mental processes like memory, thinking, problem-solving, language, and decision-making.

Cognitive psychology became of great importance in the mid-1950s. Several factors were important in this:

1. Dissatisfaction with the behaviorist approach in its simple emphasis on external behavior rather than internal processes.
2. The development of better experimental methods.
3. Comparison between human and computer processing of information.

Influenced by psychologists such as Jean Piaget and Albert Bandura, the cognitive perspective has grown tremendously in recent decades.

Cognitive psychologists often utilize an information-processing model (comparing the human mind to a computer) to conceptualize how information is acquired, processed, stored, and utilized.

The emphasis of psychology shifted away from the study of conditioned behavior and psychoanalytical notions about the study of the mind, towards the understanding of human information processing, using strict and rigorous laboratory investigation.

Basic Assumptions:
Mediational processes occur between stimulus and response:

Behaviorists rejected the idea of studying the mind because internal mental processes cannot be observed and objectively measured.

However, cognitive psychologists regard it as essential to look at the mental processes of an organism and how these influence behavior.

Instead of the simple stimulus-response links proposed by Behaviorism, the mediational processes of the organism are important to understand. Without this understanding, psychologists cannot have a complete understanding of behavior.
Psychology should be seen as a science:
Cognitive psychologists follow the example of the behaviorists in preferring objective, controlled, scientific methods for investigating behavior.
They use the results of their investigations as the basis for making inferences about mental processes.

Humans are information processors:

Information processing in humans resembles that in computers, and is based on based on transforming information, storing information and retrieving information from memory.

Information processing models of cognitive processes such as memory and attention assume that mental processes follow a clear sequence.

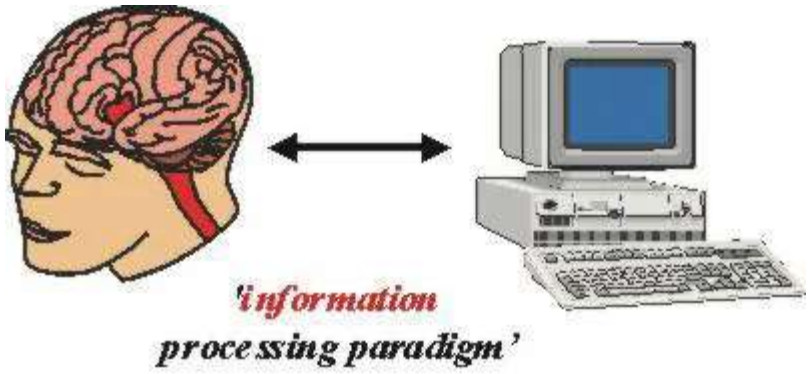
For example:

- Input processes are concerned with the analysis of the stimuli.
- Storage processes cover everything that happens to stimuli internally in the brain and can include coding and manipulation of the stimuli.
- Output processes are responsible for preparing an appropriate response to a stimulus.

Information Processing

The cognitive approach began to revolutionize psychology in the late 1950sand early 1960's, to become the dominant approach (i.e., perspective) in psychology by the late 1970s. Interest in mental processes had been gradually restored through the work of Piaget and Tolman.

The idea of information processing was adopted by cognitive psychologists as a model of how human thought works.



computer brain metaphor

The information processing approach is based on a number of assumptions, including:

1. Information made available from the environment is processed by a series of processing systems (e.g., attention, perception, short-term memory);
2. These processing systems transform, or alter the information in systematic ways;
3. The aim of research is to specify the processes and structures that underlie cognitive performance;
4. Information processing in humans resembles that in computers.

The Role of Schemas:

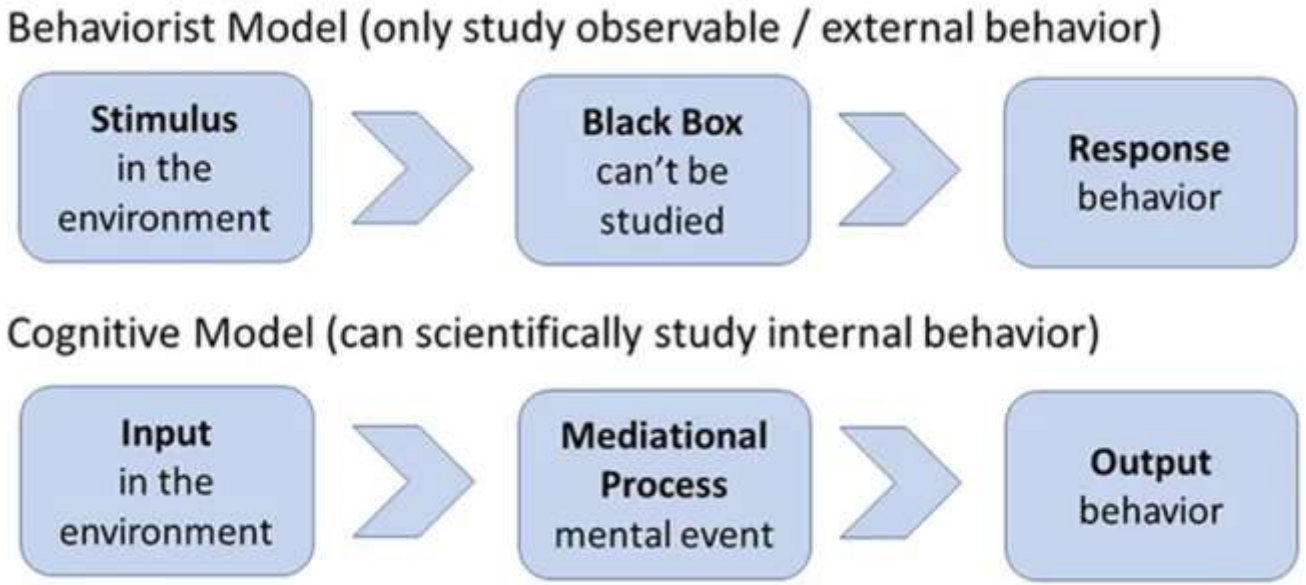
Cognitive processing can often be affected by schemas (a mental framework of beliefs and expectations developed from experience). As you get older, these become more detailed and sophisticated.

A schema is a “packet of information” or cognitive framework that helps us organise and interpret information. They are based on our previous experience.

Schemas help us to interpret incoming information quickly and effectively, this prevents us from being overwhelmed by the vast amount of information we perceive in our environment.

Mediational Processes:

In comparison, the cognitive approach believes that internal mental behavior can be scientifically studied using experiments. Cognitive psychology assumes that a mediational process occurs between stimulus/input and response/output.



The mediational (i.e., mental) event could be memory, perception, attention or problem solving, etc. These are known as mediational processes because they mediate (i.e., go-between) between the stimulus and the response. They come after the stimulus and before the response.

Therefore, cognitive psychologists' say if you want to understand behavior, you have to understand these mediational processes.

Strengths

- ❖ One strength of the cognitive approach is it has always employed highly controlled and rigorous methods of study in order to enable researchers to infer cognitive processes at work.

This has involved the use of lab experiments to produce reliable, objective data.

- ❖ The cognitive approach is probably the most dominant approach in psychology today and has been applied to a wide range of practical and theoretical contexts.
- ❖ Combines easily with approaches: e.g. Behaviorism + cognitive psychology = social learning theory; biology + cognitive psychology = evolutionary psychology.

Limitations

- Cognitive psychology has a narrow focus on mental processes.

For example, the use of the computer analogy means that information processing researchers focus mostly on the logical aspects of cognitive processing and less on the emotional, creative and social aspects that also affect thinking

Cognitive psychology has often relied on comparisons with how computers work as a possible way the mind might work. Is this really how the brain works?

The brain is infinitely more powerful and flexible than the most advanced computer.

- Machine Reductionism

Critical Evaluation

B.F. Skinner criticizes the cognitive approach as he believes that only external stimulus-response behavior should be studied as this can be scientifically measured.

Therefore, mediation processes (between stimulus and response) do not exist as they cannot be seen and measured. Skinner continues to find problems with cognitive research methods, namely introspection (as used by Wilhelm Wundt) due to its subjective and unscientific nature.

Humanistic psychologist Carl Rogers believes that the use of laboratory experiments by cognitive psychology have low ecological validity and create an artificial environment due to the control over variables. Rogers emphasizes a more holistic approach to understanding behavior.

The information processing paradigm of cognitive psychology views that minds in terms of a computer when processing information. However, although there are similarities between the human mind and the operations of a computer (inputs and outputs, storage systems, the use of a central processor) the computer analogy has been criticized by many.

Such machine reductionism (simplicity) ignores the influence of human emotion and motivation on the cognitive system and how this may affect our ability to process information.

Behaviorism assumes that people are born a blank slate (tabula rasa) and are not born with cognitive functions like schemas, memory or perception.

The cognitive approach does not always recognize physical (re: biological psychology) and environmental (re: Behaviorism) factors in determining behavior.

Cognitive psychology has influenced and integrated with many other approaches and areas of study to produce, for example, social learning theory, cognitive neuropsychology and artificial intelligence (AI).

Another strength is that the research conducted in this area of psychology very often has applications in the real world.
For example, cognitive behavioral therapy (CBT) has been very effective for treating depression (Hollon & Beck, 1994), and moderately effective for anxiety problems (Beck, 1993). The basis of CBT is to change the way the persons processes their thoughts to make them more rational or positive.

TABLE 1.1 SIX PERSPECTIVES ON PSYCHOLOGY

PERSPECTIVE	EXPLANATION OF THE HELPING BEHAVIOR
Cognitive How we process information	Our individual interpretations of an event affect how we respond.
Biological How our biological structures and substances underlie a given behavior, thought, or emotion	Brain chemistry controls the emotions and thoughts that eventually produce helping behavior
Social-Cultural How thinking and behavior change depending on the setting or situation	If we come from a cultural background that values helping, we're more likely to help. We're also more likely to help if we are in a comfortable situation, such as with a good friend, than if we are in a large, unfamiliar crowd.
Behavioral How we learn through rewards, punishments, and observation	If we have witnessed or been rewarded for helping behavior, we are more likely to help.
Humanistic How healthy people strive to reach their full potential	If our needs for nourishment and safety have been met, we are more likely to feel we can reach out and help others.
Psychodynamic How we are affected by unconscious drives and conflicts	Unresolved inner conflicts can affect whether we help others.

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