



# Priming

Implicit Memory

## Implicit Memory

Priming is the implicit memory effect in which exposure to a stimulus influences response to a later stimulus. It is a technique in psychology used to train a person's memory both in positive and negative ways.

Positive uses involve using sketches or words or other stimuli to help an individual recognize another word or phrase in the future. An example of this is introducing the color blue to a person in order to help him/her recognize "sky" as a word. This is because sky and blue is a word that psychologists consider to be closely related like yellow and banana.

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## Associating Words and Pictures

In priming there is no need for researchers to ask subjects to memorize certain sequences of words because they take advantage of word associations when they "prime" subjects. A conscious strategy is unnecessary for remembering a set list of words or phrases because the words are naturally associated. For example, "school" relates to "student" and "bus".

Another example of positive priming involves showing a subject an incomplete picture which they cannot identify. More pieces of the picture are shown until the picture is recognized. If the same test is done many weeks later, the subject will identify the picture far quicker than they did first time around. It is believed that spreading activation is responsible for the effects of

priming. This means that the first stimulus (the color yellow for example) activates parts of a memory association prior to working on another task. Therefore, when the second stimulus (e.g. banana) is encountered, the mind becomes consciously aware of it quicker because of this partial activation.

Although simple recognition memory tests can be conducted for the same reason, the effects of priming are longer lasting and more pronounced. Its effects can heavily influence a subject's choices on word-stem completion tests or similar experiments well after the words have seemingly been forgotten.

## Negative Priming

While positive priming speeds up the memory process, negative priming naturally slows it down. The mind can be negatively primed by exposing the person to various stimuli before ignoring these stimuli completely. It is believed that the brain deliberately sends a message saying to forget about ignored stimuli. When the brain tries to retrieve the ignored information, a conflict occurs. This conflict takes time to resolve resulting in negative priming.

## Perceptual and Conceptual

There is also a difference between perceptual and conceptual priming. Perceptual priming relates to the stimuli's form and is increased by matches between early and late stimuli. An example of this would be the completion of words in the aforementioned word-stem completion test. Conceptual priming on the other hand relies on the meaning of stimuli. A simple example of this are the words "chair" and "table" as the brain places them in the same category.

## How it Affects Amnesia

Priming studies have been conducted on patients with amnesia. Amnesiacs have difficulty remembering daily events due to damage caused to their medial temporal lobe. Yet tests indicate that they perform as well as patients with full memory capacity when it comes to perceptual priming. Priming enables amnesiac patients to successfully complete word-stem completion tests but they are unable to do so when asked to complete the test without priming.

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