

# Memory Retrieval and Environment

by Sophia Tutorial



## WHAT'S COVERED

This lesson will look at the relationship between memory and learning by covering:

1. Availability vs. Accessibility
2. Environmental Factors
  - a. Memory Cue
  - b. State-Dependent Learning

## 1. Availability vs. Accessibility

There are three stages that information goes through to become a memory:

- Encoding
- Storage
- Retrieval

Forgetting a memory can result from a failure in any one of these processes, and it is important to differentiate between the availability and accessibility of a memory.

Regarding **availability**, if a memory is not available, then there is a problem with either the encoding or the storage of that memory. It is not within long-term memory.

Regarding **accessibility**, if a memory is not accessible, then it is possible to make it available. It can still be inside of long-term storage, but there is a problem with the retrieval of that information.



## TERMS TO KNOW

### Availability

Where there is no problem with the encoding or storage of the memory and you have the memory

### Accessibility

When a memory has been encoded and stored, and you are also able to retrieve it

## 2. Environmental Factors

If there is a problem with retrieval, how do you actually recover that data? Psychologists have found that certain environmental factors can affect your memory.

### 2a. Memory Cue

Different kinds of stimuli around a person can influence how memory is actually encoded in the brain. How those memories are retrieved can also depend on those stimuli. This is called a **memory cue**. A memory cue is a stimulus that is associated with a memory; it can assist in the retrieval of that memory.

🔗 **EXAMPLE** If you forgot something you were planning to do in your house while walking through it, you might walk back to the room where you first had the thought in, and find that you remember what you were planning to do.

#### IN CONTEXT

Sensory information can be used as a memory cue. John is a student studying for a big test. While studying, he uses the smell of peppermint and associates it to important points that he has to remember for the test.

When the day of the test comes, he brings peppermint with him. If John has trouble remembering something during the test, he can use the peppermint to jog his memory and recall all of those facts. It may sound a little strange, but it is effective.



#### TERM TO KNOW

#### Memory Cue

A stimulus associated with a memory that can assist in retrieval

### 2b. State-Dependent Learning

An individual's own personal environment can also affect their ability to recall memories. **State-dependent learning** means that memory retrieval can be affected by a person's bodily state at the time of their learning. Factors in the person's body can affect the encoding and retrieval of the information later.

🔗 **EXAMPLE** Suppose you learned something when you were drinking alcohol. Later, you can't quite remember what it was, so you drink something alcoholic again. That state of intoxication can help in the retrieval process, if it was the current state when you were encoding that information.

State-dependent learning can also apply to emotional states like mood.

🔗 **EXAMPLE** When you are sad, you may remember more sad things that you learned when you were previously depressed. This, in turn, can lead to feelings of more depression.



#### TERM TO KNOW

## State-Dependent Learning

Memory retrieval can be affected by a person's bodily state at the time of learning



### SUMMARY

There is a difference in the **availability vs. accessibility** of a memory. If there is a failure in the encoding or storage of a memory, then the memory is unavailable. However, if a memory is not accessible, then it is possible to make it available. It can still be inside of long-term storage, but there is a problem with the retrieval of that information.

**Environmental factors** can play a part in memory. Memory cues, or certain stimuli associated with memories, can be used to help encode and retrieve memories. State-dependent learning can also impact memory, referring to the fact that memory retrieval can be affected by a person's bodily state, including mood, at the time of their learning.

Good luck!

Source: This work is adapted from Sophia author Erick Taggart.



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#### Accessibility

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#### Availability

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#### Memory Cue

A stimulus associated with a memory that can assist in retrieval.

#### State-Dependent Learning

Memory retrieval can be affected by a person's bodily state at the time of learning.