

Memory

Objective's for Today's Class:

- Why do we forget?
- What is amnesia?

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If you couldn't forget, your mind would be filled with meaningless data.

The ability to forget is essential to the proper functioning of memory

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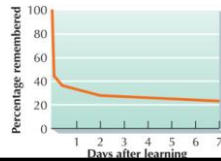
Normal Forgetting

- ❑ Memory traces gradually decay
 - During any delay a memory is subject to the effects of time and interference from other experiences
- ❑ Memories seem to be forgotten because we no longer have the appropriate reminders
- ❑ You are more likely to forget something you did not pay attention to when it originally happened

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Normal Forgetting

- Found that most forgetting occurs during the first 9 hours after learning
 - Recall drops from 100% to 50% correct within 20 minutes of list learning
- After the first several hours – forgetting levels off and slows at that point
- Decay: loss of information from memory as a result of disuse and passage of time



Reasons for Forgetting

- Encoding failure
 - Information was either encoded improperly or not at all
- Storage failure
 - Through the lack of use and rehearsal information is gone
- Retrieval failure
 - The information is in long-term memory but you are unable to access it
- Interference
 - Proactive interference
 - Retroactive interference

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Proactive Interference

- Old information interferes with the learning of new information
 - A decrease in accurate recall of information as a result of the effects of previously learned or presented information
 - Old material increases forgetting of the new material

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Example

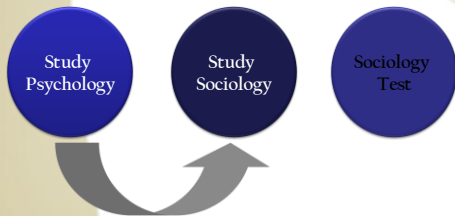
❏ A student studies for a psychology test on Saturday and a sociology test on Sunday. It is Monday and the student is taking the sociology test. He has trouble remembering the sociology information because he confuses it with the psychology information.

- The psychology information was learned first
- The sociology information was learned second

- The first information interfered with remembering the second information

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Psychology, learned beforehand, interferes proactively



Proactive Interference

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Another Example of Proactive Interference

❏ Pretend that you are recently out of a long-term relationship but you have found a new flame. Now you are out on that all-important third date with your new love interest. The lights are low, the champagne and strawberries are served. The music in the restaurant is soft and romantic – you are reaching across the table to take your date's hand. You are looking deeply into his or her eyes, you are about to tell them what a wonderful evening it is and how happy you are to be out with him or her, and then out of your mouth, before you realize it, comes – the name of your ex!!!

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Retroactive Interference

- New information interferes with recall of old information
 - A decrease in accurate recall of information as a result of the subsequent presentation of different information
 - New material increase forgetting of the older material

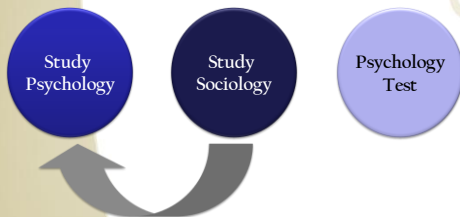
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Example

- A student studies for a psychology test on Saturday and a sociology test on Sunday. It is Monday and the student is taking the psychology test. He has trouble remembering the psychology information because he confuses it with the sociology information.
 - The psychology information was learned first
 - The sociology information was learned second
 - The second information interfered with remembering the first information

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Sociology, learned afterwards, interferes retroactively



Retroactive Interference

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Another Example of Retroactive Interference

- ❑ Pretend that you've been sneaking around on your long-term girlfriend/boyfriend for a couple of months. One day, while talking to your significant other in some casual context, you address them by the name of your secret lover.
- ❑ New information has interfered with your recall of older information.

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Severe Forms of Memory Loss

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Amnesia

- ❑ Severe loss or deterioration of memory
- ❑ People with amnesia tend to have poor factual memories, but intact procedural memories
 - Amnesiacs show preserved performance on tests of implicit memory (which do not require conscious recollection for successful performance)
 - On tests of explicit memory, amnesiacs show much more severely impaired performance (requires that the individual recognize the correct answer and be aware that long-term memory is being tapped)

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Two Types of Amnesia

Retrograde Amnesia

- Loss of memory for events that occurred shortly before the brain damage
- People who find it hard to retrieve memories prior to an incident in which they suffer damage to the head
- Sometimes people never remember the seconds leading up to the incident



Two Types of Amnesia

Anterograde Amnesia

- The inability to store new long-term memories
- People who find it hard to remember ongoing events after suffering damage to the head
- They do not tend to forget their childhood or who they are, but have trouble remembering day-to-day events



Are Memories Accurate?

False Memory Formation

False Childhood Memories



Imagination Inflation



Impossible Memories