



## Brain Structures That are Involved with Memory

Psychology 390

Psychology of Learning

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1

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### Hippocampus

- Plays a major role in encoding and storing information.
- With damage, you have difficulty storing and recalling information. Generally, the information is not appropriately coded due to insufficient elaboration.
- With damage, new information is not stored, but old information remains intact.
- Called Anterograde Amnesia

2

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### Thalamus

- Is also involved with memory formation.
- Is thought to give the message to print the memory initially.
- With damage, memory traces never get created to begin with.
- So, it isn't stored in either Short Term Memory or Long Term Memory.

3

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### Summary

- So with damage to the Hippocampus, memory is formed but due to elaboration problems, it is not properly encoded.
- With the Thalamus, the memory never gets formed at all.

4

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### Cerebellum

- Thompson
- Conditioned a eye blink response and a leg movement response.
- Lesioned the area that disrupted the eyeblink response. Result, the leg response was unaffected.
- Then moved 1 millimeter closer to the middle of the brain and lesioned.
- Result, found the conditioned leg response was affected but the eyeblink was not.

5

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### Conclusion

Isolated procedural memories have unique pathways in the Cerebellum.

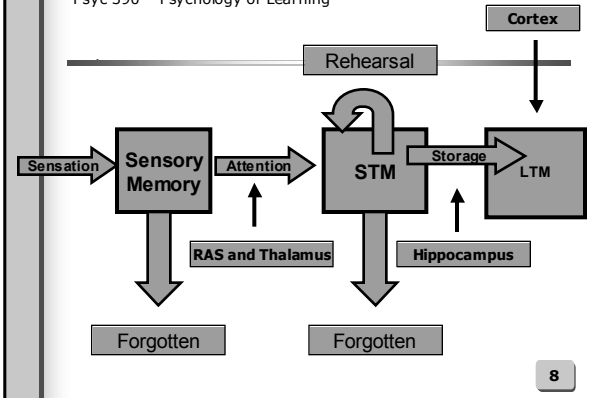
Also get the same response when you remove Hippocampus.

6

### Cortex

- Lots of locations related to memory.
- Tends to be related to the type of memory involved.
- Mostly in the frontal lobe in a variety of structures.

7



8