

Memory

- The Atkinson–Shiffrin model of memory asserts that human memory has three separate components:
 - sensory, short-term, long-term
 - iconic, echoic, explicit
 - semantic, explicit, implicit
 - central executive, phonological loop, visio-spatial sketch-pad
- Which of the following is not an example of semantic memory?
 - knowledge of the techniques for framing a house
 - remembering the first time you went to a rock concert
 - recalling the date of the Magna Carta
 - all are examples of semantic memory
- Tenesha’s tennis coach asked her to call six fellow players to remind them of a change in the location of a match. Feeling confident that she would not forget any on the list, she did not write it down. Which of the players on the list are most likely to be forgotten?
 - the first two names on the list
 - the last two names on the list
 - the two names in the middle
 - the first and the last names on the list
- People with extensive, bilateral hippocampal damage may experience
 - anterograde amnesia
 - retrograde amnesia
 - dissociative amnesia
 - source amnesia
- Iconic memory and echoic memory are both types of
 - short-term memory
 - episodic memory
 - explicit memory
 - sensory memory
- A study demonstrated that taking an exam in the same classroom in which the material was learned positively correlates with performance on the exam. Which of the following best describes this phenomenon?
 - cue regularity
 - spreading activation
 - state-dependent memory
 - encoding specificity
- A memory researcher presented a group of subjects with a series of placards upon each of which was printed a word. The researcher asked different subgroups a different question about each word. After presentation, memory recall was tested. For the word ‘*dalmation*,’ which of the following questions asked at the time of presentation would correlate to the best recall among subjects?
 - Is the word printed in italics?
 - How many letters are in the word?
 - Could you encounter this in a street?
 - Does the word rhyme with orange?

8. In George Sperling's partial report experiment observers were presented with a tachistoscopic visual stimulus for a brief period of time (50 ms) consisting of either a 3x3 or 3x4 array of alphanumeric characters such as:

P Y F G
V J S A
D H B U

Recall was based on a cue which followed the offset of the stimulus and directed the subject to recall a specific line of letters from the initial display. The partial report condition required participants to identify a subset of the characters from the visual display using cued recall. Immediately after stimulus offset, participants could recall most letters (9 out of 12 letters).

This experiment is designed to test the capacity of which memory register?

- A. sensory memory
 - B. echoic memory
 - C. short-term memory
 - D. iconic memory
9. Reciting poetry while riding a bicycle are two tasks that can be performed just as well separately as simultaneously. However, reciting poetry while writing an essay is much more difficult. Which statement below best reflects the implications of this distinction for the theoretical modeling of working memory?
- A. Reciting poetry primarily involves the left frontal lobe. Riding a bicycle involves the dorsal precentral gyrus.
 - B. There are at least two domain specific subsystems within working memory.
 - C. Stimuli relating to reciting poetry are processed in echoic memory while stimuli related to riding a bicycle are processed in iconic memory.
 - D. The central executive acts as supervisory system and controls the flow of information to and from its slave systems.

10. Rats with dorsal hippocampal, dorsomedial thalamic, and operated control lesions were administered a delayed alternation (DA) task in which recall was assessed over intervals ranging between 0 and 80 s, and a passive avoidance (PA) task, involving training-test delays of between 1 h and 21 days. On both tasks, hippocampal groups performed normally at relatively short intervals, but showed significant memory loss at longer intervals. Thalamic groups were generally impaired on the DA task, but performed as well as operated control groups at all intervals in the PA task. The data also indicated an exaggerated susceptibility to interference in the hippocampal groups and a loss of episodic and reference memory following hippocampal or thalamic lesions. Which of the following is reasonable to conclude from this experiment?

- A. Previously learned information has a greater than normal negative influence on the recall of newly learned information following thalamic lesions.
- B. Memory loss following thalamic damage is related to a deficit in working memory.
- C. Hippocampal amnesia results from impairment of procedural memory.
- D. Both hippocampal and thalamic groups displayed symptoms of anterograde amnesia.

11. Baddeley and Hitch demonstrated that a single module could not account for all kinds of temporary memory. Their thinking led to an influential model in which verbal-phonological and visual-spatial representations were held separately, and were managed and manipulated with the help of attention-related processes, termed the

- A. working register
- B. episodic buffer
- C. central executive
- D. rehearsal loop

- 12.** As part of a study investigating the affect of pro-active interference on short-term memory capacity, a subject was given a seven digit number as part of a delayed recall trial. However, coincidentally, the number differed from the subject's own phone number by only two digits. The results from this particular trial will likely be confounded by contamination from
- A.** cross-interference
 - B.** long-term memory
 - C.** chunking
 - D.** rehearsal
- 13.** Christopher Darwin carried out an auditory experiment that was analogous to Sperling's method of partial report. Which of the following was among the experimental findings?
- A.** Echoic memory has a longer decay period than iconic memory.
 - B.** Recall of auditory stimuli is more susceptible to pro-active interference than visual stimuli.
 - C.** Deeper levels of analysis of auditory stimuli produce more elaborate, longer-lasting, and stronger memory traces than shallow levels of analysis.
 - D.** The central executive governing short-term memory process is general across domains.
- 14.** Researchers found that recognition of earlier portions of a list, but not the last few items, activated areas within the hippocampal system that is generally associated with long-term memory retrieval. Recall of earlier portions of a list is severely impaired in Korsakoff's amnesia while memory for the last few list items is spared. This is because:
- A.** A register for short-term memory storage exists that is separate from long-term memory.
 - B.** Hippocampal activity underlies the recency effect.
 - C.** The recency effect reflects a short amount of time between presentation and recall of the last few items.
 - D.** The recency effect reflects the absence of interference between presentation and recall of the last few items.
- 15.** Individuals scoring high on storage-and-processing tests of working memory notice their names in a channel to be ignored in dichotic listening
- A.** less often than low-span individuals
 - B.** more often than low-span individuals
 - C.** with the same frequency as low-span individuals
 - D.** with a frequency depending on the phonological characteristics of the cue
- 16.** Jeremy is trying to memorize dialogue from a play from an audio recording, but a particular section is garbled. He is experiencing a problem with which memory process?
- A.** chunking
 - B.** storage
 - C.** encoding
 - D.** rehearsal

17. Which of the following is not a method of elaborative encoding?
- A. method of loci
 - B. maintenance rehearsal
 - C. peg word method
 - D. link system
18. Which of the following components of memory stores a close replica of a visual stimulus?
- A. visual store
 - B. visuospatial sketchpad
 - C. iconic memory
 - D. VSTM
19. The shape of the forgetting curve is
- A. hyperbolic
 - B. exponential
 - C. sigmoidal
 - D. linear
20. A metallurgical engineer, Dion, moved to England from the United States to take a job as a supervisor of a metal fabrication facility. He had a difficult time for the first few months adjusting to saying 'aluminium' instead of the North American coinage, 'aluminum'. After six months Dion seemed to get the hang of it. Four years later, after moving back to the United States, he found he now had difficulty saying 'aluminum'! Dion's present difficulty saying 'aluminum' is caused by
- A. retroactive interference
 - B. proactive interference
 - C. output interference
 - D. cue-dependent forgetting
21. The reorganization process in which memories from the hippocampal region are moved to the neo-cortex is known as
- A. late phase long-term potentiation
 - B. synaptic consolidation
 - C. trace activation
 - D. systems consolidation
22. A researcher asked experimental subjects to commit a series of numbers to memory, and measured how long it took them to memorize them all. One week later, after the original list was forgotten, she measured how long it took to relearn the list. She found that the subjects were quicker the second time. This exemplifies the concept of
- A. reconsolidation
 - B. encoding specificity
 - C. savings
 - D. context dependent memory
23. Which of the following demonstrates recall from declarative memory but not from semantic memory?
- A. relating the ground rule double rule to others while watching a baseball game
 - B. describing an experience of surviving an earthquake
 - C. reciting twenty digits of the number pi
 - D. declarative and semantic memory are synonyms

24. A study presented participants with information that was unfamiliar to their cultural backgrounds and expectations and then monitored how they recalled these different items of information. The study demonstrated that the cultural backgrounds of the participants did affect how they recalled the information over time. What were they using to provide a framework for understanding the material?
- A. confirmation bias
 - B. reconsolidation
 - C. prejudice
 - D. schemata
25. Every time Miriam hears a particular song she remembers riding in the back-seat of the car singing along with her brother. This then conjures up memories of the time when her family had lived in Hawaii and she thinks about Waikiki and hiking up Diamond Head. This demonstrates which concept?
- A. spreading activation
 - B. state-dependent memory
 - C. recognition memory
 - D. long-term potentiation
26. Subir got a new phone number six months ago. He is not happy because he keeps writing down his old phone number when filling out documents. His problem demonstrates
- A. proactive interference
 - B. retroactive interference
 - C. blocking
 - D. latent inhibition
27. Jonah told a joke to his friends. He thought he had just made the joke up. In fact, he had heard the joke two months earlier on a televised comedy special. This exemplifies:
- A. source amnesia
 - B. source confusion
 - C. cryptomnesia
 - D. egocentric bias
28. A patient could remember things like his name, his home town, and the date of his anniversary. However, he could not form any new lasting memories. Among which of the following is the most likely site of a lesion?
- A. bilateral medial temporal lobe
 - B. hypothalamus
 - C. precentral gyrus
 - D. corpus callosum
29. Which of the following best describes the role of the amygdala in the formation of declarative long-term memories?
- A. providing cognitive control over memory storage processes
 - B. modulation of memory consolidation
 - C. fear conditioning
 - D. neuronal replay of spatio-temporal sequences in concert with the neocortex
30. An episodic memory associated with a much higher than normal amygdala activation during encoding is a good candidate to become a(n)
- A. autobiographical memory
 - B. flashbulb memory
 - C. repressed memory
 - D. explicit memory

31. Suppose experimental subjects were given the following surnames in a randomly ordered list to memorize and one week later presented with a long list of surnames spoken aloud. During listening, which of the following names is it reasonable to suspect would be most easily recalled as having been on the original list?

Wright	von Restorff
Sanderson	Jordanson
Davison	Murphy
Miller	Barton

- A. Sanders
- B. Murphy
- C. Barton
- D. von Restorff

32. You and your friend witness an argument after school. Later you talk about the “huge fight” that occurred and you both unknowingly distort the narrative with exaggerated fabrications. Now you can recall specific details of a huge fight. Which of the following best characterizes the dynamic underlying these incorrect recollections?

- A. the misinformation effect
- B. cryptomnesia
- C. suggestibility
- D. fabricated memory

33. As Dylan gets into his car he repeats a list of the half dozen items he needs to pick up at the store. He is keeping the list in his

- A. echoic memory
- B. episodic memory
- C. long-term memory
- D. short-term memory

34. Which of the following statements directly distinguishes Baddeley’s model as a model for *working* memory and not merely a model for *short-term* memory?

- I. The visuo-spatial sketchpad functions alongside the phonological loop without either affecting the efficacy of the other.
- II. The central executive can be thought of as a supervisory system that controls cognitive processes and intervenes when they go astray.
- III. The phonological loop consists of a short-term phonological store and an articulatory rehearsal component.
- IV. Forgetting from working memory occurs through interference by new memory items not spontaneous decay.

- A. II only
- B. I and II
- C. I, II, and III
- D. I, II, III and IV

35. Mary has an excellent memory of everything that occurred up until an automobile accident at age 47. Since the accident she has been unable to form new memories. Mary suffers from

- A. anterograde amnesia
- B. retrograde amnesia
- C. lacunar amnesia
- D. source amnesia

36. Bill delayed reviewing kidney function until the day before the MCAT. In order to master this material he wound up pulling an all-nighter. This is known as

- A. priming
- B. elaborative rehearsal
- C. massed practice
- D. distributed practice

37. Which of the following best describes the mechanism by which an implicit long-term memory could affect conscious thought process?
- A. recognition
 - B. recall
 - C. conditioning
 - D. priming
38. People suffering from Korsakoff's syndrome are likely to experience the most difficulty with forming new _____ memories.
- A. working
 - B. episodic
 - C. declarative
 - D. semantic
39. In the cognitivist reconstructive theory of memory recall which of the following influences the act of remembering?
- I. Perception
 - II. Imagination
 - III. Semantic Memory
 - IV. Beliefs
- A. I only
 - B. I and III
 - C. I, III, and IV
 - D. I, II, III and IV
40. At which stage of memory process does interference appear to have its greatest affect on forgetfulness?
- A. encoding
 - B. storage
 - C. consolidation
 - D. retrieval
41. 150 participants were shown a film of a traffic accident then filled out a questionnaire concerning the video. The participants were split into three equal groups: Group A participants were asked "About how fast were the cars going when they hit each other?" Group B participants were asked "About how fast were the cars going when they smashed each other?" Group C participants, the control group, were not asked this question. A week later, all were asked whether or not there had been any broken glass in the video. A statistically significant number of participants in group B answered that they remembered seeing broken glass in the video, though there was none. Which phenomenon best describes the causal basis for the difference among groups in their responses?
- A. retroactive interference
 - B. confabulation
 - C. priming
 - D. suggestibility
42. Given a list or series of words or numbers, studies have shown that we can recall the first and last numbers more easily than the middle numbers. This is called the
- A. primacy effect
 - B. recency effect
 - C. serial position effect
 - D. spacing effect
43. Primacy effect is impaired for immediate and delayed recall in dementia of the Alzheimer type. By contrast, immediate recall, recency effect and possibly also long-term recency effect are preserved. To which of the following do these results correspond?
- A. inactive central executive
 - B. decay of echoic memory
 - C. impaired long-term memory consolidation
 - D. retroactive interference

44. Remembering prom night when you hear an old song on the radio is an example of
- A. spreading activation
 - B. recognition
 - C. encoding specificity
 - D. cued recall
45. Which of the following memory concepts best explains the effectiveness of the method of loci as a mnemonic device?
- I. Spatial memory
 - II. Levels of processing
 - III. Elaborative rehearsal
 - IV. Visual encoding
- A. IV only
 - B. I and IV
 - C. I, III, and IV
 - D. I, II, III and IV
46. A study used fMRI to measure the brain activity of subjects while they made semantic decisions. The participants then took a memory test after a short period of time. When the subjects showed high confidence and correctly retained the information, the fMRI measured increased activity in the
- A. left prefrontal cortex
 - B. posterior parietal cortex
 - C. striate cortex
 - D. lateral postcentral gyrus
47. The illusory truth effect is the tendency to believe information to be correct after repeated exposure. The effect occurs even in the absence of conscious recollection. The illusory truth effect can best be distinguished as a process of
- A. semantic processing
 - B. subliminal persuasion
 - C. spreading activation
 - D. implicit memory
48. An experiment was conducted in which two groups of people, one composed of amnesic patients with heavily impaired long-term memory, and the other composed by healthy subjects, were asked several times to solve a complex problem-solving game requiring a certain number of steps to complete. The first group showed the same improvements over time as the second group, even if some participants claimed that they didn't even remember having seen the puzzle before. These findings strongly suggest that
- A. encoding specificity depends on implicit memory functions
 - B. working memory is sufficient to complete many cognitive tasks
 - C. central executive interactions governing the episodic buffer do not require long-term memory consolidation
 - D. procedural memory is independent from declarative memory

49. Participants in an experiment were provided a list of names in the first session. In the second session, participants were given one of the two kinds of tasks. In the ‘exclusion task’, participants were told that none of the names they read in session one belonged to famous people and they should respond “no” when judging fame in the second session. In the ‘inclusion task’ condition, participants were informed that the names from the first session were famous but obscure and they should respond “yes” for famous if they remember a name from the first session or otherwise know it to be famous. The probability of saying “yes” in the inclusion condition

- A. equals the probability of a name being remembered consciously
- B. must be less than the probability of saying “yes” in the exclusion condition
- C. equals the probability of a name being remembered either consciously or unconsciously
- D. is directly proportional to the strength of a subject’s declarative memory

50. When Olivia came home from work, the smell of oven cleaner was strong in the house, but after several minutes in the home, Olivia found she could barely detect the smell. Olivia’s habituation to the smell of the oven cleaner occurs through

- A. sensitization
- B. perceptual learning
- C. implicit memory
- D. odor identification