## Infantile Amnesia

What do you remember about your life before you were three? Few people can remember anything that happened to them in their early years. Adults' memories of the next few years also tend to be scanty. Most people remember only a few events—usually ones that were meaningful and distinctive, such as being hospitalized or a sibling’s birth.

How might this inability to recall early experiences be explained? The sheer passage of time does not account for it; adults have excellent recognition of pictures of people who attended high school with them 35 years earlier. Another seemingly plausible explanation—that infants do not form enduring memories at this point in development—also is incorrect. Children two and a half to three years old remember experiences that occurred in their first year, and eleven month olds remember some events a year later. Nor does the hypothesis that infantile amnesia reflects repression—or holding back—of sexually charged episodes explain the phenomenon. While such repression may occur, people cannot remember ordinary events from the infant and toddler periods either.

Three other explanations seem more promising. One involves physiological changes relevant to memory. Maturation of the frontal lobes of the brain continues throughout early childhood, and this part of the brain may be critical for remembering particular episodes in ways that can be retrieved later. Demonstrations of infants’ and toddlers' long-term memory have involved their repeating motor activities that they had seen or done earlier, such as reaching in the dark for objects, putting a bottle in a doll’s mouth, or pulling apart two pieces of a toy. The brain’s level of physiological maturation may support these types of memories, but not ones requiring explicit verbal descriptions.

A second explanation involves the influence of the social world on children’s language use. Hearing and telling stories about events may help children store information in ways that will endure into later childhood and adulthood. Through hearing stories with a clear beginning, middle, and ending children may learn to extract the gist of events in ways that they will be able to describe many years later. Consistent with this view, parents and children increasingly engage in discussions of past events when children are about three years old. However, hearing such stories is not sufficient for younger children to form enduring memories. Telling such stories to two year olds does not seem to produce long-lasting verbalizable memories.

A third likely explanation for infantile amnesia involves incompatibilities between the ways in which infants encode information and the ways in which older children and adults retrieve it. Whether people can remember an event depends critically on the fit between the way in which they earlier encoded the information and the way in which they later attempt to retrieve it. The better able the person is to reconstruct the perspective from which the material was encoded, the more likely that recall will be successful.

This view is supported by a variety of factors that can create mismatches between very young children's encoding and older children's and adults' retrieval efforts. The world looks very different to a person whose head is only two or three feet above the ground than to one whose head is five or six feet above it. Older children and adults often try to retrieve the names of things they saw, but infants would not have encoded the information verbally. General knowledge of categories of events such as a birthday party or a visit to the doctor's office helps older individuals encode their experiences, but again, infants and toddlers are unlikely to encode many experiences within such knowledge structures.

These three explanations of infantile amnesia are not mutually exclusive; indeed, they support each other. Physiological immaturity may be part of why infants and toddlers do not form extremely enduring memories, even when they hear stories that promote such remembering in preschoolers. Hearing the stories may lead preschoolers to encode aspects of events that allow them to form memories they can access as adults. Conversely, improved encoding of what they hear may help them better understand and remember stories and thus make the stories more useful for remembering future events. Thus, all three explanations—physiological maturation, hearing and producing stories about past events, and improved encoding of key aspects of events—seem likely to be involved in overcoming infantile amnesia.

Paragraph 2: How might this inability to recall early experiences be explained? The sheer passage of time does not account for it; adults have excellent recognition of pictures of people who attended high school with them 35 years earlier. Another seemingly plausible explanation—that infants do not form enduring memories at this point in development—also is incorrect. Children two and a half to three years old remember experiences that occurred in their first year, and eleven month olds remember some events a year later. Nor does the hypothesis that infantile amnesia reflects repression—or holding back—of sexually charged episodes explain the phenomenon. While such repression may occur, people cannot remember ordinary events from the infant and toddler periods either.

1. What purpose does paragraph 2 serve in the larger discussion of children’s inability to recall early experiences? (3)

○To argue that theories that are not substantiated by evidence should generally be considered unreliable

○To argue that the hypotheses mentioned in paragraph 2 have been more thoroughly researched than have the theories mentioned later in the passage

○To explain why some theories about infantile amnesia are wrong before presenting ones more likely to be true

○To explain why infantile amnesia is of great interest to researchers

2. The word “plausible” in the passage is closest in meaning to （2）

○flexible

○believable

○debatable

○predictable

3. The word “phenomenon” in the passage is closest in meaning to(3)

○exception

○repetition

○occurrence

○idea

4. All of the following theories about the inability to recall early experiences are rejected in paragraph 2 EXCEPT: (4)

○The ability to recall an event decreases as the time after the event increases.

○Young children are not capable of forming memories that last for more than a short time.

○People may hold back sexually meaningful memories.

○Most events in childhood are too ordinary to be worth remembering.

Paragraph 3: Three other explanations seem more promising. One involves physiological changes relevant to memory. Maturation of the frontal lobes of the brain continues throughout early childhood, and this part of the brain may be critical for remembering particular episodes in ways that can be retrieved later. Demonstrations of infants’ and toddlers' long-term memory have involved their repeating motor activities that they had seen or done earlier, such as reaching in the dark for objects, putting a bottle in a doll’s mouth, or pulling apart two pieces of a toy. The brain’s level of physiological maturation may support these types of memories, but not ones requiring explicit verbal descriptions.

5. What does paragraph 3 suggest about long-term memory in children?(2)

○Maturation of the frontal lobes of the brain is important for the long-term memory of motor activities but not verbal descriptions.

○Young children may form long-term memories of actions they see earlier than of things they hear or are told.

○Young children have better long-term recall of short verbal exchanges than of long ones.

○Children’s long-term recall of motor activities increases when such activities are accompanied by explicit verbal descriptions.

Paragraph 4: A second explanation involves the influence of the social world on children’s language use. Hearing and telling stories about events may help children store information in ways that will endure into later childhood and adulthood. Through hearing stories with a clear beginning, middle, and ending children may learn to extract the gist of events in ways that they will be able to describe many years later. Consistent with this view, parents and children increasingly engage in discussions of past events when children are about three years old. However, hearing such stories is not sufficient for younger children to form enduring memories. Telling such stories to two year olds does not seem to produce long-lasting verbalizable memories.

6.According to paragraph 4, what role may storytelling play in forming childhood memories?(4)

○It may encourage the physiological maturing of the brain.

○It may help preschool children tell the difference between ordinary and unusual memories.

○It may help preschool children retrieve memories quickly.

○It may provide an ordered structure that facilitates memory retrieval.

Paragraph 5: A third likely explanation for infantile amnesia involves incompatibilities between the ways in which infants encode information and the ways in which older children and adults retrieve it. Whether people can remember an event depends critically on the fit between the way in which they earlier encoded the information and the way in which they later attempt to retrieve it. The better able the person is to reconstruct the perspective from which the material was encoded, the more likely that recall will be successful.

7. The word “critically” in the passage is closest in meaning to （1）

○ fundamentally

○ partially

○ consistently

○ subsequently

8. The word “perspective” in the passage is closest in meaning to （4）

○ system

○ theory

○ source

○ viewpoint

Paragraph 6: This view is supported by a variety of factors that can create mismatches between very young children's encoding and older children's and adults' retrieval efforts. The world looks very different to a person whose head is only two or three feet above the ground than to one whose head is five or six feet above it. Older children and adults often try to retrieve the names of things they saw, but infants would not have encoded the information verbally. General knowledge of categories of events such as a birthday party or a visit to the doctor's office helps older individuals encode their experiences, but again, infants and toddlers are unlikely to encode many experiences within such knowledge structures.

9. The phrase “This view” in the passage refers to the belief that （1）

○ the ability to retrieve a memory partly depends on the similarity between the encoding and retrieving process

○ the process of encoding information is less complex for adults than it is for young adults and infants

○ infants and older children are equally dependent on discussion of past events for the retrieval of information

○ infants encode information in the same way older children and adults do

10. According to paragraphs 5 and 6, one disadvantage very young children face in processing information is that they cannot (2)

○ process a lot of information at one time

○ organize experiences according to type

○ block out interruptions

○ interpret the tone of adult language

Paragraph 7: These three explanations of infantile amnesia are not mutually exclusive; indeed, they support each other. Physiological immaturity may be part of why infants and toddlers do not form extremely enduring memories, even when they hear stories that promote such remembering in preschoolers. Hearing the stories may lead preschoolers to encode aspects of events that allow them to form memories they can access as adults. Conversely, improved encoding of what they hear may help them better understand and remember stories and thus make the stories more useful for remembering future events. Thus, all three explanations—physiological maturation, hearing and producing stories about past events, and improved encoding of key aspects of events—seem likely to be involved in overcoming infantile amnesia.

11. Which of the sentences below best expresses the essential information in the highlighted sentence in the passage? Incorrect choices change the meaning in important ways or leave out essential information. (1)

○ Incomplete physiological development may partly explain why hearing stories does not improve long-term memory in infants and toddlers.

○ One reason why preschoolers fail to comprehend the stories they hear is that they are physiologically immature.

○ Given the chance to hear stories, infants and toddlers may form enduring memories despite physiological immaturity.

○ Physiologically mature children seem to have no difficulty remembering stories they heard as preschoolers.

12. How does paragraph 7 relate to the earlier discussion of infantile amnesia?(3)

○It introduces a new theory about the causes of infantile amnesia.

○It argues that particular theories discussed earlier in the passage require further research.

○It explains how particular theories discussed earlier in the passage may work in combination.

○It evaluates which of the theories discussed earlier is most likely to be true.

Paragraph 1: What do you remember about your life before you were three? █Few people can remember anything that happened to them in their early years. █Adults' memories of the next few years also tend to be scanty. █Most people remember only a few events—usually ones that were meaningful and distinctive, such as being hospitalized or a sibling’s birth. █

13. Look at the four squares [█] that indicate where the following sentence could be added to the passage

**Other important occasions are school graduations and weddings.**

Where would the sentence best fit?(4)

14. **Directions:** An introductory sentence for a brief summary of the passage is provided below. Complete the summary by selecting the THREE answer choices that express the most important ideas in the passage. Some sentences do not belong in the summary because they express ideas that are not presented in the passage or are minor ideas in the passage. **This question is worth 2 points.**

There are several possible explanations why people cannot easily remember their early childhoods.

●Frontal lobe function…

●The opportunity to hear…

●The contrasting ways in…

Answer Choices

○Preschoolers typically do not recall events from their first year.

○Frontal lobe function of the brain may need to develop before memory retrieval can occur.

○Children recall physical activities more easily if they are verbalized.

○The opportunity to hear chronologically narrated stories may help three-year-old children produce long-lasting memories.

○The content of a memory determines the way in which it is encoded.

○The contrasting ways in which young children and adults process information may determine their relative success in remembering.