

**Question 1-11 are based on the following passage.**

This passage is excerpted from Hiroshi Nittono, Michiko Fukushima, Akihiro Yano, and Hiroki Moriya, "The Power of Kawaii: Viewing Cute Images Promotes a Careful Behavior and Narrows Attentional Focus," ©2012 by Hiroshi Nittono, et al.

Cute things are popular worldwide. In particular, Japan's culture accepts and appreciates childishness at the social level. Various kinds of anime and character goods, such as Pokémon and Hello Kitty, which are often described as kawaii, are produced and exported to many countries. This phenomenon attracts considerable attention from various fields, including aesthetics and engineering. Kawaii is an attributive adjective in modern Japanese and is often translated into English as "cute." However, this word was originally an affective adjective derived from an ancient word, kawa-hayu-shi, which literally means face (kawa)-flushing (hayu-shi). The original meaning of "ashamed, can't bear to see, feel pity" was changed to "can't leave someone alone, care for." In the present paper, we call this affective feeling, typically elicited by babies, infants, and young animals, cute.

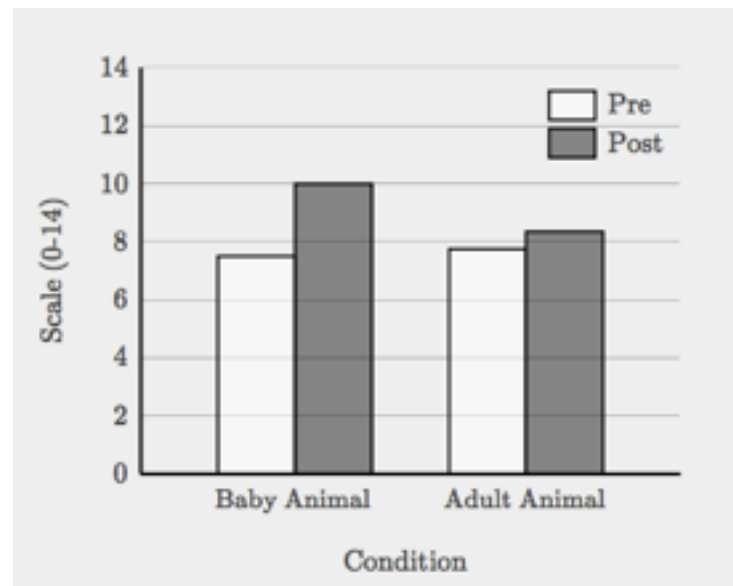
Cute objects are assumed to be characterized by baby schema. This is a set of features that are commonly seen in young animals: a large head relative to the body size, a high and protruding forehead, large eyes, and so forth. Lorenz assumed that responses to baby schema are innate processes and are triggered by elemental features of the stimuli. In humans, the stimuli are deemed cute, capture attention, bring a smile to the viewer's face, and induce motivation and behavior for approach and caregiving. Baby schema modulates perception and attention at early stages of visual processing and activates the reward system of the brain. From an ethological perspective, it is understandable that cute things are treated favorably. However, little is known about whether encountering a cute object influences the subsequent behavior of the beholder. Because cute things produce positive feelings, their influence may extend to other aspects of behavior.

Sherman, Haidt, and Coan reported two experiments showing that performance in a fine motor dexterity task (the children's game Operation) improved after participants viewed a slide show of cute images (e.g., puppies and kittens) more than after they viewed images that were not as cute (e.g., dogs and cats). The performance measure was the number of plastic body parts that participants removed successfully from the body of the patient depicted on the game board using tweezers without touching the edges of the compartments. The improvement in the accuracy of this task can be interpreted as an index of increased attention to and control of motor actions. Sherman et al. explained this effect in terms of the embodied cognition perspective. That is, the tenderness elicited by cute images is more than just a positive

affective feeling state. It can make people more physically tender in their motor behavior. Although the results are intriguing, the mechanism of performance improvement remains unclear for two reasons. First, the time to complete the task was not measured. Better performance could be achieved either through slow and deliberate actions or through quick and accurate actions. Measuring the performance speed would help to explain the underlying mechanism. Second, only one type of task was used. If viewing baby animals induced a behavioral tendency toward protection and caregiving, performance improvement could be specific to a care-related task. The operation task used by Sherman et al. suggests caregiving because the player is expected to act as a doctor who helps the patient depicted on the game board with removing foreign objects from the patient's body. Using different types of tasks would elucidate the cause of performance improvement.

Recently, Sherman and Haidt challenged the classic view that cuteness is an innate releaser of parental instincts and caregiving responses. Instead, they proposed that perceiving cuteness motivates social engagement and primes affiliative, friendly tendencies. This attitudinal change is assumed to be linked with cognitive processes related to mentalizing (i.e., attributing mental states to agents) and sometimes indirectly leads to increased cares. If cuteness-induced behavioral carefulness is caused by a heightened motivation for social interaction, the effect would not be found in simple perceptual—cognitive tasks that do not suggest social interaction.

Mean Scores on the Operation Task Before and After Viewing Images



1

The authors' central claim is that

- A) cuteness provokes the same emotional responses around the world.
- B) encountering a cute object may lead to changes in behavior.
- C) studies of cuteness should include tasks that involve social interaction.
- D) cuteness elicits feelings of tenderness in test subjects.

2

The authors mention Pokémon and Hello Kitty in order to

- A) provide examples of popular kawaii products from Japan.
- B) clarify an earlier statement by showing that some products use cuteness in their marketing.
- C) demonstrate that cute products are more likely to be exported than other products.
- D) support the claim that kawaii products are found in various fields.

3

As used in line 22, "elemental" most nearly means

- A) inner.
- B) chemical.
- C) partial.
- D) essential.

4

The words "capture" and "induce" (lines 23–24) primarily serve to

- A) ironically depict the unclear effects of cute images on test subjects.
- B) characterize the cute stimuli used in tests in unusually strong terms.
- C) indicate that cute stimuli can have a forceful impact on the viewer.
- D) provide a formal tone to contrast with the rest of the passage's informal tone.

5

The authors imply that they see Sherman, Haidt, and Coan's experiments as mainly

- A) interesting but unnecessary.
- B) sloppy and inconclusive.
- C) suggestive but incomplete.
- D) inventive and groundbreaking.

6

Which choice provides the best evidence for the answer to the previous question?

- A) lines 43–45 ("The . . . actions")
- B) lines 45–46 ("Sherman . . . perspective")
- C) lines 46–48 ("That . . . state")
- D) lines 49–51 ("Although . . . reasons")

7

The authors imply that Sherman, Haidt, and Coan's Operation experiment would have been improved by changing the

- A) methodology.
- B) test subjects.
- C) experimental setting.
- D) researchers.

8

Which choice provides the best evidence for the answer to the previous question?

- A) lines 56–59 ("If . . . task")
- B) lines 59–63 ("The . . . body")
- C) lines 63–64 ("Using . . . improvement")
- D) lines 67–69 ("Instead . . . tendencies")

9

According to the graph, the second-highest overall score in the study was achieved by the participants who

- A) had just viewed pictures of baby animals.
- B) had just viewed pictures of adult animals.
- C) were about to view pictures of adult animals.
- D) were about to view pictures of baby animals.

10

According to the passage, one explanation for the performance of the subjects in the graph's top-scoring group is that the

- A) test took place under timed conditions, forcing the subjects to be more accurate.
- B) subjects had to perform several kinds of tasks, making them consider each one more carefully.
- C) tenderness elicited by viewing the images made them more careful in performing the task.
- D) subjects experienced a heightened motivation for social interaction.

**11**

The average initial score of participants who were later shown the adult animal pictures was closest to which number?

- A) 7.
- B) 8.
- C) 9.
- D) 10.