

# 英 語

(解答番号  ~ )

〔 I 〕 次の英文を読んで、問 1 ~ 問 4 に答えなさい。

(解答番号は  ~ ) (32点)

## Science of lying: start with little lies and then get bigger and bigger

No matter how much we may disapprove of lying, it is impossible to deny that everyone does it sometimes. Sometimes our reasons for telling lies can be ( ア ). Parents, for example, may tell a so-called “white lie” to their children to protect them from an unpleasant truth. In this case, most people regard lying as an unfortunate but unavoidable fact of life. On other occasions, people lie to gain an advantage over others. In the public view, some politicians are regarded as liars, who use deliberate untruths to increase their own power or cover up their bad actions. <sup>(a)</sup>

Fortunately, most people do not ( イ ) tell lies. A study conducted in the United States found that most adults reported not telling any lies in a 24-hour period. Of the lies that were reported, almost half were told by a small group—just 5 percent of the participants—with most people being dishonest only when telling the truth would ( ウ ) problems.

Cognitively speaking, it seems that lying puts a greater burden on the brain than telling the truth. <sup>(A)</sup> A Harvard University scientist conducted an experiment in which he gave participants the chance to deceive others to gain money. While they were making the decision, he used an \*fMRI machine to analyze blood flow in their brains. Most participants told the truth automatically. Those that did not exhibited more activity in the brain area that is involved in difficult or complex thinking. <sup>(b)</sup>

A significant study was conducted at Duke University in the United States, led by the well-known neuroscientist Dan Ariely. The researchers

found that when people told a lie, there was a <sup>(c)</sup>burst of activity in their \*amygdala. This is a part of the brain responsible for producing emotional responses such as fear and anxiety. The scientists had the \*subjects play a game in which they could win money by deceiving their partner. The researchers discovered that during this activity, the negative signals sent by the amygdala began to decrease. ( エ ), when people discovered that their dishonesty had no negative consequences, their lies became more complex and carefully constructed. The conclusion seems to be that if we find that lying is successful, we are likely to do it more often. In other words, it creates a feedback loop in which thinking a thought or performing an action makes it easier to do the same thing again in the future.

But there is also a bright side to discovering that our brains work this way, which is that telling the truth will increase our capacity for honesty. Our natural tendency is to think that being honest with others will be awkward and cause conflict. However, a recent study conducted at the <sup>(d)</sup>University of Chicago showed that the opposite is true. People were asked to spend a few days being open and honest, and to think about their expectations of this behavior and its actual results. To their surprise, they discovered that being honest with others is a more ( オ ) experience and causes much less harm to relationships than they expected.

One general truth we can draw from these studies is that our brain is a very powerful tool that is not always under our conscious control. We must be aware that we can unconsciously program it in different ways, and so we should be careful to reinforce <sup>(e)</sup>positive rather than negative behaviors. The act of lying is not harmless — it actually changes us.

- \*〔注〕 fMRI machine : 脳の活動領域を示すことができる装置  
amygdala : 扁桃体(側頭葉内側にある神経細胞の集まり)  
subject : (実験の)被験者

問1 空所(ア)～(オ)に入れるのに最も適した語(句)を①～④の中からそれぞれ一つ選び、その番号をマークしなさい。

- |     |                     |                   |   |
|-----|---------------------|-------------------|---|
| (ア) | ① interesting       | ② selfish         |   |
|     | ③ unbelievable      | ④ understandable  | 1 |
| (イ) | ① consciously       | ② directly        |   |
|     | ③ realistically     | ④ regularly       | 2 |
| (ウ) | ① create            | ② handle          |   |
|     | ③ ignore            | ④ solve           | 3 |
| (エ) | ① For example       | ② On the contrary |   |
|     | ③ To tell the truth | ④ What is more    | 4 |
| (オ) | ① common            | ② direct          |   |
|     | ③ pleasant          | ④ stressful       | 5 |

問2 下線部(a)～(e)の語の意味に最も近いものを①～④の中からそれぞれ一つ選び、その番号をマークしなさい。

- |     |               |                   |    |
|-----|---------------|-------------------|----|
| (a) | ① complete    | ② dirty           |    |
|     | ③ intentional | ④ obvious         | 6  |
| (b) | ① continued   | ② developed       |    |
|     | ③ showed      | ④ started         | 7  |
| (c) | ① explosion   | ② feeling         |    |
|     | ③ kind        | ④ lack            | 8  |
| (d) | ① friendly    | ② straightforward |    |
|     | ③ suitable    | ④ uncomfortable   | 9  |
| (e) | ① admire      | ② avoid           |    |
|     | ③ change      | ④ strengthen      | 10 |

問3 本文の内容を考えて、次の(あ)～(う)に最も適したものを①～④の中からそれぞれ一つ選び、その番号をマークしなさい。

(あ) A “white lie” is a lie that you tell someone in order to 

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- ① deceive them to gain money
- ② hide your bad actions
- ③ prevent them from knowing a harmful truth
- ④ take advantage of them

(い) The underlined part (A) means that 

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- ① lying can be done more automatically than telling the truth
- ② one part of the brain is responsible for lying
- ③ telling the truth is more difficult than lying
- ④ we use our brain more actively when lying than telling the truth

(う) In the last paragraph, the author concludes that 

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- ① lying can make us program our brain unconsciously
- ② lying itself is neither a harmful nor negative behavior
- ③ we cannot change our negative behaviors to positive ones even if we try
- ④ we should try our best not to control our brain consciously

問4 次の①～⑧の中から本文の内容と一致するものを三つ選び、その番号をマークしなさい。 

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- ① Politicians are believed to use lies not to hurt the feelings of the people around them.
- ② A study conducted in the United States showed that most adults didn't tell any lies for 24 hours.
- ③ According to the experiment in the third paragraph, there was more blood flow in the brain when the participants were telling the truth.
- ④ The amygdala is a part of the brain that controls functions related to communication and memory.
- ⑤ The research results presented in the fourth paragraph showed that negative signals from the brain decreased when subjects didn't feel so bad about lying.
- ⑥ A "feedback loop" is like a circle in which if you lie to someone, they'll lie to you too.
- ⑦ We tend to think that telling the truth is more likely to damage our relationships with others.
- ⑧ One fact about lying is that it has little effect on our brain.

〔Ⅱ〕 次の英文を読んで、問1～問4に答えなさい。

(解答番号は  ～  ) (28点)

**When the pandemic came, the zoos shut, and the animals began  
to act differently**

We all had to make adjustments as the coronavirus pandemic unfolded —  
(a) even zoo animals who were suddenly not seeing crowds of visitors pass by every single day. In a study published in 2022, researchers discovered how \*primates reacted to that shift, looking at the behavior of bonobos, chimpanzees, gorillas, and baboons, and finding that the animals changed their habits in a variety of ways, including the amount of time they spent resting and eating.

Visitor interactions are thought to be crucial to the welfare of zoo  
(b) animals. Yet these interactions have the potential to be either positive or negative. So, the researchers were keen to see the ( ア ) when the crowds weren't there. "Primates are some of the most intelligent species in zoos and their interactions with visitors are complex," zoo animal welfare scientist Samantha Ward from Nottingham Trent University in the UK explained in 2022. "A limitation to understanding how visitors can affect behavior of animals in zoos and parks is that they are rarely closed to the public for prolonged periods, so this provided us with a unique opportunity."

Observations were recorded at Twycross Zoo and Knowsley Safari in the UK, both before and after visitors returned. Over several months and multiple open and closure periods, there were noticeable changes in primate behavior,  
(c) which varied depending on the animal. As visitors began to return to the zoo, the bonobos and gorillas spent less time alone, while the gorillas also spent less time resting. Chimpanzees, ( イ ), were eating more and engaging with their \*enclosures more when zoos reopened. The baboons in the safari park were seen to engage in less sexual and dominance behavior when the visitors came back. They also tended to approach visitor cars more

often, compared with the ranger vehicles they saw when the park was closed.

Whether or not these changes were positive is more difficult to say. The researchers suggest that the returning visitors seemed to stimulate the chimpanzees and baboons, while gorillas and bonobos spending less time alone could also be viewed as positive. At the same time, it could be argued that gorillas — naturally more \*sedentary animals — were disrupted by the crowds as they spent less time resting. The gorillas changed the parts of their enclosures they spent the most time in when visitors came back. This suggests that the animals can to some extent ( ウ ) this disruption. “Behavioral changes and changes in enclosure used in the presence of visitors highlight the ability of zoo species to adapt to their environments,” said zoo animal welfare researcher Ellen Williams from Harper Adams University in the UK. “Provision of environments which enable animals to actively adapt in this manner is really important for their welfare.” The team also observed that there was a visitor number limit when it came to baboons, beyond which the animals stopped becoming active and stimulated by the passing cars in the safari park.

This is all ( 工 ) data for animal welfare researchers, who know that visitors can have all kinds of effects on wildlife — from adding feelings of companionship and safety, to being sources of annoyance or even threats. This needs to be factored into how zoos and parks are run and designed.

( 才 ) there might not be any more lockdowns in the foreseeable future (hopefully), the research team wants to continue the work of studying how visitor numbers affect animal behavior, including collecting data involving more animals and across a longer time scale. “Future work could involve looking at the impact on a wider range of species in both zoos and safari parks as well as differences among individual animals,” said Williams.

\*〔注〕 primate : 霊長類の動物      enclosure : 囲い  
 sedentary : 動きが少ない

問 1 空所( ア )～( オ )に入れるのに最も適した語(句)を①～④の中からそれぞれ一つ選び、その番号をマークしなさい。

- |     |                     |                 |    |
|-----|---------------------|-----------------|----|
| (ア) | ① differences       | ② problems      |    |
|     | ③ similarities      | ④ solutions     | 17 |
| (イ) | ① equally           | ② for example   |    |
|     | ③ on the other hand | ④ unfortunately | 18 |
| (ウ) | ① create            | ② manage        |    |
|     | ③ rely on           | ④ remember      | 19 |
| (エ) | ① expensive         | ② misleading    |    |
|     | ③ unreliable        | ④ valuable      | 20 |
| (オ) | ① Because           | ② Whenever      |    |
|     | ③ Whether           | ④ While         | 21 |

問 2 下線部(a)～(e)の語の意味に最も近いものを①～④の中からそれぞれ一つ選び、その番号をマークしなさい。

- |     |                 |             |    |
|-----|-----------------|-------------|----|
| (a) | ① cut off       | ② developed |    |
|     | ③ flattened out | ④ returned  | 22 |
| (b) | ① dangerous     | ② exciting  |    |
|     | ③ important     | ④ rewarding | 23 |
| (c) | ① expected      | ② hidden    |    |
|     | ③ informed      | ④ obvious   | 24 |
| (d) | ① disappointed  | ② disturbed |    |
|     | ③ mocked        | ④ surprised | 25 |
| (e) | ① adjust        | ② escape    |    |
|     | ③ move          | ④ react     | 26 |

問3 本文の内容を考えて、次の(あ)、(い)に最も適したものを①～④の中からそれぞれ一つ選び、その番号をマークしなさい。

(あ) The research team observed that  through the safari park.

- ① the baboons stopped being active after a certain number of visitors passed
- ② the baboons stopped being active as soon as they saw visitors passing
- ③ the baboons were less active when visitors passed
- ④ the baboons were more active when only a few visitors passed

(い) In the future, the research team wants to study the effects that visitors to zoos and safaris have .

- ① in different countries
- ② on a larger number of animal species
- ③ over a shorter time period
- ④ through other pandemics in history

問4 次の①～⑤の中から本文の内容と一致するものを二つ選び、その番号をマークしなさい。

- ① Samantha Ward is a researcher at Twycross Zoo in the UK.
- ② Zoos had rarely been closed to the public for long periods before the pandemic.
- ③ Researchers fully understand how visitors affect animal behaviors in zoos.
- ④ One of the positive effects of returning visitors was that gorillas spent less time alone.
- ⑤ The design of zoos and parks does not need to take visitor-animal interactions into account.





〔IV〕 次の(ア)~(オ)の日本語の意味を表すように、①~⑥の語(句)を並べ替えて英文を完成し、3番目と5番目にくる語(句)の番号をマークしなさい。ただし文頭にくるものも小文字になっています。(解答番号は  ~  )(20点)

(ア) お邪魔してすみませんが、ちょっと話せますか。

\_\_\_\_\_  \_\_\_\_\_  \_\_\_\_\_ can I have a quick word?

- ① bother                      ② but                      ③ I'm  
④ sorry                      ⑤ to                      ⑥ you

(イ) 間食はあなたの健康に良くない。

\_\_\_\_\_  \_\_\_\_\_  \_\_\_\_\_ for your health.

- ① between                      ② eating                      ③ good  
④ isn't                      ⑤ meals                      ⑥ snacks

(ウ) 新しい髪型いいね。どこで髪を切ったの？

Your new hairstyle looks great. Where \_\_\_\_\_  \_\_\_\_\_

\_\_\_\_\_ ?

- ① cut                      ② did                      ③ hair  
④ have                      ⑤ you                      ⑥ your

(エ) 父は食べる量が昔よりはるかに少ない。

My father eats \_\_\_\_\_  \_\_\_\_\_  \_\_\_\_\_ .

- ① he                      ② less                      ③ much  
④ than                      ⑤ to                      ⑥ used

(オ) その演技は忘れられないほどだった。あんなものを今まで観たことがない。

The performance was unforgettable. \_\_\_\_\_  \_\_\_\_\_

\_\_\_\_\_ .

- ① anything                      ② it                      ③ I've  
④ like                      ⑤ never                      ⑥ seen

