

## 2021年度入学試験問題

# 英 語

### 注 意

- 1 問題冊子は1冊（11ページ）、解答用紙は4枚です。
- 2 試験中に問題冊子の印刷不鮮明、ページの落丁・乱丁及び解答用紙の汚れ等により解答できない場合は、手を高く挙げて監督者に知らせなさい。
- 3 すべての解答用紙に、それぞれ2箇所受験番号を記入しなさい。
- 4 解答は、すべて解答用紙の指定されたところに書きなさい。
- 5 試験終了後、問題冊子は必ず持ち帰りなさい。

問 1 次の英文を読んで、下の設問に答えなさい。

What are the effects of smartphones on the brain? Given the popularity of smartphones today, it is a question of interest for healthcare practitioners, mental health professionals, educators, parents, and anyone who happens to use a smartphone on a regular basis.

If you were asked to go a day without your smartphone, do you think you could do it easily? Researchers who have asked participants to go without their phones for various periods of time have found that breaking the technology habit, even for a relatively short interval, can be exceedingly difficult. Walk into any public place and you will probably find people using their phones for a variety of purposes, from conducting business calls to checking their email to updating their Twitter. Our phones have become a necessary part of our lives. But does this reliance on smartphones have any impact on our brains?

Recent research suggests that smartphone usage does indeed have an effect on the brain, although the long-term effects remain to be seen. In one study presented to the Radiological Society of North America, researchers found that young people with a so-called internet and smartphone addiction actually demonstrated imbalances in brain chemistry compared to a control group. Another study appearing in the *Journal of the Association for Consumer Research* found that cognitive capacity was significantly reduced whenever a smartphone was within reach, even when the phone was off.

Experts suggest that all of this phone use can have an impact on children's social and emotional development, that it can impair our sleep patterns, and that it might even turn some people into lazy thinkers.

In the commentary appearing in the journal *Pediatrics*, researchers from the Boston University School of Medicine took a closer look at the available literature on smartphone and iPad use among very young children. Using such devices to entertain or pacify children, they warn, might have a negative effect

on their social and emotional development.

Hands-on activities and those involving direct human interaction are superior to interactive screen games, the experts suggest. The use of mobile devices becomes especially problematic when such devices replace hands-on activities that help develop visual-motor skills. The researchers note, however, that there are still many unknowns about how the use of mobile devices influences child development. They question whether overuse of smartphones and tablets might interfere with the development of social and problem-solving skills that are better acquired during unstructured play with peers.

In addition to affecting children, using your smartphone or tablet at bedtime might be interfering with your sleep, and not because you're staying up late to check your email, scroll through your Facebook news feed, or play a game. Instead, some sleep experts warn that it is the type of light emitted from your mobile device's screen that might just be messing up your sleep cycle, even after you turn off your device.

In a study published in the *Proceedings of the National Academy of Sciences*, a dozen adult participants were asked to either read on an iPad for four hours each night before bed or read printed books in dim lighting. After five consecutive nights, the two groups switched. What the researchers discovered was that those who had read on an iPad before bedtime displayed a reduction in levels of melatonin, a hormone that increases throughout the evening and induces sleepiness. It also took these participants more time to fall asleep, and they experienced less REM sleep throughout the night.

The reason? The type of blue light emitted by most mobile devices. The cells at the back of the eyes contain a light-sensitive protein that picks up certain wavelengths of light. These light-sensitive cells then send signals to the brain's "clock" that regulates the body's sleep cycle. Normally, blue light peaks in the morning, signaling your body to wake up for the day. Red light increases in the evening, signaling that it is time to wind down and go to bed. By

interrupting this natural cycle with the blue light emitted by mobile devices, the normal sleep-wake cycles are disturbed.

“There’s a lot of skepticism out there; a lot of people think this is psychological,” explained one of the study’s authors, Charles Czeisler. “But what we showed is that reading from light-emitting e-reader devices has profound biological effects.”

The next time you’re tempted to play with your mobile device in bed, think about the possible effect this might have on your brain and your sleep and consider picking up a paperback book instead.

Mobile devices don’t just impact your sleep or offer distraction these days. You no longer have to memorize phone numbers—all that information is neatly stored on your phone’s contact list. Instead of trying to remember important appointments, meetings, or dates, you simply rely on an iPhone application to remind you of what you need to accomplish each day.

And some experts warn that this over-reliance on your mobile device for all the answers might lead to mental laziness. In fact, one recent study has found that there is actually a link between relying on a smartphone and mental laziness. Smartphones don’t necessarily turn people from deep thinkers into lazy thinkers, but it does suggest that people who are naturally intuitive thinkers—or those who act based on instinct and emotions—tend to rely on their phones more frequently.

“The problem with relying on the Internet too much is that you can’t know you have the correct answer unless you think about it in an analytical or logical way,” explained Gordon Pennycook, one of the study’s co-authors.

“Our research provides support for an association between heavy smartphone use and lowered intelligence,” said Pennycook. “Whether smartphones actually decrease intelligence is still an open question that requires future research.”

The researchers warn, however, that the use of mobile devices has far out-

paced the available research on the subject. Researchers are just at the beginning stages of understanding the potential short-term and long-term effects that smartphone use might have on the brain. Mobile devices are certainly bound to have their demerits, but the researchers also suggest that we have yet to fully understand the possible ways that they might also benefit the brain.

[Kendra Cherry, The effects of smartphones on your brain より抜粋, 一部改変]

(注) pacify なだめる                      skepticism 懐疑論  
distraction 注意散漫                    intuitive 直感の  
outpace ... (を) しのぐ

(1) According to the text, which statements are true? Circle all the true statements.

- a. Excessive use of smartphones makes you emotionally unstable.
- b. Reading books on a smartphone is environmentally friendly.
- c. The effects of smartphones on our brain are completely understood.
- d. The use of smartphones in the morning helps us to sleep better at night.
- e. Using smartphones at bedtime can cause sleep problems.

(2) According to the text, which of the following is suggested <sup>?</sup> ~~in the recent study?~~ Circle all the true statements.

- a. Long-term usage of smartphones has a positive impact on our society.
- b. Social and emotional aspects of child development may be affected by smartphones.
- c. Smartphones deprive us of sound sleep.
- d. Using smartphones can make people lazy thinkers.
- e. Wristwatches are being replaced by smartphones.

(3) *Proceedings of the National Academy of Sciences* に掲載された研究論文の発見を 3 点、日本語で簡略に述べなさい。

(4) 結論として、研究者はどのようなことを警告、および提案していますか。本文に則して日本語で説明しなさい。

(次のページにも問題があります。)

問 2 次の英文を読んで、下の設問に答えなさい。

Swedish Ambassador to Japan Pereric Hoegberg encourages more Japanese fathers to take advantage of the country's "very good" paid-leave system and devote themselves to child care, an experience he believes would lead them to becoming better workers back at the office.

The 52-year-old ambassador, who has taken such leave himself for his own children, ages 16 and 18, suggests that being an independent caregiver and keeping some distance from the mother, based on mutual trust and close communication, could be key to a fulfilling childcare.

"I think it's important for equality (in a relationship) that it is not one person telling the other what to do, but equality is also about communication, responsibility," Hoegberg says.

"I think men should be careful so that they don't make it too easy for themselves (when child-rearing). Do what you think is right and find your own way," he says. "I also think it's important to push the mother out a little bit."

"If I asked my wife for advice, she got a bit upset; she felt I should decide," he adds.

Hoegberg, who comes from a country where over 90 percent of fathers take paternity leave, says it is "surprising" that few men in Japan take advantage of what he calls a "very good system."

In Japan, male and female employees can retain 67 percent of their monthly wage for up to 180 days from the start of parental leave and 50 percent after 181 days until the child turns 1 year old, with extensions allowed until the child becomes 2 years old under certain conditions.

The United Nations International Children's Fund said in a June 2019 report that out of 41 high- and middle-income countries, Japan offered the longest full-rate equivalent paternity leave at 30.4 weeks.

But while the government aims to raise the ratio of male employees taking childcare leave in the private sector to 13 percent by the end of next March and 30 percent by fiscal 2025, the level in fiscal 2018 was well below the target at 6.16 percent.

"It's good for the economy to get more women out in the workforce," the ambassador says of Japan. "More bosses need to let the fathers take paternity leave and maybe more mothers need to proudly say 'I am working, my husband or partner is home with a child.'"

While Hoegberg said that during paternity leave he talked about everything with his wife and they helped each other out, "She didn't tell me what to do, what to cook, what to do during the day."

"It was my responsibility and I felt the same way when she was home. She did what she needed to do. So it's a lot of communication and trust," he says.

Hoegberg revealed an "accident" during his paternity leave taught him about taking full responsibility for his child. One day, he found his 10-month-old daughter had fallen off a bed at home. Troubled by her crying, he called his wife at work and said, "She fell, what should I do?" His wife answered, "I don't know, I've never been a parent before. You sort it out," leaving Hoegberg to think and act for himself.

In Sweden, parents are given 480 days of leave per child, but it is not possible for one parent to take up all of the days. Of the 480 days, 90 are given to the father.

Although it is for a shorter period than for mothers, the ratio of fathers taking childcare leave surpasses 90 percent, the ambassador says.

Hoegberg says he learned a lot about himself by spending time with his children at home, which required him to be attentive the whole time and deal with "mess everywhere."

He firmly believes that workers can become better bosses from the experience. "I think men that have been home with children are better bosses.

Why? Because they have to think in new and creative ways,” he says. “You cannot have a manual when you raise a child. You need to be flexible, you need to come up with new ideas, you need to change the plans and all these things are also very important skills in work life and private life.”

“It’s easier to be a Swedish ambassador than to take care of a child,” he says with a smile.

[Junko Horiuchi. Swedish ambassador to Japan offers hints on making the best of paternity leave. 2020. より抜粋, 一部改変]

(注) child-rearing 子育て      paternity 父性

- (1) What is the main point of the text? Circle the best answer.
- a. Japan has a very good paternity leave system and fathers should make use of it much more often.
  - b. Japan has seen a major increase in the number of parents taking advantage of the paternity leave system.
  - c. Parents should make use of the maternity leave system more often.
  - d. Sweden has the best paternity leave system in the world.
  - e. Women should not help their husbands raising children while they are working.
- (2) According to the text, \_\_\_\_\_ fathers take childcare leave in Sweden. Circle the best choice to complete the sentence.
- a. about half of
  - b. about one third of
  - c. about two thirds of
  - d. almost all
  - e. hardly any
- (3) Hoegberg 氏がいう夫婦間の平等とは何か? 日本語で説明しなさい。
- (4) Hoegberg 氏によると、育児休暇を経験した父親は、なぜより良い上司になりうるのか? 日本語で説明しなさい。

問 3 次の文章を読んで、下線部 ①, ②, ③, ④ を英語にきなさい。

和歌山市の沖合に浮かぶ友ヶ島は「要塞（ようさい）の島」として知られる。こけむした砲台跡が並ぶ無人島は評判通り、アニメ「天空の城ラピュタ」のよう。環境政策が専門の千葉知世大阪府立大准教授（35）は、ここに関西一円のゴミが流れつくのではないかと現地調査を始めた。島の4カ所を分析すると、ゴムや金属、発泡スチロールよりも、圧倒的にプラスチックが多かった。①割合は少ないけれど、レジ袋の被害も深刻だと千葉さんは言う。「薄いレジ袋は波や紫外線で叩かれて小さな粒になり、海に流れ出てしまう。回収のしようがありません。」

さて、あすからいよいよ、プラスチック製レジ袋の有料化が始まる。②思えば、これまで自分はいったい何枚捨ててきたのだろう。③その総量を想像すると怖くなる。レジで「袋は要りません」と言い損ねて後悔したことは数え切れない。この小さな島はずっと前から、漂流するプラスチックゴミを懸命に食い止めてきた。④安いから軽いからと便利さに甘え、大量消費してきた社会の負の側面が見えた。

〔（天声人語）ラピュタ島のごみ（朝日新聞2020年6月30日）より抜粋〕

問 4 次の英文を読んで、指示に従って英語で答えなさい。

Imagine that you are a YouTuber with many international followers. You want to create a 10-minute video that highlights the best aspects of Japan for your viewers from around the world. You are successful enough on your channel that you can afford to go anywhere in Japan to film. What places would you introduce and what would you tell your viewers about those places? Write your ideas in about 10 lines in English.