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受験番号

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## 大学院保健学研究科保健学専攻博士後期課程 外国語（英語）問題

### 注意事項

1. 試験開始の合図があるまで、この冊子を開かないでください。
2. この冊子の本文は6ページです。
3. 解答は解答用紙に書いてください。なお、落丁、乱丁及び印刷不鮮明などの箇所がある場合には申し出てください。
4. 解答にあたっては次の点に留意してください。
  - (1) 解答用紙の指定された箇所に書いてください。
  - (2) 文字はわかりやすく、横書きではっきり書いてください。
5. 試験時間は90分です。
6. 答案は持ち帰ってはいけません。
7. 問題用紙と下書き用紙は持ち帰ってください。

I. 次の英文を読んで、問 1 ～問 5 に日本語で答えなさい。

Adults should aim to sleep at least six hours a day, a guide released by Japan's health ministry in February states. While the head of the expert panel that helped compile the guide said that sleep has been undervalued, will the country's sleeping habits change? The new guide was approved at a December 2023 study group meeting in Tokyo. Kurume University professor Naohisa Uchimura, head director of the Japanese Society of Sleep Research, told gathered panel members, "We've got some really good content. The question of how we can make this known to the general public is important."

It wasn't the first time Japan's Ministry of Health, Labor and Welfare has released sleep advice. Its 2014 "sleep guidelines" outlined 12 points including that "good sleep contributes to preventing lifestyle-related diseases," and called for improved quality of sleep and ensuring sufficient sleeping hours. A new feature of the guide is that (1) recommended sleeping hours are detailed by age group. It recommends infants aged 1 to 2 sleep for 11-14 hours a day, 3- to 5-year-olds 10-13 hours, elementary school students 9-12 hours, and junior high and high school students 8-10 hours. Elderly people are recommended to spend no more than eight hours in bed.

These suggestions are grounded in Japan's issues regarding sleep. The government's "Healthy Japan 21 (second phase)" project that began in 2013 set numerical targets for sleep. In a health ministry survey in 2009, respondents were asked "Have you gotten enough rest from sleep over the past month?" A total of 18.4% replied that they hadn't gotten "that much" rest or hadn't gotten sufficient rest "at all." The government aimed to lower (2) this figure to 15% over the next decade by fiscal 2022, but a survey in 2018 saw the corresponding figure rise to 21.7%.

Shorter sleeping hours among Japanese people was reflected in a 33-country survey by the Organization for Economic Cooperation and Development in 2021. The average sleeping time in Japan was the shortest among all surveyed countries at seven hours, 22 minutes -- over an hour shorter than the overall average of eight hours, 28 minutes.

The reason Japan's latest guidelines call for "six hours of sleep or more," is that recent studies have shown that extremely short sleeping hours increase the risk of health problems such as obesity, diabetes, and depression. Longer sleep is recommended for children because growth hormones that are essential for mental and physical development are said to be produced during deep sleep. On the other hand, (3) experts warned against "oversleeping" among the elderly, based on the latest research results showing heightened risk of developing Alzheimer's disease when they sleep for over nine hours.

Besides actual sleeping hours, the guide emphasizes the importance of feeling rested when waking up, and points out, "Being exposed to sunlight as much as possible during

the day regulates the body clock and makes it easier to get to sleep.” It additionally states, “Sleeping in a bedroom that is kept as dark as possible, without bringing in a smartphone contributes to good sleep.”

Uchimura stated, “After the war, Japanese people cut their sleeping hours and (spent more time) studying, contributing to economic growth and raising the level of education. And now they’re paying the price. Average life expectancy is long, but the lifespan of being healthy is not. The level of happiness is also low. We need to rethink things.”

If a person still has trouble getting to sleep even after their sleeping environment is improved, it might indicate a sleeping disorder such as insomnia, sleep apnea syndrome, or restless legs syndrome, which causes discomfort in the legs when sleeping. The guide calls for (4) prompt medical examination in such cases. However, there are only about 600 medical sleep specialists nationwide. Japan has around 100 medical institutions specializing in sleep, but they are concentrated in major cities.

A further problem is that even if there are specialists nearby, (5) it can be difficult for people to find a relevant medical institution, because the facilities cannot advertise having “sleep departments.” Rules regarding the names of medical departments are listed in detail in the enforcement regulations of Japan’s Medical Care Act so that patients can best choose departments corresponding to their conditions, but “sleep departments” are not permitted. Wataru Yamadera of the department of psychiatry and neurology at the Jikei University Katsushika Medical Center commented, “It’s a problem that people who have trouble sleeping end up lost about where they should go.” He said that patients with insomnia and narcolepsy often see psychiatrists, while those with sleep apnea often go to departments handling respiratory medicine, otolaryngology, cardiology or dentistry, while children go to pediatric doctors.

(The Mainichi, ‘Sleep has been undervalued’: Can Japanese change behavior to get better rest at night?, March 14, 2024 より一部改変して引用)

apnea	無呼吸
narcolepsy	居眠り病

問 1 下線部(1)について、高齢者に推奨される睡眠時間は何時間か。

問 2 下線部(2)はどのような回答をした者を指しているか。

問 3 下線部(3)について、専門家が決定の根拠とした研究結果を述べなさい。

問 4 下線部(4)を阻害する要因の中で、同じ段落で述べられている要因を 2 つ答えなさい。

問 5 下線部(5)に関連し、Wataru Yamadera さんが述べている睡眠に問題を抱えた成人患者がしばしば受診する診療科を全て答えなさい。

Ⅱ. 次の英文を読んで、問 6 ～問 9 に日本語で答えなさい。

It's a question that never seems to die: Is it safe to eat food you've dropped if you pick it up quickly enough?

The good old (1) five-second rule. It's been the subject of household debates and innumerable science fair projects, with some claiming it's real and others denouncing it as bunk. It seems like a simple question, yet science hasn't always taken it seriously. Fortunately, modern researchers are finally unraveling the nuances behind the five-second rule.

The key to the five-second rule is understanding how quickly bacteria transfers from the surface of your floor to your food. A lot of other folks have gotten this measurement wrong, says food scientist Donald Schaffner of Rutgers University. Amateur scientific studies and televised "investigations" have confused the issue by relying on experiments that don't pass scientific muster.

In fact, there had been only one other rigorous inquiry into the five-second rule before 2016: (2) a peer-reviewed study by Paul Dawson, a food scientist at Clemson University, and colleagues in 2007. They reported that food can pick up bacteria immediately on contact with a surface—but that study focused more on how long bacteria could survive on surfaces to contaminate food. That's why Schaffner and his student Robyn Miranda decided to test (3) a greater variety of food under more diverse conditions. Experiments they reported in the journal Applied and Environmental Microbiology in 2016 showed that the five-second rule is really no rule at all. They found that the longer food sat on a bacteria-coated surface, the more bacteria glommed onto it—but plenty of bacteria was picked up as soon as the food hit the ground.

The bigger culprit here is not time but moisture. Wet food (watermelon in this case) picked up more bacteria than drier food, like bread or gummy candy. Carpeted surfaces transferred fewer bacteria to food than did tile or stainless steel, since it soaked up the bacterial solution the scientists applied. (But no, the scientists say, that doesn't mean you should trade in your dishware for throw rugs.) Since then, more studies have confirmed how easy it is to transfer bacteria in the kitchen, whether on fingers or simply by using the same cutting board for meat and veggies (even when washed between uses). And in 2021, scientists in Indonesia were inspired to debunk for themselves the five-second rule and its Indonesian counterpart, known as belum lima menit, or the five-minute rule.

So, if science has so thoroughly debunked the five-second rule, does that mean it's unsafe to eat food that has hit the floor? That depends on the surface and what kind of bacteria you might pick up. "If you're in a hospital and you drop something, you probably don't want to eat it," Dawson says. Likewise, you certainly wouldn't want to pick up

Salmonella from a kitchen floor covered in chicken juice. But in most cases, eating a cookie that has picked up a little dust and floor bacteria is not likely to harm someone with a healthy immune system. “Ninety-nine percent of the time, it’s probably safe,” he says. Practicing good sanitation by keeping floors and surfaces clean is the most important lesson in all of this.

(4) Still, the five-second rule will likely endure. “People really want this to be true,” Schaffner says. “Everybody does this; we all eat food off the floor.” Perhaps the value of the five-second rule (or the three-second rule, if you’re more uptight) lies more in psychology than microbiology. If nothing else, having a rule provides a socially acceptable excuse for our unsavory behavior. Just holler “Five-second rule!” before picking a cookie off the floor and popping it into your mouth, and everyone can have a good laugh. It’s a bit like calling shotgun before elbowing your way into the front passenger seat. And that leaves us with another way to decide whether to eat that jelly bean you dropped: Just see if anyone’s looking.

(This story was originally published on September 14, 2016. It has been updated.)

(National Geographic, 11 May 2024, Is the 5-second rule true? Science finally has an answer., <https://www.nationalgeographic.com/premium/article/five-second-rule-food-safety> より一部改変して引用)

問 6 下線部(1)はどのようなルールか説明しなさい。

問 7 下線部(2)の研究内容について説明しなさい。

問 8 下線部(3)について，時間以外の要因に関する研究結果を説明しなさい。

問 9 下線部(4)のように筆者が考える理由を説明しなさい。