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※机上の受験番号を記入してください。

(1 / 3)

(注) 解答はすべて解答欄に記入すること。

I. 次の英文を読んで、設問に答えなさい。なお、文中*印の付いた語句には注がある。

Part I

Hey, guys, want to impress ladies on the dance floor? Keep your head and *torso moving, and don't flail your arms and legs. This useful advice comes courtesy of a new study, which finds that women are more attracted to computer *avatars that rock these moves.

Humans aren't the only animals that move in special ways to lure females. Male *fiddler crabs wave an outsized claw to show off, and male *hummingbirds display their flying prowess with a flamboyant mating dive. These moves probably show off their strength and motor skills. *Evolutionary psychologist Nick Neave of Northumbria University in Newcastle-Upon-Tyne wondered whether there was something about male human dancing that impressed females as well. Neave and colleagues couldn't just round up a bunch of men and ask them to gyrate in front of women, however. That's because it's hard to separate a man's physical appearance from his dancing skills. "You could be the best dancer in the world, but if you've got an awful haircut or something like that," women may still find you unattractive, says Neave. So he and colleagues cut out the effect of physical appearance by using motion-capture technology, like the techniques moviemakers use to make digital characters.

Part II

The researchers stuck 38 reflective markers to the joints and other body parts of 30 male students at Northumbria University. Then they asked the guys to dance for 30 seconds as if they were in a nightclub, while a thumping drum beat played over speakers. Twelve video cameras recorded the action. A computer used data on the location of the markers to construct an avatar of each man. The avatars are "not quite James Cameron [quality], but they're pretty good," says Neave. In a video of a bad dancer, the avatar trudges in a circle, awkwardly moving his arms. An avatar made from a good dancer moves his whole body from side to side, mixing up his moves with impressive creativity.

Heterosexual women watched the videos and rated them according to whether the man was a good dancer or a bad dancer. (Neave says *pilot studies by his group found that asking women who's a good dancer is the same as asking who's attractive.)

The most important factor to the women was how much the man moved his head, neck, and torso, the researchers will report online tomorrow in *Biology Letters*. Better dancers are "nodding their head, they're turning the head to one side, they're turning their head to the other side, there's a large nod, there's a small nod, there's a nod to the left," Neave says.

Part III

The team expected to see a lot of action in the hands and feet. "Legs and arms we thought would be really important, and they're not, apart from the right knee," says Neave. He thinks that's because most people are right-footed—so they use their left leg for balance and execute fancy moves with the right. He and his colleagues think dance is an honest signal to women of the man's strength and health, just as it is in crabs and hummingbirds; in future studies, they'll look at the health of the good and bad dancers.

It makes sense that women would care about men's ability to dance, says Helen Fisher, a biological anthropologist at Rutgers University in New Brunswick, New Jersey. "For millions of years, a man with well-coordinated movements of the head, neck, and trunk [which he used when throwing weapons] probably signaled his *ability to provide," she writes in an e-mail. Varying his dance moves shows creativity, a feature associated with energy, optimism, and daring.

Judith Hanna, an anthropologist at the University of Maryland, College Park, who studies dance, calls the use of avatars "brilliant." She says it would be interesting to replicate the study with different populations; in different cultures, different dance moves may be seen as attractive.

Science Now By Helen Fields 7 September 2010

[注] torso 「(人体の)胴」 avatars 「アバター」 アイコンで提示される人物像 fiddler crabs 「シオマネキ」
hummingbirds 「ハチドリ」 Evolutionary psychologist 「進化心理学者」 pilot studies 「試験的/予備的な研究」
ability to provide 「扶養能力」

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問 1. 次の各文の内容が問題文の内容と一致する場合は○、一致しない場合は×を書きなさい。ただし、全部○・全部×はない。全部○を書いた場合、あるいは全部×を書いた場合はゼロ配点とする。

1. To attract a female's attention, males use body movements that show power and wisdom.
2. A dancer's appearance may prevent members of the audience from noticing or appreciating his dancing ability.
3. The avatar made from a bad dancer stayed in one place and moved his arms enthusiastically.
4. As was expected by the researchers, females were not at all interested in a dancer's leg movements.
5. Dancers who vary their ways of moving show that they are creative.

問 2. 次のPart I・II・III中のかっこに適切な語をそれぞれの下から選び、必要があれば語形を変えて書き入れなさい。

Part I Observe male animals in the wild. They use many ways to (1) their (2) and skills in the attempt to attract (3). They often use dances that involve the use of very well-developed motor skills. Does human dancing have anything to do with the (4) performances that can be seen in the animal world? Researchers, enabled by the use of motion-capture technology, seem to have found the type of dancing which (5) women most favorably.

[amaze, display, female, impresses, strength]

Part II To begin the experiment, 30 male students had reflective markers (1) to their bodies. These markers allowed their dancing motions to be (2) on video. Using the data collected by the system, an avatar of each dancer was (3) by computer. The avatars were not given detailed facial features, so the (4) features of the computer-generated models would not influence viewers. Women then watched the avatars dance and (5) their dancing ability. One result of the study: graceful movements of the head, neck, and torso were preferred by the viewers.

[construct, physical, rated, recorded, stick]

Part III Interestingly, arms and legs play only a minor role in the creation of an attractive dance. Perhaps the ability to display well-(1) movements of the head, neck, and trunk was regarded as attractive by our ancestors. Such movements could (2) been associated with the ability to (3) weapons, and thus to provide food and protect a family. Also, various dance moves could have (4) a dancer's creativity or energy, traits which would also help ensure the survival of a family. Modern humans provide for their families in different ways, but our genetic history may still influence what sort of dance we prefer. In any case, it may be interesting to replicate this experiment with people from several cultures, to find out if (5) in different cultures find different dance moves to be most appealing.

[coordinated, has, signaled, throw, woman]

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II. 次の会話が完成するように、(1)～(10)のかっこに補うべき適切な文・語句を a～jの中から選び、その記号を書きなさい。
ただし、それぞれの文・語句は1度しか使えない。

<A Tough Decision>

Mina: (1)

Dave: Nothing exciting. The deadline for community college registration is approaching fast, and I still haven't made up my mind which course to take.

Mina: (2)

Dave: Well, I've been debating whether to take a course on how to build a basic website or one on personal financial fundamentals.

Mina: That's a tough choice. (3)

Dave: My long-term goal is (4) my own business.

Mina: (5)

Dave: The advantage (6) to build your own website is that I can get myself out there on the Internet.

Mina: For sure. There's so much (7) on the web. (8)

Dave: On the other hand, I need (9) how to manage my finances.

Mina: Hmm. Sounds like six of one, and half a dozen of the other.

Dave: I've even considered taking both courses at the same time.

Mina: You're a bright guy, Dave. Go for it!

Dave: (10) I'm not a millionaire yet.

- a. to know
- b. you can do
- c. to start up
- d. of being able
- e. Good for you!
- f. What are your options?
- g. Are you doing anything this weekend, Dave?
- h. I guess it all boils down to which one meets your goals.
- i. The downside, however, is I'd have to fork out a lot of money at once.
- j. A friend of mine sells the jewelry she makes online, and she's doing great.