

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

This passage is excerpted from Kasley Killam, "A Hug A Day Keeps the Doctor Away," © Scientific American 2015.

During my final semester of undergrad, I made two signs that read, "Feeling stressed about exams? Have a free hug!"

Then I recruited a friend and we stood in the entrance of the campus library, held up the signs, and waited. [Passersby]

had one of two reactions: Either they quickly looked down at their phones and awkwardly shuffled by, or their faces lit up as they embraced us. Most people were enthusiastic. Some exclaimed, "You made my day!" or "Thank you. I needed this." One leapt into my arms, nearly toppling me over. After

two hours of warm interactions, my friend and I couldn't believe how energized and happy we felt.

A study published earlier this month suggests that, in addition to making us feel connected with others, all those hugs may have prevented us from getting sick. At first, this finding probably seems counterintuitive (not to mention bizarre). You might think, like I did, that hugging hundreds of strangers would increase your exposure to germs and therefore the likelihood of falling ill. But the new research out of Carnegie Mellon indicates that feeling connected to others, especially through physical touch, protects us from stress-induced sickness. This research adds to a large amount of evidence for the positive influence of social support on health.

Social support can broadly be defined as the perception of meaningful relationships that serve as a psychological resource during tough times. More specifically, this means emotional support, such as expressions of compassion, and may include access to information or other assistance. The researchers measured social support by giving out a questionnaire in which participants rated different statements (e.g. "I feel that there is no one I can share my most private worries and fears with."). Then, they conducted interviews every night for two weeks to find out how often participants experienced conflict with others and how often they received hugs. Finally, the researchers infected participants with a common cold virus and observed what happened.

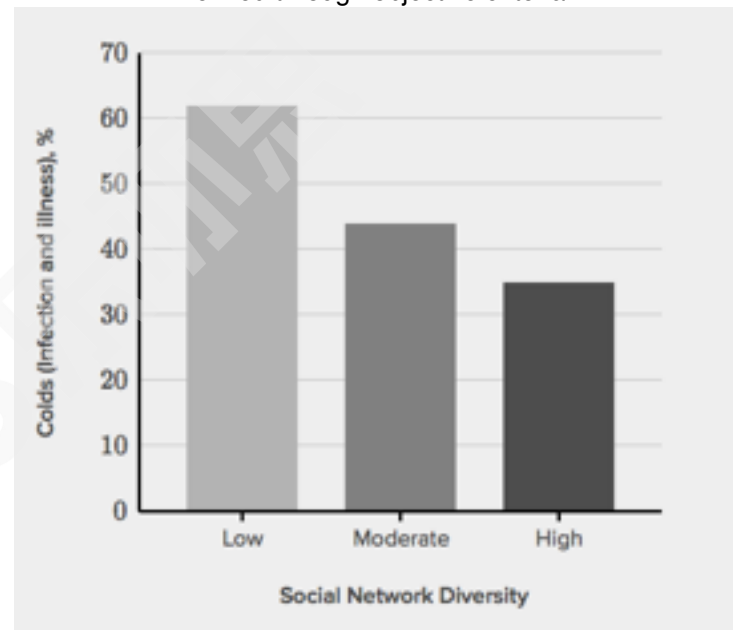
Several interesting results emerged. Encouragingly, people overall had a strong sense of social support, as shown by a high median score on the questionnaire. Similarly, they were more likely to be hugged (which happened on an average of 68% of days during the two-week interview period) than to experience conflict (7% of days).

The most important results, however, were what the researchers deemed a "stress-buffering effect." Keep in mind that interpersonal conflict can cause people a lot of stress and thereby weaken their immune systems. Yet regardless of how much conflict they endured, participants with a strong sense of social support developed less severe cold symptoms than those who felt socially deprived. Likewise, the more often people hugged, the less likely they were to get sick, even

among individuals who frequently had tense interactions. In other words, both social support and hugging prevented against illness. The same lead researcher has previously shown that the more diverse types of social ties a person has, such as with friends, family, coworkers, and community, the less susceptible to colds they are.

Evidently, just as we prioritize exercise and nutrition, we ought to prioritize quality time with loved ones; just as we avoid unhealthy habits like smoking, we should make effort to avoid isolation and to counter social exclusion. And even if you don't want to hug hundreds of strangers (although I recommend trying it), don't underestimate the healing power of touch.

The effect of social network diversity on observed colds as verified through objective criteria.



Source: Adapted from Cohen S, Doyle WJ, Skoner DP, Rabin BS, Gwaltney JM, Jr. "Social Ties and Susceptibility to the Common Cold." JAMA. 1997;277(24):1940-1944.

1

The first paragraph serves mainly to

- A) provide background information necessary to understand the scientific study.
- B) introduce the scientific study through a personal anecdote.
- C) show that not all scientific experiments need to be conducted in a laboratory.
- D) describe the author's experience as a subject of the scientific study.

2

In the second paragraph, the author implies that the study shows hugs to be

- A) the only proven method of preventing sickness.
- B) less successful than social support in protecting people from colds and other illnesses.
- C) not conclusively effective at helping people maintain good health.
- D) one of several ways to guard against some illnesses.

3

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

- A) lines 12–14 (“A study . . . sick”)
- B) lines 16–18 (“You . . . ill”)
- C) lines 18–21 (“But . . . sickness”)
- D) lines 21–23 (“This . . . health”)

4

As used in line 27, “expressions” most nearly means

- A) demonstrations.
- B) declarations.
- C) revelations.
- D) looks.

5

As used in line 29, “giving out” most nearly means

- A) distributing.
- B) donating.
- C) conferring.
- D) sacrificing.

6

Which of the following can be inferred about the “stress-buffering effect” of social support?

- A) People who experience a lot of conflict are more likely than other people to develop severe cold symptoms, regardless of their level of social support.
- B) People who experience a lot of conflict but have a lot of social support are less likely to develop severe cold symptoms than people who experience little conflict but have little social support.
- C) People who experience little conflict but still feel stressed about it are more likely than other people to develop moderate to severe cold symptoms.
- D) People who experience little conflict but do not feel stressed about it always have significantly higher levels of social support than those who feel stressed.

7

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

- A) lines 43–44 (“The most . . . effect”)
- B) lines 46–49 (“Yet . . . deprived”)
- C) lines 49–51 (“Likewise . . . interactions”)
- D) lines 53–56 (“The same . . . are”)

8

The phrase “friends, family, coworkers, and community” (line 55) primarily serves to

- A) clarify that only some social connections are beneficial to health.
- B) illustrate the kinds of social ties to which the author is referring.
- C) describe the groups of participants in the researcher’s previous study.
- D) provide examples of people from whom readers might be exposed to illness.

9

According to the graph, the average incidence of colds for participants who had low-diversity social groups was closest to

- A) 30%.
- B) 40%.
- C) 60%.
- D) 70%.

10

According to the passage, the link shown in the graph between high social diversity and a strong immune system

- A) illustrates the “stress-buffering effect” of social support.
- B) proves the value of frequent hugs.
- C) shows that people with many social ties have less conflict in their lives than other people do.
- D) cannot be explained by science.

11

According to the graph, the average incidence of colds for participants who reported 5 types of social relationships was closest to

- A) 30%.
- B) 40%.
- C) 50%.
- D) 60%.