

Directions: In this section, you are going to read a passage with ten statements attached to it. Each statement contains information given in one of the paragraphs. Identify the paragraph from which the information is derived. You may choose a paragraph more than once. Each paragraph is marked with a letter. Answer the questions by marking the corresponding letter on **Answer Sheet 2**.

Science of setbacks: How failure can improve career prospects

- A) How do early career setbacks affect our long-term success? Failures can help us learn and overcome our fears. But disasters can still wound us. They can screw us up and set us back. Wouldn't it be nice if there was genuine, scientifically documented truth to the expression "what doesn't kill you makes you stronger"?
- B) One way social scientists have probed the effects of career setbacks is to look at scientists of very similar qualifications. These scientists, for reasons that are mostly arbitrary, either just missed getting a research grant or just barely made it. In social sciences, this is known as examining "near misses" and "narrow wins" in areas where merit is subjective. That allows researchers to measure only the effects of being chosen or not. Studies in this area have found conflicting results. In the competitive game of biomedical science, research has been done on scientists who narrowly lost or won grant money. It suggests that narrow winners become even bigger winners down the line. In other words, the rich get richer.
- C) A 2018 study published in the Proceedings of the National Academy of Sciences, for example, followed researchers in the Netherlands. Researchers concluded that those who just barely qualified for a grant were able to get twice as much money within the next eight years as those who just missed out. And the narrow winners were 50 percent more likely to be given a professorship.
- D) Others in the US have found similar effects with National Institutes of Health early-career fellowships launching narrow winners far ahead of close losers. The phenomenon is often referred to as the Matthew effect, inspired by the Bible's wisdom that to those who have, more will be given. There's a good explanation for the phenomenon in the book *The Formula: The Universal Laws of Success* by Albert Laszlo Barabasi. According to Barabasi, it's easier and less risky for those in positions of power to choose to hand awards and funding to those who've already been so recognized.
- E) This is bad news for the losers. Small early career setbacks seem to have a disproportionate effect down the line. What didn't kill them made them weaker. But other studies using the same technique have shown there's sometimes no penalty to a near miss. Students who just miss getting into top high schools or universities do just as well later in life as those who just manage to get accepted. In this case, what didn't kill them simply didn't matter. So is there any evidence that setbacks might actually improve our career prospects? There is now.
- F) In a study published in *Nature Communications*, Northwestern University sociologist Dashun Wang tracked more than 1,100 scientists who were on the border between getting a grant and missing out between 1990 and 2005. He followed various measures of performance over the next decade. These included how many papers they authored and how influential those papers were, as measured by the number of subsequent citations. As expected, there was a much higher rate of attrition(减员) among scientists who didn't get grants. But among those who stayed on, the close losers performed even better than the narrow winners. To make sure this wasn't by chance, Wang conducted additional tests using different performance measures. He examined how many times people were first authors on influential studies, and the like.

- G) One straightforward reason close losers might outperform narrow winners is that the two groups have comparable ability. In Wang's study, he selected the most determined, passionate scientists from the loser group and culled(剔除) what he deemed the weakest members of the winner group. Yet the persevering losers still came out on top. He thinks that being a close loser might give people a psychological boost, or the proverbial kick in the pants.
- H) Utrecht University sociologist Arnout van de Rijt was the lead author on the 2018 paper showing the rich get richer. He said the new finding is apparently reasonable and worth some attention. His own work showed that although the narrow winners did get much more money in the near future, the actual performance of the close losers was just as good.
- I) He said the people who should be paying regard to the Wang paper are the funding agents who distribute government grant money. After all, by continuing to pile riches on the narrow winners, the taxpayers are not getting the maximum bang for their buck if the close losers are performing just as well or even better. There's a huge amount of time and effort that goes into the process of selecting who gets grants, he said, and the latest research shows that the scientific establishment is not very good at distributing money. "Maybe we should spend less money trying to figure out who is better than who," he said, suggesting that some more equal dividing up of money might be more productive and more efficient. Van de Rijt said he's not convinced that losing out gives people a psychological boost. It may yet be a selection effect. Even though Wang tried to account for this by culling the weakest winners, it's impossible to know which of the winners would have quit had they found themselves on the losing side.
- J) For his part, Wang said that in his own experience, losing did light a motivating fire. He recalled a recent paper he submitted to a journal, which accepted it only to request extensive editing, and then reversed course and rejected it. He submitted the unedited version to a more respected journal and got accepted.
- K) In sports and many areas of life, we think of failures as evidence of something we could have done better. We regard these disappointments as a fate we could have avoided with more careful preparation, different training, a better strategy, or more focus. And there it makes sense that failures show us the road to success. These papers deal with a kind of failure people have little control over—rejection. Others determine who wins and who loses. But at the very least, the research is starting to show that early setbacks don't have to be fatal. They might even make us better at our jobs. Getting paid like a winner, though? That's a different matter.
36. Being a close loser could greatly motivate one to persevere in their research.
37. Grant awarders tend to favor researchers already recognized in their respective fields.
38. Suffering early setbacks might help people improve their job performance.
39. Research by social scientists on the effects of career setbacks has produced contradictory findings.
40. It is not in the best interest of taxpayers to keep giving money to narrow winners.
41. Scientists who persisted in research without receiving a grant made greater achievements than those who got one with luck, as suggested in one study.
42. A research paper rejected by one journal may get accepted by another.
43. According to one recent study, narrow winners of research grants had better chances to be promoted to professors.

44. One researcher suggests it might be more fruitful to distribute grants on a relatively equal basis.
45. Minor setbacks in their early career may have a strong negative effect on the career of close losers.