

IELTSFEVER ACADEMIC READING TEST 60

Lie Detector

A However much we may abhor it, deception comes naturally to all living things. Birds do it by feigning injury to lead hungry predators away from nesting young. Spider crabs do it by disguise: adorning themselves with strips of kelp and other debris, they pretend to be something they are not and so escape their enemies. Nature amply rewards successful deceivers by allowing them to survive long enough to mate and reproduce. So it may come as no surprise to learn that human beings who, according to psychologist Gerald Jellison of the University of South California are lied to about 200 times a day, roughly one untruth every five minutes often deceive for exactly the same reasons: to save their own skins or to get something they can't get by other means.

B But knowing how to catch deceit can be just as important a survival skill as knowing how to tell a lie and get away with it. A person able to spot falsehood quickly is unlikely to be swindled by an unscrupulous business associate or hoodwinked by a devious spouse. Luckily, nature provides more than enough clues to trap dissemblers in their own tangled webs if you know where to look. By closely observing facial expressions, body language and tone of voice, practically anyone can recognize the telltale signs of lying. Researchers are even programming computers like those used on Lie detector to get at the truth by analyzing the same physical cues available to the naked eye and ear. "With the proper training, many people can learn to reliably detect lies," says Paul Ekman, professor of psychology at the University of California, San Francisco, who has spent the past 15 years studying the secret art of deception.

C In order to know what kind of lies work best, successful liars need to accurately assess other people's emotional states. Ekman's research shows that this same emotional intelligence is essential for good lie detectors, too. The emotional state to watch out for is stress, the conflict most liars feel between the truth and what they actually say and do.

D Even high-tech lie detectors don't detect lies as such; they merely detect the physical cues of emotions, which may or may not correspond to what the person being tested is saying. Polygraphs, for instance, measure respiration, heart rate and skin conductivity, which tend to increase when people are nervous as they usually are when lying. Nervous people typically perspire, and the salts contained in perspiration conduct electricity. That's why a sudden leap in skin conductivity indicates nervousness about getting caught, perhaps? which might, in turn, suggest that someone is being economical with the truth. On the other hand, it might also mean that the lights in the television studio are too hot which is one reason polygraph tests are inadmissible in court. "Good lie detectors don't rely on a single sign," Ekman says, "but interpret clusters of verbal and nonverbal clues that suggest someone might be lying."

E Those clues are written all over the face. Because the musculature of the face is directly connected to the areas of the brain that process emotion, the countenance can be a window to the soul. Neurological studies even suggest that genuine emotions travel

different pathways through the brain than insincere ones. If a patient paralyzed by stroke on one side of the face, for example, is asked to smile deliberately, only the mobile side of the mouth is raised. But tell that same person a funny joke, and the patient breaks into a full and spontaneous smile. Very few people most notably, actors and politicians are able to consciously control all of their facial expressions. Lies can often be caught when the liar's true feelings briefly leak through the mask of deception. "We don't think before we feel," Ekman says. "Expressions tend to show up on the face before we're even conscious of experiencing an emotion."

F One of the most difficult facial expressions to fake or conceal, if it is genuinely felt is sadness. When someone is truly sad, the forehead wrinkles with grief and the inner corner of the eyebrows are pulled up. Fewer than 15% of the people Ekman tested were able to produce this eyebrow movement voluntarily. By contrast, the lowering of the eyebrows associated with an angry scowl can be replicated at will by almost everybody. "If someone claims they are sad and the inner corners of their eyebrows don't go up," Ekman says, "the sadness is probably false."

G . The smile, on the other hand, is one of the easiest facial expressions to counterfeit. It takes just two muscles the Zygomaticus major muscles that extend from the cheekbones to the corners of the lips to produce a grin. But there's a catch. a genuine smile affects not only the corners of the lips but also the orbicularis oculi, the muscle around the eye that produces the distinctive "crow's-feet" associated with people who laugh a lot. A counterfeit grin can be unmasked if the lip corners go up, the eyes crinkle but the inner corners of the eyebrows are not lowered, a movement controlled by the orbicularis oculi that is difficult to fake. The absence of lowered eyebrows is one reason why false smiles look so strained and stiff.

Questions 1-5

Do the following statements agree with the information given in Reading Passage ?

In boxes 1-5 on your answer sheet, write

- | | |
|------------------|---|
| True | If the statement is true. |
| False | If the statement is false |
| Not Given | If the information is not given in the passage. |

- 1 . All living animals can lie.
- 2 . Some people tell lies for self-preservation.
- 3 . The fact of lying is more important than detecting one.
- 4 . Researchers are using equipment to study which part of the brain is responsible for telling lies.
- 5 . To be a good liar, one has to understand other people's emotions.

Questions 6-9

Choose the correct letter, A, B, C or D.

Write the correct letter in box 6-9 on your answer sheet.

6 . How does a lie-detector work?

- A . It analyzes one's verbal response to a question.
- B . It records the changes in one's facial expression.
- C . It illustrates the reasons about the emotional change when one is tested.
- D . It monitors several physical reactions in the person undergoing the test.

7 . Why couldn't lie detectors be used in a court of law?

- A . because the nonverbal clues are misleading.
- B . because there could be other causes of a certain in the equipment.
- C . because the lights are too hot.
- D . because the statistic data on the lie detectors are not accurate.

8 . The writer quotes from the paralyzed patients

- A . to exemplify people's response to true feelings.
- B . to show the pathways for patients to recover.
- C . to demonstrate the paralyzed patient's ability to smile
- D . To emphasize that the patient is in a state of stroke.

9 . According to the passage, politicians

- A . can express themselves clearly.
- B . are good at masking their emotions.
- C . are conscious of the surroundings.
- D . can think before action.

Questions 10-13

Classify the following facial traits as referring to

- A . happiness
- B . Anger
- C . Sadness

Write the correct letter A, B, C or d in boxes 10-13 on your answer sheet.

10 . Lines formed above eyebrows

11 . Movements from muscle that orbits the eye

12 . Eyebrows down

14 . Inner corner of eyebrows raised

Leaf-cutting Ants and Fungus

A . The ants and their agriculture have been extensively studied over the years, but the recent research has uncovered intriguing new findings about the fungus they cultivate, how they domesticated it and how they cultivate it and preserve it from pathogens. For example, the fungus farms, which the ants were thought to keep free of pathogens, turn out to be vulnerable to a devastating mold, found nowhere else but in ants nests. To keep the mold in check, the ants long ago made a discovery that would do credit to any pharmaceutical laboratory.

B . Leaf-cutting ants and their fungus farms are a marvel of nature and perhaps the best known example of symbiosis, the mutual dependence of two species. The ants' achievement is remarkable. The biologist Edward O. Wilson has called it "one of the major breakthroughs in animal evolution" because it allows them to eat, courtesy of their mushroom's digestive powers, the otherwise poisoned harvest of tropical forests whose leaves are laden with terpenoids, alkaloids and other chemicals designed to sicken browsers.

C . Fungus growing seems to have originated only once in evolution, because all gardening ants belong to a single tribe, the descendants of the first fungus farmer. There are more than 200 known species of the attine ant tribe, divided into 12 groups, or genera. The leaf-cutters use fresh vegetation; the other groups, known as the lower attines because their nests are smaller and their techniques more primitive, feed their gardens with detritus like dead leaves, insects and feces.

D . The leaf-cutters' fungus was indeed descended from a single strain, propagated clonally, or just by budding, for at least 23 million years. But the lower attine ants used different varieties of the fungus, and in one case a quite separate species, the four biologists discovered. The pure strain of fungus grown by the leaf-cutters, it seemed to Mr. Currie, resembled the monocultures of various human crops, that are very productive for a while and then succumb to some disastrous pathogen, such as the Irish potato blight. Monocultures, which lack the genetic diversity to respond to changing environmental threats, are sitting ducks for parasites. Mr. Currie felt there had to be a parasite in the ant-fungus system. But a century of ant research offered no support for the idea. Textbooks describe how leaf-cutter ants scrupulously weed their gardens of all foreign organisms. "People kept telling me, You know the ants keep their gardens free of parasites, don't you?" Mr. Currie said of his efforts to find a hidden interloper.

E . But after three years of sitting through attine ant gardens, Mr. Currie discovered they are far from free of infections. In last month's issue of the Proceedings of the National Academy of Sciences, he and two colleagues, Dr. Mueller and David Mariroch, isolated several alien organisms, particularly a family of parasitic molds called Escovopsis.

F . Escovopsis turns out to be a highly virulent that can devastate a fungus garden in a couple of days. It blooms like a white cloud, with the garden dimly visible underneath.

In a day or two the whole garden is enveloped. "Other ants won't go near it and the ants associated with the garden just starve to death," Dr. Rehner said. "They just seem to give up, except for those that have rescued their larvae." The deadly mold then turns greenish brown as it enters its spore forming.

G . Evidently the ants usually manage to keep Escovopsis and other parasites under control. But with any lapse in control, or if the ants are removed, Escovopsis will quickly burst forth. Although new leaf-cutter gardens start off free of Escovopsis, within two years some 60 percent become infected. The discovery of Escovopsis's role brings a new level of understanding to the evolution of the attine ants. "In the last decade, evolutionary biologists have been increasingly aware of the role of parasites as driving forces in evolution," Dr. Schultz said. There is now a possible reason to explain why the lower attine species keep changing the variety of fungus in their mushroom gardens, and occasionally domesticating new ones- to stay one step ahead of the relentless Escovopsis.

H . Interestingly, Mr. Currie found that the leaf-cutters had in general fewer alien molds in their gardens than the lower attines, yet they had more Escovopsis infections. It seems that the price they pay for cultivating a pure variety of fungus is a higher risk from Escovopsis. But the leaf-cutters may have little alternative: they cultivate a special variety of fungus which, unlike those grown by the lower attines, produces nutritious swollen tips for the ants to eat.

I . Discovery of a third partner in the ant-fungus symbiosis raises the question of how the attine ants, especially the leaf-cutters, keep this dangerous interloper under control. Amazingly enough, Mr. Currie has again provided the answer. "People have known for a hundred years that ants have a whitish growth on the cuticle," said Dr. Mueller, referring to the insects body surface. "People would say this is like a cuticular wax. But Cameron was the first one in a hundred years to put these things under a microscope. He was it was not inert wax. It is alive." Mr. Currie discovered a specialized patch on the ants cuticle that harbors a particular kind of bacterium, one well known to the pharmaceutical industry, because it is the source of half the antibiotics used in medicine. From each of 22 species of attine ant studied, Mr. Cameron and colleagues isolated a species of Streptomyces bacterium, they reported in Nature in April. The Streptomyces does not have much effect on ordinary laboratory funguses. But it is a potent poisoner of Escovopsis, inhibiting its growth and suppressing spore formation. It also stimulates growth of the ants mushroom fungus. The bacterium is carried by virgin queens when they leave to establish new nests, but is not found on male ants, playboys who take no responsibility in nest-making or gardening.

J Because both the leaf-cutters and the lower attines use Streptomyces, the bacterium may have been part of their symbiosis for almost as long as the Escovopsis mold. If so, some Alexander Fleming of an ant discovered antibiotics millions of years before people did. Even now, the ants are accomplishing two feats beyond the powers of human technology. The leaf-cutters are growing a monocultural crop year after year without disaster, and they are using an antibiotic apparently so wisely and prudently that, unlike people, they are not provoking antibiotic resistance in the target pathogen.

Questions 14-19

Use the information in the passage to match the options (listed A-C) with activities or features of ants below. Write the appropriate letters A-C in boxes 14-19 on your answer sheet.

NB you may use any letter more than once

- A . Leaf-cutting ants
- B . Lower attines
- C . Both

- 14 . Build small nests and live with different foreign fungus.
- 15 . Use toxic leaves to feed fungus.
- 16 . Raise fungus which don't live with other foreingers.
- 17 . Use substance to fight against escovopsis.
- 18 . Use dead vegetable to feed fungus.
- 19 . Are free of parasites explained previously.

Questions 20-24

The reading Passage has ten paragraphs A-J.
Which paragraph contains the following information?
Write the correct letter A-J, in boxes 20-24 on your answer sheet.

- 20 . Dangerous outcome of Escovopsis.
- 21 . Disadvantage of growing single fungus.
- 22 . Comparison of features of two different nests.
- 23 . Two achievements made by ants earlier than human.
- 24 . advantage of growing new breed of fungus.

Questions 25-26

Choose the correct letter, A,B,Cor D.
Write your answers in boxes 25-26 on your answer sheet.

- 25 . How does author think of Currie's opinion?
 - A . his viewpoint was verified later.
 - B . earlier study has sufficient evidence.
 - C . no details mentioned in article.
 - D . his opinion was proved to be wrong.
- 26 . What did scientists find on the skin of ants under microscope?

- A . Some white cloud mold embed in their skin
- B . that Wax is all over their skin.
- C . a substance which is useful to humans.
- D . a substance which suppresses growth of fungus.

HYPNOTISM-Is it real or just a circus trick

A . Hypnosis has been shown through a number of rigorously controlled studies to reduce pain, control blood pressure, and even make warts go away. But because very few studies have attempted to define the actual processes involved, most scientists are sceptical of its power and uses. That scepticism has driven David Spiegel, a professor of psychiatry at researchers to take a hard look at what happens in the brain during hypnosis.

B . Among researchers there are two schools of thought. One claims that hypnosis fundamentally alters subjects state of mind they enter a trance, which produces changes in brain activity. The other believes that hypnosis is simply a matter of suggestibility and relaxation. Spiegel belongs to the first school and over the years has had a debate with two scientists on the other side, Irving Kirsch a university of Connecticut psychologist, and Stephen Kosslyn, a Harvard professor.

C . Kirsch often uses hypnosis you do put people in altered states/he says. "But you don't need a trance to do it." To illustrate the point, Kirsch demonstrates how a subject holding a small object on a chain can make it swing in any direction by mere suggestion, the chain responding to minute movements in the tiny muscles of the fingers. "You don't have to enter a trance for your subconscious and your body to act upon a suggestion," Kirsch says. "The reaction is the result of your focusing on moving the chain in a particular direction.

D . Spiegel disagrees. One of his best known studies found that when subjects were hypnotised and given suggestions their brain wave patterns changed, indicating that they had entered a trance. In one of his studies, people under hypnosis were told their forearms were numb, then given light electrical shocks to the wrists. they didn't flinch or respond in any way, and their brain waves resembled those of people who experienced a much weaker shock. To Kirsch this still wasn't enough to prove the power of trance, but Stephen Kosslyn was willing to be convinced. Many external factors could have been responsible for the shift in the subjects rate of mind, but Kosslyn wondered, "Is there really something going on in the brain?"

E . To find out, Spiegel and Kosslyn decided to collaborate on a study focusing on a part of the brain that is well understood; the circuit which has been found to process the perception of colour. Spiegel and Kosslyn wanted to see if subjects could set off the circuit by visualising colour while under hypnosis. They selected eight people for the experiment conducted and shown a slide with coloured rectangles while their brain

activity was mapped. Then they were shown a black and white slide and told to imagine it having colour. Both tasks were then repeated under hypnosis.

F. The results were striking. When the subjects truly saw the coloured rectangles, the circuit lit up on both sides of the brain; when they only had to imagine the color, the circuit lit up only in the right hemisphere. Under hypnosis, however, both sides of the brain became active, just as in regular sight; imagination seemed to take on the quality of a hallucination.

G. After the experiment, Kosslyn was forced to admit, 'I'm absolutely convinced now that hypnosis can boost what mental imagery does.' But Kirsch remained sceptical, saying, 'The experiments demonstrate that people are experiencing the effects of hypnotic suggestion but don't prove that they are entering a trance. He also argued that subjects were told to see the card in color when they were hypnotised but only to imagine it in color when they weren't.' 'Being told to pretend you're having an experience is different from the suggestion to have the experience.'

H. Spiegel, however, is a clinician first and a scientist second. He believes the most important thing is that doctors recognise the power of hypnosis and start to use it. Working with Elvira Lang, a radiologist at a Harvard Medical Centre, he is testing the use of hypnosis in the operating room just as he and Kosslyn did in the scanner. Spiegel and Lang took 241 patients scheduled for surgery and divided them care with a sympathetic care provider and the third received standard care, a sympathetic care provider and hypnosis. Every 15 minutes the patients were asked to rate their pain and anxiety levels. They were also hooked up to painkilling medication which they could administer to themselves.

I. On average, Spiegel and Lang found the hypnotised subjects used less medication, experienced less pain and felt far less anxiety than the other two groups. Original results published in *The Lancet* have been further supported by ongoing studies conducted by Lang.

J. Spiegel's investigations into the nature of hypnosis and its effects on the brain continue. However, if hypnosis is ever to work its way into mainstream medicine and everyday use, physicians will need to know there is solid science behind what sounds like mysticism. Only then will their reluctance to using such things as mind over matter be overcome. I agree that the medical use of hypnosis should be based on data rather than belief, I says Spiegel, but in the end it doesn't really matter why it works, as long as it helps our patients.

Questions 27-31

The passage has five sections, A-E.

Choose the correct heading for each section from the list of heading below. Write the correct number, 1-7, in boxes 27-31 on your answer sheet

List of Headings

- 1 . An experiment using people who are receiving medical treatment
- 2 . The experiment that convinced all the researchers
- 3 . Medical benefits of hypnosis make scientific proof less important
- 4 . Lack of data leads to opposing views of hypnotism
- 5 . The effects of hypnosis on parts of the brain involved in vision
- 6 . Inducing pain through the use of hypnotism
- 7 . Experiments used to support conflicting views

- 27 . Section A
- 28 . Section B
- 29 . Section C
- 30 . Section D
- 31 . Section E

questions 32-36

Choose the correct letter, A, B, c, or D Write the correct letter in boxes 32-36 on your answer sheet

32 . Kirsch uses a small object on a chain to demonstrate that

- A . inducing a trance is a simple process,
- B . responsible to a suggestion does not require a trance,
- C . muscles respond as a result of a trance,
- D . it is difficult to identify a trance.

33. Spiegel disagrees with Kirsch because the subjects in Spiegel's experiment

- A . believed what they were told,
- B . showed changes in brain activity,
- C . responded as expected to shocks,
- D . had similar reactions to control subjects.

34. Kosslyn's response to Spiegel's electric shock experiment was to

- A . challenge the results because of external factors.
- B . work with Kirsch to disprove Spiegel's results.
- C . reverse his previous position on trance.
- D . accept that Spiegel's ideas might be correct.

35 . Spiegel and Kosslyn's experiment was designed to show that hypnosis

- A . affects the electrical responses of the brain,
- B . could make colour appear as black and white,
- C . has an effect on how shapes are perceived,
- D . can enhance the subject's imagination.

36 . Kirsch thought Spiegel and Kosslyn 's results

- A . were worth of further investigation.
- B . had nothing to do with hypnotic suggestion.
- C . showed that the possibility of trance existed.
- D . were affected by the words used in the instructions.

Questions 37-40

Do the following statements agree with the information given in The Passage? In boxes 37-40 on your answer sheet, write

- True** If the statement is true.
- False** If the statement is false
- Not Given** If the information is not given in the passage.

37 . Spiegel is more interested in scientific research than medical practice.

38 . Patients in the third group in Spiegel and Lang's experiment were easily hypnotised patients than by the other two groups.

40 . Spiegel feels that doctors should use hypnotism only when it is fully understood.