

PASSAGE 1

The psychology in Happiness



A In the late 1990s, psychologist Martin Seligman of the University of Pennsylvania urged colleagues to observe optimal moods with the same intensity with which they had for so long studied pathologies: we would never learn about the full range of human functions unless we knew as much about mental wellness as we do about mental illness. A new generation of psychologists built up a respectable body of research on positive character traits and happiness-boosting practices. At the same time, developments in neuroscience provided new clues to what makes us happy and what that looks like in the brain. Self-appointed experts took advantage of the trend with guarantees to eliminate worry, stress, dejection and even boredom. This happiness movement has provoked a great deal of opposition among psychologists who observe that the preoccupation with happiness has come at the cost of sadness, an important feeling that people have tried to banish from their emotional repertoire. Allan Horwitz of Rutgers laments that young people who are naturally weepy after breakups are often urged to medicate themselves instead of working through their sadness. Wake Forest University's Eric Wilson fumes that the obsession with happiness amounts to a "craven disregard" for the melancholic perspective that has given rise to the greatest works of art. "The happy man" he writes, "is a hollow man."

B After all people are remarkably adaptable. Following a variable period of adjustment, we bounce back to our previous level of happiness, no matter what happens to us. (There are some scientifically proven exceptions, notably suffering the unexpected loss of a job or the loss of a spouse. Both events tend to permanently knock people back a step.) Our adaptability works in two directions. Because we are so adaptable, points out Professor Sonja Lyubomirsky of the University of California, we quickly get used to many of the accomplishments we strive for in life, such as landing the big job or getting married. Soon after we reach a milestone, we start to feel that something is missing. We begin coveting another worldly possession or eyeing a social advancement. But such an approach keeps us tethered to a treadmill where happiness is always just out of reach, one toy or one step away. It's possible to get off the treadmill entirely by focusing on activities that are dynamic surprising, and attention- absorbing, and thus less likely to bore us than, say, acquiring shiny new toys.



C Moreover, happiness is not a reward for escaping pain. Russ Harris, the author of *The Happiness Trap*, calls popular conceptions of happiness dangerous because they set people up for a “struggle against reality”. They don’t acknowledge that real life is full of disappointments, loss, and inconveniences. “If you’re going to live a rich and meaningful life,” Harris says, “you’re going to feel a full range of emotions.” Action toward goals other than happiness makes people happy. It is not crossing the finish line that is most rewarding, it is anticipating achieving the goal. University of Wisconsin neuroscientist Richard Davidson has found that working hard toward a goal, and making progress to the point of expecting a goal to be realized, not only activates positive feelings but also suppresses negative emotions such as fear and depression.

D We are constantly making decisions, ranging from what clothes to put on, to whom we should marry, not to mention all those flavors of ice cream. We base many of our decisions on whether we think a particular preference will increase our well-being. Intuitively, we seem convinced that the more choices we have, the better off we will ultimately be. But our world of unlimited opportunity imprisons us more than it makes us happy. In what Swarthmore psychologist Barry Schwartz calls “the paradox of choice,” facing many possibilities leaves us stressed out – and less satisfied with whatever we do decide. Having too many choices keeps us wondering about all the opportunities missed.

E Besides, not everyone can put on a happy face. Barbara Held, a professor of psychology at Bowdoin College, rails against “the tyranny of the positive attitude”. “Looking on the bright side isn’t possible for some people and is even counterproductive” she insists. “When you put pressure on people to cope in a way that doesn’t fit them, it not only doesn’t work, it makes them feel like a failure on top of already feeling bad.” The one-size-fits-all approach to managing emotional life is misguided, agrees Professor Julie Norem, author of *The Positive Power of Negative Thinking*. In her research, she has shown that the defensive pessimism that anxious people feel can be harnessed to help them get things done, which in turn makes them happier. A naturally pessimistic architect, for example, can set low expectations for an upcoming presentation and review all of the bad outcomes that she’s imagining, so that she can prepare carefully and increase her chances of success.

F By contrast, an individual who is not living according to their values, will not be happy, no matter how much they achieve. Some people, however, are not sure what their values are. In that case Harris has a great question: “Imagine I could wave a magic wand to ensure that you would have the approval and admiration of everyone on the planet, forever. What, in that case, would you choose to do with your life?” Once this has been answered honestly, you can start taking steps toward your ideal vision of yourself. The actual answer is unimportant, as long as you’re living consciously. The state of happiness is not really a state at all. It’s an ongoing personal experiment.

Questions 1-6

Reading Passage has six paragraphs, A–F.

Which paragraph mentions the following?

Write the correct letter, A–F, in boxes 1–6 on your answer sheet.

NB You may use any letter more than once.

- 1 the need for individuals to understand what really matters to them
- 2 tension resulting from a wide variety of alternatives
- 3 the hope of success as a means of overcoming unhappy feelings
- 4 people who call themselves specialists
- 5 human beings’ capacity for coping with change
- 6 doing things which are interesting in themselves



Questions 7-8

Choose **TWO** letters, A-E.

Write the correct letters in boxes 7 and 8 on your answer sheet

Which **TWO** of the following people argue against aiming for constant happiness

- A Martin Seligman
- B Eric Wilson
- C Sonja Lyubomirsky
- D Russ Harris
- E Barry Schwartz

Questions 9-10

Choose **TWO** letters, A-E.

Write the correct letters in boxes 9 and 10.

Which **TWO** of the following beliefs are identified as mistaken in the text

- A Inherited wealth brings less happiness than earned wealth.
- B Social status affects our perception of how happy we are.
- C An optimistic outlook ensures success.
- D Unhappiness can and should be avoided.
- E Extremes of emotion are normal in the young.

Questions 11-13

Complete the sentences below.

Choose **NO MORE THAN ONE WORD** from the passage for each answer.

Write your answers in boxes 11-13 on your answer sheet.

- 11 In order to have a complete understanding of how people’s minds work, Martin Seligman suggested that research should examine our most positive as closely as it does our psychological problems.
- 12 Soon after arriving at a in their lives, people become accustomed to what they have achieved and have a sense that they are lacking something.
- 13 People who are by nature are more likely to succeed if they make thorough preparation for a presentation.

PASSAGE 2

Bio-mimetic Design

What has fins like a whale, skin like a lizard, and eyes like a moth? The future of engineering. Andrew Parker, an evolutionary biologist, knelt in the baking red sand of the Australian outback just south of Alice Springs and eased the right hind leg of a thorny devil into a dish of water.

A “Its back is completely drenched!” Sure enough, after 30 seconds, water from the dish had picked up the lizard’s leg and was glistening all over its prickly hide. In a few seconds more the water reached its mouth, and the lizard began to smack its jaws with evident satisfaction. It was, in essence, drinking through its foot. Given more time, the thorny devil can perform this same conjuring trick on a patch of damp sand –



a vital competitive advantage in the desert. Parker had come here to discover precisely how it does this, not from purely biological interest, but with a concrete purpose in mind: to make a thorny-devil-inspired device that will help people collect lifesaving water in the desert. "The water's spreading out incredibly fast!" he said, as drops from his eyedropper fell onto the lizard's back and vanished, like magic. "Its skin is far more hydrophobic than I thought. There may well be hidden capillaries, channeling the water into the mouth."

B Parker's work is only a small part of an increasingly vigorous, global biomimetics movement. Engineers in Bath, England, and West Chester, Pennsylvania, are pondering the bumps on the leading edges of humpback whale flukes to learn how to make airplane wings for more agile flight. In Berlin, Germany, the fingerlike primary feathers of raptors are inspiring engineers to develop wings that change shape aloft to reduce drag and increase fuel efficiency. Architects in Zimbabwe are studying how termites regulate temperature, humidity, and airflow in their mounds in order to build more comfortable buildings, while Japanese medical researchers are reducing the pain of an injection by using hypodermic needles edged with tiny serrations, like those on a mosquito's proboscis, minimizing nerve stimulation.

C Ronald Fearing, a professor of electrical engineering at the University of California, Berkeley, has taken on one of the biggest challenges of all: to create a miniature robotic fly that is swift, small, and maneuverable enough for use in surveillance or search-and-rescue operations. Fearing made his own, one of which he held up with tweezers for me to see, a gossamer wand some 11 millimeters long and not much thicker than a cat's whisker. Fearing has been forced to manufacture many of the other minute components of his fly in the same way, using a micromachining laser and a rapid prototyping system that allows him to design his minuscule parts in a computer, automatically cut and cure them overnight, and assemble them by hand the next day under a microscope.

D With the micro laser he cuts the fly's wings out of a two-micron polyester sheet so delicate that it crumples if you breathe on it and must be reinforced with carbon-fiber spars. The wings on his current model flap at 275 times per second – faster than the insect's own wings – and make the blowfly's signature buzz. "Carbon fiber outperforms fly chitin," he said, with a trace of self-satisfaction. He pointed out a protective plastic box on the lab bench, which contained the fly-bot itself, a delicate, origami-like framework of black carbon-fiber struts and hairlike wires that, not surprisingly, looks nothing like a real fly. A month later it achieved liftoff in a controlled flight on a boom. Fearing expects the fly-bot to hover in two or three years, and eventually to bank and dive with flylike virtuosity.

E Stanford University roboticist Mark Cutkosky designed a gecko-inspired climber that he christened Stickybot. In reality, gecko feet aren't sticky – they're dry and smooth to the touch – and owe their remarkable adhesion to some two billion spatula-tipped filaments per square centimeter on their toe pads, each filament only a hundred nanometers thick. These filaments are so small, in fact, that they interact at the molecular level with the surface on which the gecko walks, tapping into the low-level van der Waals forces generated by molecules' fleeting positive and negative charges, which pull any two adjacent objects together. To make the toe pads for Stickybot, Cutkosky and doctoral student Sangbae Kim, the robot's lead designer, produced a urethane fabric with tiny bristles that end in 30-micrometer points. Though not as flexible or adherent as the gecko itself, they hold the 500-gram robot on a vertical surface.

F Cutkosky endowed his robot with seven-segmented toes that drag and release just like the lizard's, and a gecko-like stride that snugs it to the wall. He also crafted Stickybot's legs and feet with a process he calls shape deposition manufacturing (SDM), which combines a range of metals, polymers, and fabrics to create the same smooth gradation from stiff to flexible that is present in the lizard's limbs and absent in most man-made materials. SDM also allows him to embed actuators, sensors, and other specialized structures that make Stickybot climb better. Then he noticed in a paper on gecko anatomy that the lizard had branching tendons to distribute its weight evenly across the entire surface of its toes. Eureka."When I saw



that, I thought, wow, that's great!" He subsequently embedded a branching polyester cloth "tendon" in his robot's limbs to distribute its load in the same way.

G Stickybot now walks up vertical surfaces of glass, plastic, and glazed ceramic tile, though it will be some time before it can keep up with a gecko. For the moment it can walk only on smooth surfaces, at a mere four centimeters per second, a fraction of the speed of its biological role model. The dry adhesive on Stickybot's toes isn't self-cleaning like the lizard's either, so it rapidly clogs with dirt. "There are a lot of things about the gecko that we simply had to ignore," Cutkosky says. Still, a number of real-world applications are in the offing. The Department of Defense's Defense Advanced Research Projects Agency (DARPA), which funds the project, has it in mind for surveillance: an automaton that could slink up a building and perch there for hours or days, monitoring the terrain below. Cutkosky hypothesizes a range of civilian uses. "I'm trying to get robots to go places where they've never gone before," he told me. "I would like to see Stickybot have a real-world function, whether it's a toy or another application. Sure, it would be great if it eventually has a lifesaving or humanitarian role..."

H For all the power of the biomimetics paradigm, and the brilliant people who practice it, bio-inspiration has led to surprisingly few mass-produced products and arguably only one household word – Velcro, which was invented in 1948 by Swiss chemist George de Mestral, by copying the way cockleburs clung to his dog's coat. In addition to Cutkosky's lab, five other high-powered research teams are currently trying to mimic gecko adhesion, and so far none has come close to matching the lizard's strong, directional, self-cleaning grip. Likewise, scientists have yet to meaningfully re-create the abalone nanostructure that accounts for the strength of its shell, and several well-funded biotech companies have gone bankrupt trying to make artificial spider silk.

Questions 14-20

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

In boxes 14-20 on your answer sheet, write

- | | |
|-----------------|---|
| <i>TURE</i> | <i>if the statement agrees with the information</i> |
| <i>FALSE</i> | <i>if the statement contradicts the information</i> |
| <i>NOTGIVEN</i> | <i>if there is no information on this</i> |

- 14 Andrew Parker failed to make effective water device which can be used in desert.
- 15 Skin of lizard is easy to get wet when it contacts water.
- 16 Scientists apply inspiration from nature into many artificial engineering.
- 17 Tiny and thin hair under gecko's feet allows it to stick to the surface of object.
- 18 When gecko climbs downward, its feet release a certain kind of chemical to make them adhesive.
- 19 Famous cases stimulate a large number of successful products of biomimetics in real life.
- 20 Velcro is well-known for its bionics design.

Questions 21-23

Fill in the blanks below. Write NO MORE THAN THREE WORDS AND/OR A NUMBER from the passage for each question of robot below.

Ronald Fearing was required to fabricate tiny components for his robotic fly **21**.....by specialized techniques. The robotic fly's main structure outside is made of **22** and long and thin wires which make it unlike fly at all. Cutkosky applied an artificial material in Stickybot's **23** as a tendon to split pressure like lizard's does.

Questions 24-25

Fill the blanks below. Write NO MORE THAN THREE WORDS AND/OR A NUMBER from the passage for each answer about facts of stickybot.

- 24 Stickybot's feet doesn't have function which makes it only be able to walk on smooth surface.
- 25 DARPA are planning to use stickybot for
- 26 Cutkosky assume that stickybot finally has potential in or other human-related activities.

PASSAGE 3

Bright children



A BY the time Laszlo Polgar's first baby was born in 1969 he already had firm views on child-rearing. An eccentric citizen of communist Hungary, he had written a book called "Bring up Genius!" and one of his favourite sayings was "Geniuses are made, not born". An expert on the theory of chess, he proceeded to teach little Zsuzsa at home, spending up to ten hours a day on the game. Two more daughters were similarly hot-housed. All three obliged their father by becoming world-class players. The youngest, Judit, is currently ranked 13th in the world, and is by far the best female chess player of all time. Would the experiment have succeeded with a different trio of children? If any child can be turned into a star, then a lot of time and money are being wasted worldwide on trying to pick winners.

B America has long held "talent searches", using test results and teacher recommendations to select children for advanced school courses, summer schools and other extra tuition. This provision is set to grow. In his state-of-the-union address in 2006, President George Bush announced the "American Competitiveness Initiative", which, among much else, would train 70,000 high-school teachers to lead advanced courses for selected pupils in mathematics and science. Just as the superpowers' space race made Congress put money into science education, the thought of China and India turning out hundreds of thousands of engineers and scientists is scaring America into prodding its brightest to do their best.

C The philosophy behind this talent search is that ability is innate; that it can be diagnosed with considerable accuracy; and that it is worth cultivating. In America, bright children are ranked as "moderately", "highly", "exceptionally" and "profoundly" gifted. The only chance to influence innate ability is thought to be in the womb or the first couple of years of life. Hence the fad for "teaching aids" such as



videos and flashcards for newborns, and “whale sounds” on tape which a pregnant mother can strap to her belly.

D In Britain, there is a broadly similar belief in the existence of innate talent, but also an egalitarian sentiment which makes people queasy about the idea of investing resources in grooming intelligence. Teachers are often opposed to separate provision for the best-performing children, saying any extra help should go to stragglers. In 2002, in a bid to help the able while leaving intact the ban on most selection by ability in state schools, the government set up the National Academy for Gifted and Talented Youth. This outfit runs summer schools and master classes for children nominated by their schools. To date, though, only seven in ten secondary schools have nominated even a single child. Last year all schools were told they must supply the names of their top 10%.

E Picking winners is also the order of the day in ex-communist states, a hangover from the times when talented individuals were plucked from their homes and ruthlessly trained for the glory of the nation. But in many other countries, opposition to the idea of singling out talent and grooming it runs deep. In Scandinavia, a belief in virtues like modesty and social solidarity makes people flinch from the idea of treating brainy children differently.

F And in Japan there is a widespread belief that all children are born with the same innate abilities – and should therefore be treated alike. All are taught together, covering the same syllabus at the same rate until they finish compulsory schooling. Those who learn quickest are expected then to teach their classmates. In China, extra teaching is provided, but to a self-selected bunch. “Children’s palaces” in big cities offer a huge range of after-school classes. Anyone can sign up; all that is asked is excellent attendance.

G Statistics give little clue as to which system is best. The performance of the most able is heavily affected by factors other than state provision. Most state education in Britain is nominally non-selective, but middle-class parents try to live near the best schools. Ambitious Japanese parents have made private, out-of-school tuition a thriving business. And Scandinavia’s egalitarianism might work less well in places with more diverse populations and less competent teachers. For what it’s worth, the data suggest that some countries – like Japan and Finland, see table – can eschew selection and still thrive. But that does not mean that any country can ditch selection and do as well.

H Mr Polgar thought any child could be a prodigy given the right teaching, an early start and enough practice. At one point he planned to prove it by adopting three baby boys from a poor country and trying his methods on them. (His wife vetoed the scheme.) Some say the key to success is simply hard graft. Judit, the youngest of the Polgar sisters, was the most driven, and the most successful; Zsofia, the middle one, was regarded as the most talented, but she was the only one who did not achieve the status of grand master. “Everything came easiest to her,” said her older sister. “But she was lazy.”

Questions 27-32

YES/NO/NOT GIVEN

- 27 America has a long history of selecting talented students into different categories.
- 28 Teachers and schools in Britain held welcome attitude towards government’s selection of gifted students.
- 29 Some parents agree to move near reputable schools in Britain.
- 30 Middle-class parents participate in their children’s education.
- 31 Japan and Finland comply with selected student’s policy.
- 32 Avoiding-selection-policy only works in a specific environment.

Questions 33-34



33 What's Laszlo Polgar's point of view towards geniuses of children

- A Chess is the best way to train geniuses.
- B Genius tend to happen on first child.
- C Geniuses can be educated later on.
- D Geniuses are born naturally.

34 What is the purpose of citing Zsofia's example in the last paragraph

- A Practice makes genius.
- B Girls are not good at chess.
- C She was an adopted child.
- D Middle child is always the most talented.

Questions 35-39

Use the information in the passage to match the countries (listed A-E) with correct connection below.

- 35 Less gifted children get help from other classmates
- 36 Attending extra teaching is open to anyone
- 37 People are reluctant to favor gifted children due to social characteristics
- 38 Both view of innate and egalitarian co-existed
- 39 Craze of audio and video teaching for pregnant women.

- | | |
|---------------|-----------|
| A Scandinavia | D China |
| B Japan | E America |
| C Britain | |