

## IN THIS UNIT

- Grammar: Use and non-use of the passive; Passive forms with *have* and *get*
- Vocabulary: Mental skills; *Mind*; Personal characteristics
- Task: Choose people to go on a space mission
- World culture: Nature or nurture?

What kind of mind  
have you got?

- 1 What is the missing number in this sequence?  
96 95 92 87 ( ) 71

- 2 Turn to page 126 and study the 'things to buy/do in town' list for one minute. Then close your book and write down all the things you can remember.

- 3 How many sides does this figure have?



- 4 You are looking after some children for the day. One little girl, Anna, comes to you crying because the others won't play with her. What do you do?

- a Tell the other children off for being mean.  
b Tell Anna to sort it out herself.  
c Give Anna a biscuit to make her feel better.  
d Tell the children they can all have a biscuit if they promise to play with Anna.  
e other:

- 5 Write down as many possible uses for a newspaper as you can in two minutes.

- 6 You have a wolf, a goat and a cabbage which all have to be taken across a river. You have a small rowing boat in which you can only take one thing with you at a time. However, if the wolf and goat are left alone, the wolf will eat the goat. And if the goat and cabbage are left alone, the goat will eat the cabbage. How can you get across the river with the two animals and the cabbage?

- 7 How creative do you think you are?

- a very creative  
b creative  
c averagely creative  
d about as creative as a potato

## Vocabulary and listening

## Mental skills

- 1a Look at the mental skills in the box. Which are your strongest? Put them in order (1 = strongest, 9 = weakest).

musical ability	problem-solving skills
organisational skills	emotional intelligence
mathematical skills	visual/spatial intelligence
logic	creativity and imagination
memory	

- b Work in pairs and compare answers.

- 2 Do the quiz. Which mental skills do you think each question tests?

- 3 4.1 Listen to the answers and an analysis of the quiz. Were you right about the purpose of the questions?

- 4 Work in pairs and discuss the questions.

- Which questions did you each find most interesting/easiest/most difficult?
- What do you think this shows about the type of people you both are?

## Language focus 1

## Use and non-use of the passive

- 1a Complete the sentences from the listening with the active or the passive form of the verbs in brackets

- 1 This question \_\_\_\_\_ (design) to test logic and mathematical skills, but the mathematical skills that \_\_\_\_\_ (require) are not very great.  
2 The average number of items that people \_\_\_\_\_ (remember) was eight.  
3 The best way to remember is if you \_\_\_\_\_ (group) all the similar items together.  
4 The shape has to \_\_\_\_\_ (rotate) in the mind's eye.  
5 Visual skills cannot \_\_\_\_\_ (teach easily)  
6 According to experts, you \_\_\_\_\_ (should discuss) the situation with the child.  
7 Children certainly \_\_\_\_\_ (should not bribe) with biscuits.  
8 It \_\_\_\_\_ (show) in studies that if you think you are very creative, then you are very creative.  
9 They \_\_\_\_\_ (say) that the strongest power we possess is self-belief.

- b 4.2 Listen and check your answers.

- 2 Look again at the sentences in exercise 1a and find an example of a modal passive and a passive infinitive.

## GRAMMAR

## Use of the passive

- 1 Cross out the statement below that is not true.
- 1 We often use the passive in order to put the main topic at the beginning of the sentence.
  - 2 In passive sentences, the 'doer' of the action (the agent) is not the main focus of the sentence.
  - 3 In passive sentences, the agent is often obvious, unknown or 'people in general'.
  - 4 The passive is mostly used in informal contexts.
  - 5 The passive is often used in reports, academic writing and newspaper articles.
- 2 Passive sentences are often introduced with *it*. Find an example in exercise 1a.
- 3 Relative clauses with passives can be shortened. Look at the example. Then find a similar example in exercise 1a and shorten it in the same way.  
*These are the skills ~~that are~~ needed by architects.*

## Alternatives to the passive

- 4 We often use alternatives to the passive (especially in less formal contexts) by using *we*, *you*, *they*, *people*, *someone*, etc. Find three more examples in exercise 1a.  
*You should discuss the situation with the child.*  
(= The situation should be discussed with the child.)

► Read Study 1, page 140

## PRACTICE

- 1 Choose the correct answers to complete the text. Which relative clauses can be shortened.

- IQ (intelligence quotient) is one way in which a person's intelligence <sup>1</sup>*can measure* / *can be measured*, and it <sup>2</sup>*says* / *is said* that the average score is around 100.
- IQ tests <sup>3</sup>*had not invented* / *had not been invented* in the days of Mozart or Charles Darwin, but it <sup>4</sup>*thinks* / *is thought* that if they were alive today, these great geniuses <sup>5</sup>*would probably score* / *would probably be scored* around 160–170.
- The highest IQ that <sup>6</sup>*has ever recorded* / *has ever been recorded* was that of William James Sidis (1898–1944), who <sup>7</sup>*says* / *is said* to have had an IQ of 250–300, but IQ <sup>8</sup>*measured* / *was measured* differently in those days.
- Kim Ung-Yong, who <sup>9</sup>*generally regards* / *is generally regarded* as the cleverest person alive has, an IQ of 210. He <sup>10</sup>*made* / *was made* famous when he <sup>11</sup>*appeared* / *was appeared* on Japanese TV at the age of four, solving complex mathematical problems. He <sup>12</sup>*attended* / *was attended* university between the ages of four and seven, and at the age of eight, he <sup>13</sup>*invited* / *was invited* to the USA to join NASA. At the age of 16, he <sup>14</sup>*chose* / *was chosen* to return to Korea, because he <sup>15</sup>*missed* / *was missed* his mother!

- 2 Do the exercise on page 126.

> Unit 4, Study & Practice 1, page 140



## Reading and speaking

- 1a** Work in pairs and discuss. What do you understand by the phrase 'nature or nurture'?
- b** Do sentences 1–4 below support the theory of nature or the theory of nurture?
- Everything comes from our genes.
  - The roots of personality are in our upbringing.
  - We can't change who we are.
  - Our environment influences our personality.
- 2a** Read the article. Which paragraphs do the pictures illustrate?
- b** Work in pairs and discuss. What did you learn about the things/people in the pictures?
- 3** Work in pairs. Check you understand the words in bold in the questions below. Then read the article again and answer the questions.
- According to Hippocrates, what **personality traits** were **bile** and **blood** responsible for?
  - How long did the theory of the 'four humors' last?
  - Why do you think people consulted phrenologists about job applicants and marriage partners?
  - Explain in your own words what 'we are all born as **blank slates**' means. How does this relate to the quote from Skinner?
  - What is the connection between criminals who were **executed** in ancient China and children in the UK who **play truant**?
  - How does the Stanford Prison experiment support the nurture theory? Why do you think it has become '**infamous**'?
  - According to nurture theory, should **identical twins** who grow up apart be similar? Why/Why not? What happens in practice?
- 4** Work in groups and discuss the questions.
- We blame our parents for our weaknesses but we don't thank them for our strengths. Do you agree?
  - How would you describe your personality in terms of the 'big five' personality traits in the article?
  - What has most influenced your personality?

### PRONUNCIATION

- 1** **4.3** Listen to the words below and mark the stress. Which look similar in your language but have a different pronunciation? Listen again and practise.

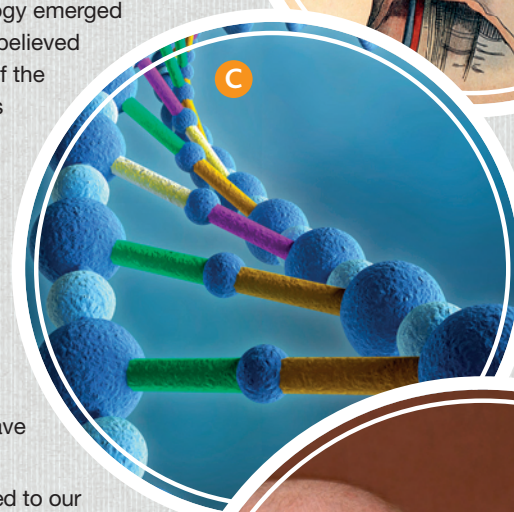
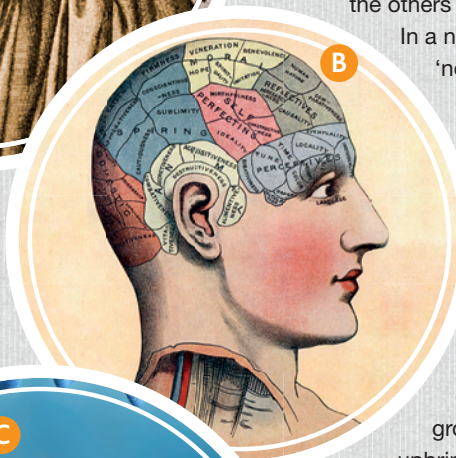
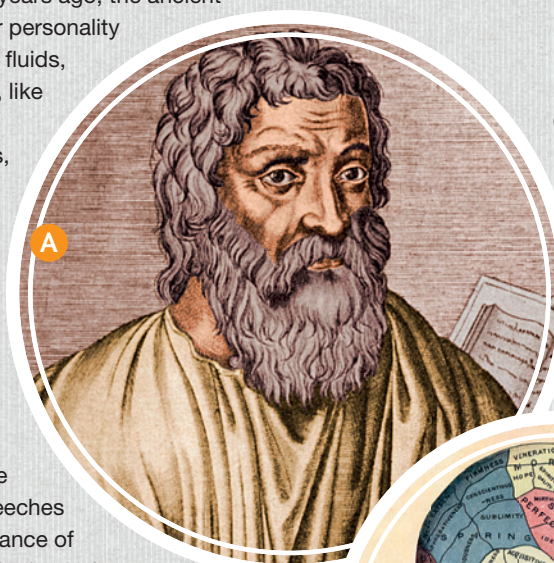
psychologist	scientist	environment
medicine	theory	ethics
genes	analysis	experience
neurotic	experiment	

# What shapes our personality?

**Is it the result of nature – what we are born with – or nurture – what we experience? We search for the answer.**

### It's definitely nature.

- Two and a half thousand years ago, the ancient Greeks believed that your personality was the result of different fluids, or 'humors', in your body, like blood, phlegm and bile. According to Hippocrates, the 'father of modern medicine', black bile caused depression and irritability, while blood made you brave and hopeful. These ideas spread all over the world, and in the 18th century, people with mental illnesses were sometimes treated with leeches in order to restore the balance of their humors. It was only in the 19th century that scientists began to doubt the theory of humors, although patients may have noticed much earlier that they weren't getting any better!
- By the late 19th century, personality had been correctly linked to the brain. This was a big advance, but some people took it too far and phrenology emerged as a new 'science'. Phrenologists believed that the brain affected the shape of the head, and so by feeling someone's head, they could discover the shape of their brain and therefore their personality – including, for example, how likely someone was to commit murder. At the height of its popularity, phrenologists were consulted about possible marriage partners or to give a background check on job applicants. Job interviews must have been interesting in those days!
- More recently, scientists have looked to our genes as the source of personality. While there is certainly a link, it is far from simple. For a start, a single gene might be involved in many different aspects of our personality – and we have around 25,000 genes in our body. And when even a simple thing like the colour of your skin is the result of more than 100 different genes, imagine how many are involved in a character trait like being open, extrovert, agreeable, conscientious or neurotic (the 'big five' traits that psychologists nowadays use to describe human personality).



### It's definitely nurture.

- If it's hard to find the roots of personality in nature, then can we find them in nurture? The nurture theory says that we are all born as 'blank slates'. Our personality develops as the result of our parents, our peers, our environment, and so on. As the famous psychologist BF Skinner once said, 'give me a child and I'll shape him into anything'.
- Nurture theory has even been enforced by law. In Ancient China, if a young man committed a serious crime and was sentenced to death, then his parents might be executed, too – because they were responsible for the character of their son. Even in modern Britain, if a child plays truant from school, her parents can be prosecuted.
- However, there's more to nurture than parents, there's environment, too. One shocking example of how easily environment can affect personality comes from the infamous 1971 Stanford Prison experiments. These experiments took 24 normal, healthy men and asked them to play the role of prisoners or guards in a pretend prison. The experiment had to be ended after just six days because the guards became very cruel, locking one prisoner in a cupboard and forcing the others to bang on the cupboard door. In a new environment, it seems that 'normal' people can completely change their behaviour.
- Some studies of twins, however, challenge the importance of nurture. According to nurture theory, identical twins (who have the same genes) should only have similar personalities if they grow up together, but different personalities if they grow up apart, due to different upbringing and experiences. However, studies show the same striking similarities in personality, whether these twins are brought up separately or together.

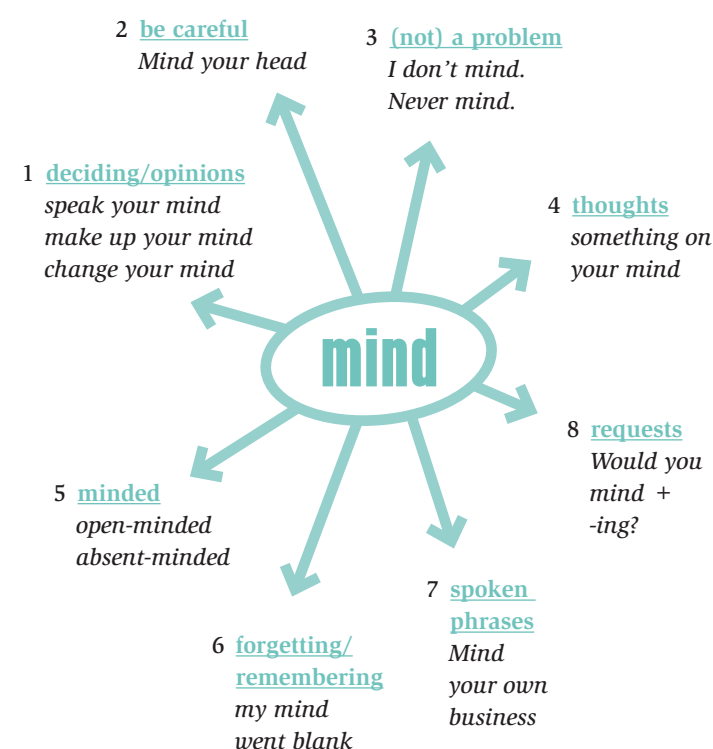
### So do we have an answer?

Well, sort of. The consensus these days is that our personalities result from a complicated interaction between nature and nurture. Perhaps one day we will understand the exact recipe for personality but then again, we may never understand ourselves fully!

## Wordspot

### mind

- Replace the words and phrases in bold below with the correct form of a phrase from the diagram.
- No, I won't tell you! ~~It doesn't concern you!~~  
*Mind your own business*
- Try to be **unprejudiced** about Trudi's new boyfriend – don't **decide** about him before you've met him.
- Although it was an easy question, suddenly I **couldn't remember**, and I was unable to answer.
- Many people are afraid to **give their opinion** because of what others may think.
- Is there **something worrying you**? Can I do anything to help?
- It's OK for me** if you're late as long as you phone.
- 'I'm sorry, I dropped a glass on the floor.'  
'**Don't worry about it.** I'll get a pan and brush.'
- I've **changed my opinion** – I'll take it after all.
- Would it be possible to move your car?** It's blocking the entrance.
- She is over 80 years old, so it's not surprising Anne's a bit **forgetful**.
- Be careful with your head.** The ceiling's very low.



- 4.4** Listen to three short conversations and choose a phrase with *mind* to replace each beep.
- Work in pairs. Write three short conversations with a phrase with *mind* in each.

**FIND OUT MORE**  
Go online to find out more about **nature** versus **nurture**.



# The future of your mind

...according to Hollywood.

Check out our top five mind-bending future possibilities from Hollywood films.

## 1. Get rid of bad memories

In *Eternal Sunshine of the Spotless Mind*, Clementine and Joel have their memories of each other erased by a doctor when they split up. But things get complicated when they meet again.

## 2. Plant ideas in other people's minds

Wouldn't it be incredible to plant an idea in someone's mind while they're asleep? Then, when they wake up, they believe it's their idea. That's all possible in the Christopher Nolan film *Inception*.

## 3. Learn to do anything - instantly

In the classic sci-fi film, *The Matrix*, the characters don't waste time actually learning new skills, they get them downloaded directly to their brains. How convenient!

## 4. Buy memories

Perhaps we won't have bad memories erased (see 1), but we'll have good ones implanted instead. We'll choose the ones we want, just like we choose clothes in a shop. Both the original version and the 2012 remake of *Total Recall* explore this idea, in typical Hollywood style.

## 5. Record and play back your experiences

Or, perhaps, we'll be able to record all our experiences so that we (or other people) can watch them again. This is the future reality in *Brainstorm*, a film from 1981.

## Language focus 2

### Passive forms with *have* and *get*

1 Read the text 'The future of your mind.' Then work in pairs and say which ideas you think will come true and when.

2 Work in pairs. Discuss the questions below.

- If your mind could be manipulated as suggested in the article, what skill would you download first?
- What idea would you plant, and in whose mind?
- Whose memories would you buy? Why?

### GRAMMAR

1 Look at the examples and answer the questions.

The characters **record** their experiences.

The characters **have** bad memories **erased**.

- 1 Who records the memories in the first sentence?
- 2 Who erases them in the second sentence?

2 Find two other examples in the article with *have* + *something* + past participle and answer the questions.

- 1 What is the tense in each example?
- 2 How is this construction used in other tenses?

3 Look at the example below. Notice that we can also use *get* instead of *have* in this construction. It is more informal than *have* but the meaning is the same. Find an example with *get* + *something* + past participle in the article.

We'll **get** our bad memories **erased**.

► Read Study 2, page 141

## PRACTICE

1 Use the prompts to write sentences about each picture.



1 read/palm  
*She's having her palm read.*



2 read/horoscope



3 test/eyes



4 take/blood pressure



5 dye/hair



6 paint/nails

2 Work in pairs and discuss the questions.

- Which things in the pictures do/don't you do yourself?
- Do you or have you ever had anything like this done at the optician's, beautician's, etc.?

*I sometimes dye my hair myself, but I never cut my own hair – I always have it cut at the hairdresser's.*

3 Work in pairs. Look at the business cards and discuss. What can you have done in each of the places?

You can have applicants' handwriting analysed.

### Redland Staff Services

- We interview applicants for you.
- We do personality assessments and IQ tests.
- We analyse applicants' handwriting.

### Ready Steady Go

personal training for people with busy lives!



- We design an exercise programme to fit in with your life.
- We monitor your progress on a weekly or twice-weekly basis.
- We plan your weekly menu and even deliver healthy meals to your door!

Discreet  
Professional  
Thorough

### Porter's Private Investigation Agency

We trace long-lost relatives.  
We monitor business competitors.  
We follow family members.

4a 4.5 Listen to someone phoning one of the businesses. Answer the questions.

- 1 Which business is the customer phoning?
- 2 Which service is he asking about?

b Work in pairs. Write two similar conversations about the other businesses.

> Unit 4, Study & Practice 2, page 141



## Listening and vocabulary

### Personal characteristics

1 Work in pairs. Look at the photo of six men who spent nearly 18 months alone together in a space capsule. Discuss the questions.

- What do you think it was like?
- What do you think their biggest problems were?
- Do you think you could cope with this situation?

2 4.6 You are going to listen to a radio programme about the Mars 500 mission. Listen and answer the questions below.

- 1 What was unusual about the Mars 500 mission?
- 2 Which countries did the crew come from?
- 3 What was the main point of the mission?
- 4 What personality traits do astronauts need, according to the programme?

3 Work in pairs and choose the correct alternative. Then listen again and check.

- 1 The mission lasted **almost** / **more than** 18 months.
- 2 The crew were **volunteers** / **professional astronauts**.
- 3 In general the men got on **well** / **badly** together.
- 4 They disagreed over who **was in charge** / **did what jobs**.
- 5 They all had **the same** / **different** amounts of contact with people back home.
- 6 If the crew on a space mission are fed up they normally **blame each other** / **their colleagues on the ground**.
- 7 On a space mission in 1982, the crewed **shouted at** / **avoided communicating with** each other.

4a On a mission like Mars 500, which characteristics in the box would be an advantage, a disadvantage or both?

argumentative	arrogant	attention-seeking
calm	extrovert	hot-tempered
humorous	humourless	individualistic
introvert	jealous	needy
rebellious	resilient	self-sufficient
talkative	good in a team	uncommunicative

b Work in groups and compare answers. Which other qualities do you think would be important on a mission like this?



# Task

## Choose people to go on a space mission

### Mission 2050

Following the success of the Mars 500 mission, the International Space Agency (ISA) has decided to carry out a more extended simulated space mission.

'Mission 2050' will send seven volunteers to live for ten years at an isolated, top-secret desert location, known as 'Novaterra'.

Volunteers cannot leave the mission unless they are critically ill. They can only contact their families and friends every three months by email.

The climate and habitat of 'Novaterra' will be adapted to reflect what is known about Mars and the mission will be closely monitored by scientists, doctors and psychologists researching how to set up real space colonies in the future. It will be promoted as an important symbol of international co-operation.

Its mission statement is to:

- involve people from a cross-section of nationalities, races and social backgrounds
- study how people of different sexes, ages, react under these conditions
- study the needs and behaviour of any children born into these conditions, etc.
- find out the most important characteristics that future space travellers need.

The ISA will provide food capsules for three years, but the volunteers should become self-sufficient after this. Water, emergency medical supplies, blankets and basic shelter will also be provided. The volunteers will attend a course covering survival skills, agriculture and first aid, but practical skills that volunteers can bring will of course be an advantage.

### Preparation Reading

- 1a Read the article about Mission 2050 and summarise the main information.
  - b Work in pairs and discuss. What characteristics do you think will be most useful in Novaterra?
- 2a You have been accepted for Mission 2050! You have been asked who should go with you.
    - Read about the other nine shortlisted candidates.
    - Circle the factors that you think make them suitable and underline the factors that do not. (Unless stated above, all candidates are free of family ties, speak English and are healthy.)
  - b Decide which candidates you would and would not like to spend the next ten years with.

### Task Speaking

- 1a Work individually. Make a preliminary selection of the five candidates that you would most like to go with you on Mission 2050.
  - b Think about how to explain your reasons. Ask your teacher for any words/phrases you need.
- 2 Work in pairs. Compare the candidates you have chosen and explain why. Reach an agreement on the five candidates you want to go with you.
    - > Useful language a and b
- 3 Work in groups. Present your shortlist of five candidates. Give reasons for your choice. Try to agree on a final shortlist of candidates.
    - > Useful language c

### Follow up Writing

- 1 Imagine you have been on the mission for three months and are allowed to send your first email home. Write to friends or family on the topics below.
  - the other volunteers and what you think of them
  - what it is like living together
  - the best/most difficult things about the mission
  - how you feel about the mission now

### USEFUL LANGUAGE

#### a Explaining your choices

I (don't) think ... is suitable because ...  
She's too ...  
She's not ... enough  
The fact that she is (pregnant) is very useful/a problem.  
His (hot temper/medical skills) might cause problems/be useful.  
She must be very (determined/clever), etc.  
We need people/women who ...

#### b Persuading/dissuading

Yes, but what about (his age)?  
Have you thought about (the fact that ...)?  
Don't you think ... would be a problem/an advantage?  
But what if ( ... happens)?  
To me, the most important thing is that ...

#### c Presenting your decision

After a long discussion, we decided/it was decided that ...  
... was selected because ...  
We were very aware of the importance of ...  
Another key issue was the fact that ...  
For that reason, we decided that ...  
In the end, we/it was agreed that ...



**K. Mi Kyong, Korean, 36**

- nurse
- does not speak English
- calm and self-sufficient and good team player
- tends to be introvert and uncommunicative




**Paterno C., Filipino, 34**

- professor of engineering
- gifted musician and singer
- friendly, but very intellectual and 'bookish'




**Omar H., Egyptian, 21**

- law student
- slightly disabled in left arm
- ex-member of Egyptian Paralympic football team
- highly intelligent, humorous, excellent communicator
- can be hot-tempered and argumentative




**Sabrina S., American, 24**

- beautician married to Al (below)
- four months pregnant
- sociable and well-meaning but very talkative
- can be needy and attention-seeking



**Carolina L., Colombian, 27**

- artist
- very extrovert and humorous
- very individualistic, can be rebellious
- heavy smoker



**Bahar M., Turkish, 42**

- agricultural expert who has worked a lot in developing countries
- widow and mother of two daughters, aged 17 and 18
- calm and resilient but rather humourless
- rather impatient with other people, not a team player




**Al S., American, 29**

- five years in US army, now a builder
- married to Sabrina (above)
- strong physically, but has put on a lot of weight
- disciplined in army for aggressive behaviour, but now very religious



**Alik B., Russian, 38**

- primary school teacher
- former ballroom dancing champion
- friendly with very good people skills
- has suffered from depression



**Giorgio M., Italian, 55**

- doctor (general practitioner)
- good leadership, charming and good fun
- had heart attack four years ago, but health now good

### SHARE YOUR TASK

You have to give a brief press conference to journalists. Prepare a short presentation explaining who has been chosen for Mission 2050 and why.

Practise the presentation until you feel confident.

Film/Record yourself giving your presentation.

Share your film/recording with other students.



# WORLD CULTURE

## NATURE OR NURTURE?

### Find out first

- 1a Work in pairs. Read the information below about the differences between males and females and try to guess the correct answers.

#### Men versus Women

Various scientific studies over the last two decades have proved that there are differences between boys and girls at school in terms of how good they are at certain skills (although we don't know the reasons for those differences). For example, <sup>1</sup>boys / girls tend to be better at spatial skills, for example rotating an object in their mind, while <sup>2</sup>boys / girls are better at judging what people are feeling. When boys and girls grow up, we find that <sup>3</sup>men / women tend to make more money over the long terms when they invest in the stock market. We also find that <sup>4</sup>men / women are more likely to have an accident while driving, despite being more able to see detail at a distance.

- b Go online to check your answers or ask your teacher.

**Search:** boys versus girls spatial skills/ judging feelings/men versus women stock market/driving accidents

### View

- 2a You are going to watch a video about why boys and girls like different toys. What gender-stereotyped toys do you think the video will mention?

- b Watch the video. Then work in pairs and answer the questions.

- 1 What does the experiment with toddlers prove?
- 2 What does the experiment with monkeys prove?
- 3 Why might males be attracted to vehicles like helicopters and cars?
- 4 What does the presenter conclude about the nature-nurture debate?

- 3 Watch the video again and tick the three sentences that are true. Correct the false sentences.

- 1 Before 15 months, boys and girls don't show a preference for particular toys.
- 2 The first experiment with toddlers is designed to test the nature argument.
- 3 The volunteers are tricked into believing the toddlers are the opposite sex.
- 4 The first experiment shows that nurture is probably important.
- 5 The second experiment is new and surprising.
- 6 Dr Hines chose monkeys because she couldn't find the right kind of children.
- 7 Dr Hines found that both male and female monkeys were more likely to play with cars, trucks and so on.
- 8 The classic scientific view is still supported by recent research.

- 4 Work in pairs. Were you surprised by the outcome of the experiment? What are your views on the nature-nurture debate in terms of children and toys?

### World view

- 5a Watch seven people answering the question 'Did your parents treat you/ your siblings in a gender-stereotyped way?'. Complete the first column in the table.

	Treated in a gender-stereotyped way?	Issues mentioned
Eben	yes	
Heather		
Fauzia		
Monica		
Elliot		
Louisa		
Luis		

- b Watch again and complete the second column.

- 6 Work in groups and discuss.

- Whose experiences do you most relate to?
- Did the age of the speaker make a difference to the way they answered?
- Do you think the way parents treat boys and girls has changed much in your country in recent generations?



### FIND OUT MORE

- 7a Look at the psychology experiments listed below. What do you think each one is about?

- Pavlov's dogs experiments
- Stanford prison experiment
- Milgram obedience experiment
- Asch conformity experiments

- b Choose one of the experiments and go online to find out more about it. Make notes about the following points.

- when it was conducted
- who led it and who took part
- what the researchers/participants did
- what the findings were
- what the public reaction was at the time
- the impact of the experiment

**Search:** Pavlov's dogs experiments / Stanford prison experiment / Milgram obedience experiment / Asch conformity experiments

### Write up your research

- 8 Write one or two paragraphs about the experiment you researched. Use the prompts below to help you.

- The experiment was carried out in ...
- Each participant was asked to ...
- As the experiment progressed ...
- The study showed that ...
- The surprising/shocking conclusion of the experiment was that ...
- It changed the way people saw ...

### AFTER UNIT 4 YOU CAN ...

Describe and discuss personal and mental characteristics.

Persuade other students of your point of view, giving detailed reasons.

Present decisions in public.