

1A

TOPIC

Factors contributing to longevity

SKILLS

Listening and speaking

LISTENING FOCUS

Answering main idea questions and short answer detail questions

SPEAKING FOCUS

Class discussion using language of speculation

PREPARATION

One copy of Worksheets 1 and 2 for each student; extra copies of Exercise E, cut into strips (optional)

ASSUMPTIONS

Basic ability to use language of speculation, e.g. *maybe*, *perhaps*, *likely*

The secrets of a long life

A case study in longevity

Warmer

A Tell the students that they are going to talk about the oldest person they know. Put them into pairs and give out **Worksheet 1** to help them discuss their ideas. Review their discussions as a class to find the average age of the people they described and the main characteristics these people share.

Listening

B ▶2 Play the recording and ask the students to circle the correct adjectives in the first column of the table. Tell them not to complete the second column at this point. Ask the students to compare their answers in pairs or groups.

C ▶2 Play the recording again and ask the students to record in note form the evidence for their choices in Exercise B – what did they hear that helped them to choose? Ask the students to compare answers in pairs before reviewing them as a class. They may be surprised at how hard Panchita works, despite her age.

Answers

- 1 sociable (greeted son and visitors warmly)
- 2 independent (seems to live alone, does her own housework and cooking)
- 3 religious (knelt next to her bed to say her morning prayers)
- 4 healthy (able to do chores, e.g. chopping wood, healthy diet, 'jumped' off bench)
- 5 poor (tin-roofed house, keeps chickens)
- 6 hard-working (gets up at 4:00 and has already worked hard by 7:30)

Speaking

D Hand out **Worksheet 2** and ask the students to discuss the question with a partner, phrasing their answers in different ways to practise using the language of speculation. Give them some time to write their example sentences and then review some examples as a class, to check for correct usage, before moving on to the next task.

E Assign each student one question. Alternatively, give each student one of the questions on pre-cut strips. Tell the students to mingle, ask each other their questions and answer using the language of speculation. They should record their answers in note form. Ask the students to report their findings informally to the class, using the language of speculation.

F Put the students into small groups to discuss the questions.

Follow up

Assign Question 6 in Exercise F as a research topic. Ask the students to prepare short individual presentations on what their country could do to increase longevity.

🔗 www.bluezones.com has articles and video clips about longevity.

Worksheet 1

1A The secrets of a long life

A case study in longevity



A Who is the oldest person you know? How old are they? What are they like? Describe the person to your partner. Talk about their:

- attitude to life (positive, negative, optimistic, pessimistic, fatalistic, etc.)
- relationships and feelings (friends, family, happy, lonely, etc.)
- lifestyle (physically/mentally active, healthy diet, etc.)
- other characteristics (religion, work, sense of humour, etc.)

B Listen to the talk and circle the adjectives that describe Panchita.

	Adjectives		Evidence
1	sociable	lonely	
2	independent	dependent	
3	religious	atheist	
4	healthy	unhealthy	
5	wealthy	poor	
6	stressed	hard-working	

C Listen again. In note form, complete the evidence that supports your choice of adjectives. Compare your answers in pairs. What surprised you the most about Panchita?

1A The secrets of a long life

Worksheet 2

A case study in longevity

D Discuss this question with your partner, using the words in the box to help you.

In Okinawa, people who live long lives stop eating when they are 80 per cent full. How do you think this helps them to live longer?

could likely may maybe might perhaps

Now write an example sentence for each word.

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E Ask and answer these questions.

- 1 Why do you think that high levels of everyday physical activity or work contribute to longevity?
- 2 People who live long lives seem to have strong family ties. How do you think this helps people to live longer?
- 3 Having a purpose in life seems to contribute to longevity. Why do you think this is?
- 4 Why do you think that maintaining a healthy social network contributes to longevity?
- 5 Maintaining a positive outlook seems to contribute to living a long life. Why do you think this is?
- 6 Eating a diet low in meat and high in fruits and vegetables seems to contribute to a long life. Why do you think this is?
- 7 Why do you think that having an active spiritual life contributes to longevity?
- 8 People who live long lives often work hard. How do you think this helps them to live longer?

F Discuss these questions.

- 1 Where do most old people live in your country (e.g. independently, with their children, in retirement homes)?
- 2 What are the advantages and disadvantages of old people living this way?
- 3 How active are most old people in your country (e.g. do they play sports, go travelling, run businesses)?
- 4 How active do you think you will be in old age?
- 5 Do people in your country generally value the older generation? Give examples to support your answer.
- 6 What do you think your country could do to help people lead longer, healthier lives?

1B

TOPIC

The relationship between genes and longevity

SKILLS

Reading and writing

READING FOCUS

Answering main idea questions and matching detail questions

WRITING FOCUS

Paraphrasing

PREPARATION

One copy of Worksheets 1, 2 and 3 for each student

ASSUMPTIONS

Some familiarity with paraphrasing (see Lesson 8B)

The secrets of a long life

'Long life' gene region found

Warmer

- A** Give out **Worksheet 1** and tell the students to look at the statements individually. Then ask them to compare their answers in pairs.

Reading

- B** Give out **Worksheet 2** and check that the students understand the title of the article. Explain that the four statements come from the text, and elicit or explain the meaning of any unknown vocabulary. Give the students five minutes to read the article and to choose the best statement to express its main idea.

Answer _____

Statement 2

- C** Ask the students to re-read the article and then match the sentence parts, working in pairs. To review, ask the students to write their answers on the board. Introduce the idea of paraphrasing by asking students if the language in the text is the same as or different from the language in the exercise. Remind the students that they can use these sentence beginnings to help them paraphrase other texts on their course.

Answers _____

1 f 2 d 3 b 4 a 5 g 6 e (c is not needed)

Writing

- D** Give out **Worksheet 3** and ask the students to read the Strategies box, and to tick which paraphrasing strategies have been used in the example. Review the task as a class.

Answers _____

- a** synonym (*each* → *every*)
c grammar (adverbial clause: *while one or more ... in their 90s* → adjectival clause: *at least one of whom ... no less than 98*)
e order (information in clauses given in reverse order)

- E** If paraphrasing is a new skill for the students, do the first paraphrase together as a class. Then put students into pairs to work on completing the paraphrases. For more advanced classes, set a higher minimum number of strategies to be used.


Possible answers _____

- 1 Researchers have located a segment of human DNA that provides clues as to why some people live for almost one hundred years, some 30 per cent longer than the majority of the population.
 2 A race to develop a pill that would lead to longer lives could be the result of this find.
 3 A common assumption is that lifestyle has a major impact on how long people live.
 4 The lifestyle of the centenarians or near-centenarians in this study seemed to have little impact on their general health, which remained good overall.

- F** Ask each pair of students to exchange their paraphrases with another pair. The students should analyse each other's work and decide what strategies have been used, awarding one point for each strategy. Ask the students to read some examples aloud or write them on the board to discuss strengths or suggestions for improvement.

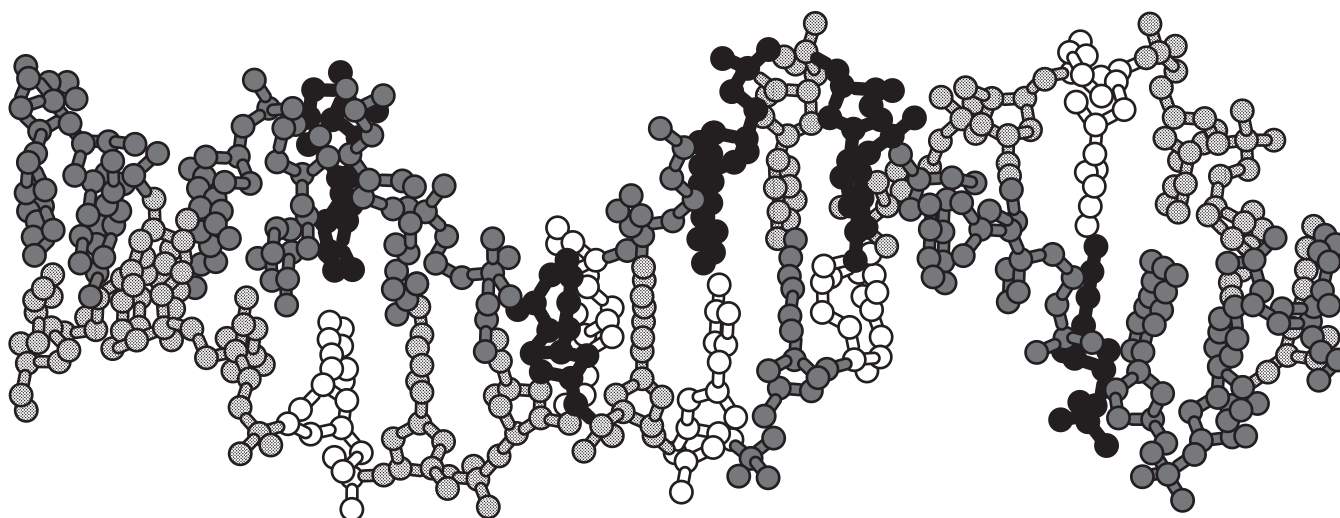
Follow up

Tell the students to work in pairs, finding one or two other sentences in the article that are suitable to paraphrase. Ask them to read out the original sentence and their paraphrase; the rest of the class should identify what strategies have been used.

-  The Boston University School of Medicine's New England Centenarian Study website www.bumc.bu.edu/centenarian contains useful information and links.

1B The secrets of a long life

Worksheet 1

'Long life' gene region found**A Do you agree or disagree with these statements? Compare your answers in pairs.**

- 1 I do 30 minutes of physical exercise (e.g. running, playing football) more than three times a week.
- 2 I spend 30 minutes on an activity that requires mental exercise (e.g. studying, doing puzzles) more than three times a week.
- 3 I eat at least five servings of fruit and vegetables every day.
- 4 I would like to live to be 100 years old or more.
- 5 In order to live to a very old age, lifestyle is more important than genetics.

B Read the article once and circle the statement that best expresses the main idea.

- 1 The discovery is likely to fuel a race for the development of a pill that could extend lifespans.
- 2 Yet the new finding suggests that extreme longevity may be linked closely with a gene or genes that give some individuals a greater resistance to diseases associated with the aging process.
- 3 The researchers conducted what is known as a sibling pair 'linkage study'.
- 4 Identifying a human gene or genes that give some people a tendency to live to extreme old age should lead to better understanding of the cellular pathways that are important to the aging process.

C Read the article again and match the sentence beginnings (1–6) to the endings (a–g). Underline where you find this information in the article. There is one ending that you do not need.

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|----------------------------------|--|
| 1 The article predicts that | a longevity is connected to lifestyle. |
| 2 Researchers used to think that | b aging is related to a small number of genes. |
| 3 The new findings suggest that | c genes do not give protection against some diseases such as diabetes and cancer. |
| 4 It is commonly believed that | d a large number of genes influence longevity. |
| 5 This new study implies that | e identifying genes related to longevity will increase understanding of the aging process. |
| 6 Researchers hope that | f we will be able to buy medication to increase longevity. |
| | g lifestyle may not influence longevity. |

Worksheet 2

1B The secrets of a long life

'Long life' gene region found

'Long life' gene region located on human chromosome

The 'secret formula' for aging long and well may soon be available at your local pharmacy. Scientists have identified a segment of human DNA that they say helps explain why some people live for almost a century – as much as a third longer than the typical lifespan. After years of studying families in which several siblings have lived to age 90 and older, the researchers pinpointed a region of chromosome 4 containing one or more genes that appear to increase an individual's chances of reaching an unusually old age. The discovery is likely to fuel a race for the development of a pill that could extend lifespans.

Until now, most researchers in the field have believed that as many as 1,000 genes influence aging in humans, much like a variety of instruments interact to play a symphony. This discovery puts much greater weight on the performance of a single section, such as the oboes or French horns. It's also widely assumed that lifestyle habits play a significant role in longevity. Much evidence has shown that eating a balanced diet of food and abstaining from smoking and excessive consumption of alcohol, among other things, can reduce the risks of experiencing cancer, diabetes, heart disease, and strokes. Yet the new finding suggests that extreme longevity may be linked closely with a gene or genes that give some individuals a greater resistance to diseases associated with the aging process. Most of the centenarians and near-centenarians the scientists studied were generally in good health throughout their lives regardless of their lifestyle practices.

The researchers conducted what is known as a sibling pair 'linkage study'. It involved 137 sets of siblings. At least one member of each set had to be 98 or older, while one or more other siblings in each set also had to be in their 90s. The researchers looked for regions of chromosomes that were identical among a large proportion of the sibling sets. The results point to a particular region along chromosome 4 as the section of the human genome likely to contain the genetic material that predisposes certain individuals to live to an unusually old age. 'These linkage results indicate the likelihood that there exists a gene, or genes, that exerts a substantial influence on the ability to achieve exceptional old age,' the scientists said in a report on their finding published in the August 28 edition of the *Proceedings of the National Academy of Sciences*.

The team of scientists who participated in the study are affiliated with Rutgers University, the Howard Hughes Medical Institute, Children's Hospital, Beth Israel Deaconess Medical Center, Harvard Medical School, and Whitehead Institute for Biomedical Research. Identifying a human gene or genes that give some people a tendency to live to extreme old age should lead to better understanding of the cellular pathways that are important to the aging process, the researchers said.

(American English)

1B The secrets of a long life

Worksheet 3

'Long life' gene region found

D Look at this sentence from the article and then at its paraphrase. Which strategies have been used to paraphrase? Look at the Strategies box to help you.

At least one member of each set had to be 98 or older, while one or more other siblings in each set also had to be in their 90s.

Every set had to contain a minimum of two siblings in their 90s, at least one of whom had to be no less than 98 years old.

Strategies

Paraphrasing (using your own words to express someone else's ideas) is an essential academic skill. It is useful when:

- you are using too many direct quotations and need to express ideas in your own words.
- the grammar in the quotation you want to use does not fit into your sentence.

Here are some useful strategies for paraphrasing:

- Use synonyms (e.g. *important* → *significant*).
- Change the type of sentence (e.g. compound → complex).
- Change the grammar (e.g. active → passive voice).
- Change the part of speech (e.g. *important* → *importance*).
- Change the order of the information (e.g. reverse two clauses).

E Paraphrase these sentences using at least two strategies (the more, the better!) in each paraphrase. Be careful not to change the meaning.

1 Scientists have identified a segment of human DNA that they say helps explain why some people live for almost a century – as much as a third longer than the typical lifespan.

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2 The discovery is likely to fuel a race for the development of a pill that could extend lifespans.

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3 It is also widely assumed that lifestyle habits play a significant role in longevity.

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4 Most of the centenarians and near-centenarians the scientists studied were generally in good health throughout their lives regardless of their lifestyle practices.

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F Look at the paraphrases written by another pair of students. Which strategies have been used?