

Air pollution damages intelligence, says study

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Scientists have revealed that air pollution may be responsible for a significant reduction in intelligence. Research conducted for the World Health Organization (WHO) in China showed that air pollution was responsible for

notable falls in student test scores for languages and arithmetic. The Chinese study is called, "The impact of exposure to air pollution on cognitive performance". It was published in a journal called, "Proceedings of the National Academy of Sciences". The study took place over a period of four years. Researchers analyzed verbal and arithmetic tests taken by 20,000 people of all ages. They said: "Polluted air may impede cognitive ability as people become older."

Researchers say their study is a warning to the rest of the world, especially to those who live in cities. The WHO says over 91 per cent of the world population live in areas with toxic air. Air pollution is currently the fourth highest cause of deaths worldwide. The researchers discovered that the longer people were exposed to polluted air, the greater was the damage to their intelligence. They equated the impact of air pollution to losing a year's worth of education. For those aged over 60, this could be the equivalent of several years of lost education. Researcher Dr Xi Chen warned: "There is no shortcut to solve this issue. Governments really need to take concrete measures to reduce air pollution."

Sources: independent.co.uk / timesofmalta.com / sky.com

Writing

There is no way to win the fight against air pollution. Discuss.

Chat

Talk about these words from the article.

scientists / reduction / responsible / test scores / impact / exposure / performance / warning / the rest of the world / population / damage / intelligence / education / issue

True / False

- a) Scientists say air pollution leads to big reductions in intelligence. T / F
- b) Scientists said pollution reduced language and arithmetic test scores. T / F
- c) Scientists conducted the research over a four-year period. T / F
- d) Around 20,000 teenagers took a test in the research. T / F
- e) About 91% of people live in areas with very polluted air. T / F
- f) Air pollution is the biggest cause of death worldwide. T / F
- g) Scientists said air pollution caused a loss of 10 years' education. T / F
- h) A researcher said there were plenty of shortcuts to solve this problem. T / F

Synonym Match

(The words in **bold** are from the news article.)

- | | |
|-----------------------|--------------|
| 1. revealed | a. effect |
| 2. significant | b. lessen |
| 3. impact | c. hinder |
| 4. period | d. poisonous |
| 5. impede | e. serious |
| 6. warning | f. issued |
| 7. toxic | g. shown |
| 8. published | h. work out |
| 9. solve | i. timeframe |
| 10. reduce | j. caution |

Discussion – Student A

- a) What is the air quality like where you live?
- b) What problems does air pollution cause?
- c) What causes air pollution?
- d) What do you do that contributes to air pollution?
- e) How would society change if people became less intelligent?
- f) How good are you at arithmetic and languages?
- g) How worried are you about air pollution?
- h) How intelligent are you?

Phrase Match

- | | |
|--|-------------------------|
| 1. responsible for a significant reduction | a. worth of education |
| 2. notable falls in | b. period of four years |
| 3. cognitive | c. become older |
| 4. The study took place over a | d. measures |
| 5. impede cognitive ability as people | e. student test scores |
| 6. their study is a warning to the | f. solve this issue |
| 7. live in areas with | g. rest of the world |
| 8. losing a year's | h. in intelligence |
| 9. There is no shortcut to | i. toxic air |
| 10. Governments really need to take concrete | j. performance |

Discussion – Student B

- What do you think about what you read?
- Would you move house to avoid air pollution?
- Do we need to rethink the need for cities?
- Will air pollution get better or worse?
- What is your government doing about air pollution?
- Should people be able to sue polluters?
- What 'concrete measures' can governments take to cut air pollution?
- What questions would you like to ask the researchers?

Spelling

- Scientists have edalvree that
- a tisniacnfg reduction in intelligence
- scores for languages and ihicaemrtt
- oigitcnve performance
- published in a orualnj
- dalyenza verbal tests
- slcpiyleae to those who live in cities
- currently the fourth highest usaec
- They eqaeutd the impact of air pollution
- the qvulieaten of several years
- There is no tucorsht to solve this
- take ctceern measures

Answers – Synonym Match

1. g	2. e	3. a	4. i	5. c
6. j	7. d	8. f	9. h	10. b

Role Play

Role A – Sleep

You think sleep is the best thing for improving cognitive performance. Tell the others three reasons why. Tell them what is wrong with their things. Also, tell the others which is the least effective of these (and why): exercise, diet or exam success.

Role B – Exercise

You think exercise is the best thing for improving cognitive performance. Tell the others three reasons why. Tell them what is wrong with their things. Also, tell the others which is the least effective of these (and why): sleep, diet or exam success.

Role C – Diet

You think diet is the best thing for improving cognitive performance. Tell the others three reasons why. Tell them what is wrong with their things. Also, tell the others which is the least effective of these (and why): exercise, sleep or exam success.

Role D – Exam Success

You think exam success is the best thing for improving cognitive performance. Tell the others three reasons why. Tell them what is wrong with their things. Also, tell the others which is the least effective of these (and why): exercise, diet or sleep.

Speaking – Cognition

Rank these with your partner. Put the best things for improving cognitive performance at the top. Change partners often and share your rankings.

- | | |
|----------------|------------|
| • teachers | • studying |
| • practice | • sleep |
| • walking | • exercise |
| • exam success | • diet |

Answers – True False

a T	b T	c T	d F	e T	f F	g F	h F
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Answers to Phrase Match and Spelling are in the text.