

Three Ways Air Quality Affects Your Ability To Think

(NAPSA)—Scientific evidence shows that breathing polluted air can impair memory and reasoning, reduce academic performance and even result in lower intelligence—but you don't have to put up with it.

Here are three important ways air quality directly affects your ability to think:

1. Standardized tests

Standardized tests have become increasingly important in education. Parents and educators already debate the potential effect of family income, cultural background, gender and other influences on test results. Now, researchers also look closely at the effect of air quality on standardized test scores—and conclude that it's significant.

One study of schoolchildren in Southern California found that exposure to higher levels of fine particulate air pollution (known as PM2.5) is linked to consistently lower scores on standardized tests in math and reading. A separate study of fifth-grade schoolchildren concluded that every increase of 2.1 cubic feet per minute (cfm) in ventilation was associated with a 2.9 percent increase in students passing a standardized math test.

2. Getting older

Evidence is growing that cognitive decline associated with aging is at least partially related to breathing air pollution. In one study, scientists administered math and memory tests to 780 people age 55 or older, then correlated scores with pollution levels where the participants lived. After adjusting the results for education, employment and other factors, the researchers still found significant differences in scores based on air quality. Participants in areas with high pollution levels had error scores that were 150 percent higher than those living in areas with low pollution.

3. Memory

Neuroscience researchers exposed mice to high levels of particulate air pollution (similar to levels in Beijing or Mexico City) for 10 months. They observed that the mice exposed to high pollution levels took longer to navigate through a maze and made more mistakes.



Researchers are discovering that air quality has a direct impact on a person's ability to think.

Examining the brains of the mice exposed to pollution, the researchers found physical changes in the tips of neurons in the part of the brain responsible for memory. The researchers also found that the mice exposed to high levels of pollution showed increased levels of pro-inflammatory chemicals in the brain.

What You Can Do

Each person can help reduce the sources of pollution, better ventilate indoor environments and support air filtration for schools and other places as needed. Here are a few examples of positive steps that can clean the air:

Get involved: Schools with better indoor air quality have better attendance rates and test scores. You can ask the school principal, school board members or the American Lung Association what you can do to get involved in improving classroom air quality.

Avoid unnecessary exposure: Avoid unnecessary exposure to outdoor air pollution and use a high-performance air purifier such as the IQAir HealthPro Plus to keep the air clean at home. Visit www.iqair.com for more information. To see a ranking of the best and worst regions of the nation in terms of air pollution, visit www.stateoftheair.org.

Reduce air pollution: Conserving energy, recycling, driving less or driving low-polluting vehicles—the choices you make can help reduce air pollution for everyone. The negative effect of air pollution on the ability to think is just one of the many ways air pollution affects health. By taking action today to reduce air pollution, you can help ensure a cleaner, smarter future for all of us.