

Quiet, please! Researchers find urban noise is linked to belly fat, stroke, even death

By [Ariana Eunjung Cha](#) June 25, 2015



People walk through New York's Times Square on April 18, 2012. (Photo by Justin Sullivan/Getty Images)

The sounds of urban life may give you a headache, but could they also make your belly fatter, cause premature aging and lead to stroke?

As gadgets that can measure the decibel of sounds become inexpensive and ubiquitous (there are even dozens of mobile phone apps that do this), a growing number of researchers have sought to find patterns in the noise of our lives and what that means for our health.

In two unrelated studies published in recent weeks, scientists have made intriguing links using data about environmental noise pollution and health survey data. In a paper published in May in the journal [Occupational & Environmental Medicine](#), researchers calculated how much road traffic, railroad and aircraft noise 5,075 people in Sweden were exposed to since 1999 by looking at official government statistics. The information they looked at included everything from building heights, speed limits and noise barriers. Then they looked at detailed questionnaires and checkups the volunteers, who were ages 43 to 66, had completed as part of a diabetes prevention program. [\[Here's how a five-day diet may 'reboot' the body and reduce cancer risk\]](#) The researchers found that nearly 70 percent had been regularly exposed to noise above 45 decibels -- the level of noise of a suburban home. The World Health Organization recommends less than 40 decibels of noise outside bedrooms at night to prevent adverse health effects.

While the scientists found that that while there was no link between overall body mass index (BMI) and the level of noise, they saw that there was a link between noise and heightened risk of mid-riff bulge. The more sources of noise pollution, the greater it appeared a person's risk of more belly fat. Specifically, an 0.21 cm increase in waist size for every 5 decibel increase in road traffic noise exposure.

While the study does not in any way conclude that the noise is the cause of participants' larger midsection, study author Goran Pershagen and his colleagues theorized that noise exposure may affect metabolic and cardiovascular functions because of possible sleep disturbances which alters appetite and energy. They also said noise could be an important physiological stressor and bump up the body's production of the hormone cortisol, which are thought to play a role in fat around the middle of the body.

"That may explain why the effects of noise were mainly seen for markers of central obesity, such as waist circumference and waist-hip ratio, rather than for generalised obesity," they wrote.

A second paper, published Tuesday in the [European Heart Journal](#), analyzed data for 8.6 million people living in London between 2003 and 2010.

The researchers looked at levels of road traffic noise during the day and at night across different postal codes and matched up this information with deaths and hospital admissions for adults 25 years and over. They found that deaths were 4 percent more common among those who lived in areas with daytime road noise of more than 60 decibels than those with less than 55 decibels. This former group was also 5 percent more likely to be admitted for stroke.

The authors, including Jaana Halonen from the London School of Hygiene & Tropical Medicine, said this could be due to increased blood pressure, sleep problems and stress from the noise. While the researcher said they can't tell for sure what the risks of noise are to an individual from the study -- but that it's likely that the effects are small in comparison with known risk factors like diet, smoking, lack of exercise -- the work "does raise important questions about the potential health effects of noise in our cities that need further investigation."



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