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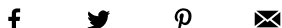
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Lead Poisoning Linked to Violence

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Some 30 years ago, scientists in Boston discovered that children exposed to lead from gasoline exhausts, dust and paint became impulsive, aggressive and had trouble learning in school.

Now scientists report that when those children grew up, they unleashed a wave of crime on the country.

And while our wave of lead poisoning and violent crime is on the decline, all across the Third World from India to Mexico lead levels in the environment and in children are rising due to industrial pollution, recycling car batteries, gold mining, pottery making and other activities. If these countries experience a similar spike in violent crime linked to lead exposure, it may be far harder to control given the lack of modern and impartial, medical, counseling, policing, prosecution and incarceration services.

"Low self control" which was a characteristic of high lead children, "is among the most important predictors of criminal behavior" said the scientists in an article published in Environment International.

The study by Howard W. Mielke of Tulane University and Sammy Zahran of Colorado State University in Ft. Collins, paints a picture of tens of thousands of young people -- mainly men -- who committed crimes under the influence of a ubiquitous toxic substance that permeated the air, dust and houses where they were brought up.

"...exposure to Pb (lead) alters neurotransmitter and hormonal systems and may therefore generate aggressive and violent behavior," said Mielke and Zahran in their article, entitled "The urban rise and fall of air lead (Pb) and the latent surge and retreat of societal violence."

Lead levels rose in the 70s, peaked in 1992 and then fell afterwards as lead gasoline was phased out and lead paint banned. Violent crime made an exactly parallel rise and fall in the same years, peaking around 1992 before tapering off as lead levels fell. The article's statistics



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came from Chicago, Indianapolis, Minneapolis, San Diego, Atlanta and New Orleans - a broad cross-section of urban America.

I first learned that lead was affecting behavior when I lived in Cambridge, Mass. I was concerned for my own children's health. Lead threats became the subject of my first freelance articles after journalism school.

In 1979 I [interviewed Dr. Herbert Needleman](#) of Harvard University Medical School, the visionary doctor who suspected that lead was having a terrible impact on the children of poor neighborhoods, often laced with busy roads spewing lead in auto exhaust.

He invited local parents to send him their children's baby teeth when they fell out. In cross-sections of the teeth, he was able to discover the record of their lead exposure. Lead is similar to and may replace calcium in the human body.

When he compared the school reports on these children with their record of lead exposure what he found was explosive. High-lead children were much more likely to be out of control and learn poorly in their classes.

The "doctor good tooth" study provoked a predictable debate as gasoline companies tried to sue and discredit Needleman's work. Apart from making life miserable for the doctor -- who deserved a Nobel prize rather than endless and costly lawsuits -- the gasoline makers were forced to remove lead from their gas.

As soon as they did, lead levels in children fell and the average U.S. IQ score rose more than five points.

Now the lead exposure in children has been linked to the wave of crime that rose and fell in tandem with the lead rise and fall, the [Mielke and Zahran study](#) published last year has shown.

"Low self control is among the most important predictors of criminal behavior," they wrote.

"Low self control increased significantly with childhood exposure to lead" they added, citing the work of Needleman who said children suffered a permanent loss of "about four to six [IQ] points."


"We have shown that a shift in this magnitude predicts a fourfold increase in in the rate of severely impaired children (IQ less than 80)" Needleman added.


Needleman also noted that "lead poisoned children ... have profound impulse control problems, as reflected in higher rates of juvenile delinquency."


Another researcher, J.W. Reyes, said "reductions in lead emissions 22 years prior resulting from the removal of lead in gasoline are responsible for 56 percent of the decline in U.S. ... violent crime in the 1990s."


It is clear from the evening news that violence is a huge and threatening phenomenon worldwide. Mexico, Colombia, Venezuela, Guatemala, the Middle East, Afghanistan, Pakistan, and many other countries are far less safe now than 20 years ago. Exposure to lead is increasing in these countries as they develop and it possibly is adding fuel to the fire of crime, terrorism, ethnic conflict and other issues.

"The association between crime and preschool blood lead should lend urgency to global efforts









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to eliminate preschool lead exposure," said Rick Nevin, a researcher cited by the authors of the paper.

It's clear that no society wants violent criminals walking the streets. But it is tragic to think that many violent offenders locked up in prisons today might have simply been deformed by toxic lead in their childhood environment -- substances that their parents were unable to detect or to prevent from poisoning their children.

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