

Racially Segregated Areas Exposed to Greater Toxic Metal Pollution

Racially segregated communities face higher levels of concentrated air pollution than well-integrated ones.

November 3, 2022 By Laura Schmidt

A study published in [Nature Communications](#) found that racially segregated communities are exposed not only to greater amounts of [air pollution](#) but levels of airborne toxic metals 10 times higher than more well-integrated areas.

Lead researcher and environmental scientist Jack Kodros said in a [Washington Post article](#) that highly [segregated communities](#) are breathing a particularly concentrated and more toxic form of air pollution that contains carcinogenic metal components.

For the study, researchers analyzed and differentiated between components in fine-particle air pollution and the toxic airborne metals within it. The components were then separated into two categories: airborne metals—lead, copper, nickel, zinc—caused by human activities, such as manufacturing and refining, and those occurring naturally, like iron and vanadium.

Researchers then used the “dissimilarity index,” a commonly used method of measuring segregation, to determine the integration of observed communities. They found that areas that were highly segregated had mass proportions of human-caused pollution that were three to 12 times higher, on average, than well-integrated areas and the concentration of toxins produced by human activities were five to 20 times higher in highly segregated areas compared with well-integrated ones.

“Industries such as fossil fuel, coal and other industries create toxic footprints in Black communities that exacerbate long-term health issues for Black communities,” said Abre’ Conner, the NAACP’s director of environmental and climate justice.

Average concentrations of lead, known to cause [brain](#) and [kidney damage](#) and potentially harm unborn children, were five times higher in highly segregated counties compared with well-integrated ones.

“We must continue to center Black communities and communities of color in any solutions and investments regarding environmental injustices,” Conner said.

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