

Language, immigrant status tied to toxic exposure

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New research finds that economically disadvantaged immigrant neighborhoods of non-English speaking Latinos are more likely to be exposed to cancer-causing air toxics than comparable communities of any other racial group in the United States.

The work, to be published in the November edition of *Social Science Research*, was done by Washington State University assistant professor of sociology Raoul Liévanos, who married maps of [toxic air pollution](#) hotspots with demographic clusters across the United States.

Specifically, Liévanos' work indicates that, in metropolitan areas from Los Angeles to New York City, economically disadvantaged, Latino immigrant neighborhoods have a one-in-three chance of being located in areas with high levels of harmful air pollution.

"Neighborhoods comprised of nonwhite, economically disadvantaged people who do not speak English as a native language and are foreign-born are the most vulnerable to being near these toxic air emissions," Liévanos said. "This is particularly the case with Latino immigrants."

Hazardous air pollutants can cause cancer or other serious reproductive and birth defects. Most originate from automobiles and industrial sources like factories, refineries and power plants.

Liévanos used geographic information system and spatial analyses to create a nationwide map of toxic air hotspots, areas where harmful

emissions from stationary and mobile sources of pollution are the strongest.

His results show the vast majority of hotspots are located in the U.S. Northeast and California. The closest hotspot to Pullman is in the Portland, Ore.-Vancouver, Wash., area.

Liévanos then did a statistical analysis of the racial, socioeconomic and immigrant status of 2,000 neighborhoods and their proximity to toxic hotspots.

In many ways the study illuminates the consequences of segregated housing developments in the United States. In the 1930s, '40 and '50s, many communities across the country were developed in such a way that environmental hazards were located near non-white, foreign born, low-income neighborhoods.

Liévanos said he hopes the study will provide local and regional planners with valuable information about the health implications of incompatible land-use practices and will equip communities and multiracial and multilingual environmental advocacy groups with important information about health threats from toxic air emissions.

"If we now know that two of the most likely predictors of neighborhood proximity to an toxic air hotspot are its linguistic ability and immigrant status, then we start asking more nuanced questions about the role those factors play in creating such neighborhood vulnerabilities and how warning systems can be created to mitigate neighborhood exposures to [air toxics](#)," he said. "For example, we could assess what languages are being used to disseminate health advisories. Are they only in English? Do we need to put them in Spanish?"

"There are a lot of small steps we could take that could possibly have a

big impact on the health and safety of those communities in addition to the much larger task of reforming land use and improving environmental health conditions for vulnerable neighborhoods and regions," he said.

Provided by Washington State University

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