

Children's Health and Air Pollution Study: Creating Research Opportunities for Fresno State Students and Faculty

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Abstract

The Children's Health and Air Pollution Study – San Joaquin Valley (CHAPS) aims to understand and reduce the risks of air pollution exposure to children in the San Joaquin Valley, California. CHAPS is a partnership between the University of California, Berkeley, Stanford University, Sonoma Technology, Inc., California State University, Fresno, and University of California San Francisco-Fresno. The purpose of this study is to assess the impact of neighborhood assets and liabilities on daily activities and physical movement around Fresno, California among pregnant women/new mothers enrolled in the pregnancy and air pollution study. Additionally, we will assess potential personal exposures associated with walking and transit use to pollutants strongly associated with vehicular traffic emissions – PAHs (polycyclic aromatic hydrocarbons), PM_{2.5} (fine particle, particulate matter that is 2.5 micrometers in diameter and smaller), and BC (black carbon, a component of particular matter). Over the next 6 semesters, students will collect structured social observations detailing neighborhood assets and liabilities to explore how neighborhood features influence transit use and exposure patterns. Additionally, the relative feasibility and reliability of data gathered comparing the use of alternative air quality and time-location data measurement tools to one another and to fixed monitors will be assessed.

Goal

Understand and reduce the risks of air pollution exposure to children in the San Joaquin Valley, California.

Objectives

Collect structured social observations detailing neighborhood assets and liabilities to explore how neighborhood features influence transit use and exposure patterns.

Assess the relative feasibility and reliability of data gathered comparing the use of alternative air quality and time-location data measurement tools to one another and to fixed monitors.