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Children's Environmental Health Research Findings  
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Topic: Chemical exposures and poor cognitive outcomes

Title: Environmental toxicity and poor cognitive outcomes in children and adults.

Conclusion: Lead and mercury exposure, air pollution, and organic compounds all have the potential to damage brain functioning

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Abstract: Extensive literature has already documented the deleterious effects of heavy metal toxins on the human brain and nervous system. These toxins, however, represent only a fraction of the environmental hazards that may pose harm to cognitive ability in humans. Lead and mercury exposure, air pollution, and organic compounds all have the potential to damage brain functioning yet remain understudied. In order to provide comprehensive and effective public health and health care initiatives for prevention and treatment, we must first fully understand the potential risks, mechanisms of action, and outcomes surrounding exposure to these elements in the context of neurocognitive ability. This article provides a review of the negative effects on cognitive ability of these lesser-studied environmental toxins, with an emphasis on delineating effects observed in child versus adult populations. Possible differential effects across sociodemographic populations (e.g., urban versus rural residents; ethnic minorities) are discussed as important contributors to risk assessment and the development of prevention measures. The public health and clinical implications are significant and offer ample opportunities for clinicians and researchers to help combat this problem.

Keywords: lead, mercury, air pollution, organic compounds