

Data Set 5: IQ and Lead Exposure

Data are measured from children in two consecutive years, and the children were living close to a lead smelter. LEAD is blood lead level group [1 = *low lead level* (blood lead levels < 40 micrograms/100 mL in both years); 2 = *medium lead level* (blood lead levels \geq 40 micrograms/100 mL in exactly one of two years); 3 = *high lead level* (blood lead level \geq 40 micrograms/100 mL in both years)]. Age is age in years. Sex is sex of subject (1 = male; 2 = female). YEAR1 is blood lead level in first year, and YEAR2 is blood lead level in second year. IQV is measured verbal IQ score. IQP is measured performance IQ score. IQF is measured full IQ score.

Data are from “Neuropsychological Dysfunction in Children with Chronic Low-Level Lead Absorption,” by P. J. Landrigan, R. H. Whitworth, R.W. Baloh, N. W. Staehling, W. F. Barthel, and B. F. Rosenblum, *Lancet*, Vol. 1, Issue 7909.

[Lancet](#). 1975 Mar 29;1(7909):708-12.

Neuropsychological dysfunction in children with chronic low-level lead absorption.

[Landrigan PJ](#), [Whitworth RH](#), [Baloh RW](#), [Staehling NW](#), [Barthel WF](#), [Rosenblum BF](#).

Abstract

To investigate the relation between low-level absorption and neuropsychological function, blind evaluations were under-taken in forty-six symptom-free children aged 3-15 years with blood-lead concentrations of 40-68 mug. per 100 ml. (mean 48 mug. per 100 ml.) and in seventy-eight ethnically and socioeconomically similar controls with levels greater than mug. per 100 ml. (mean 27 mug. per (100 ml). All children lived within 6-6 km. of a large, lead-emitting smelter, and in many cases residence there had been lifelong. Mean age in the lead group was 8.3 years and in the controls 9.3. Testing with Wechsler intelligence scales for schoolchildren and preschool children (W.I.S.C. and W.P.P.S.I.) showed age-adjusted performance I.Q. to be significantly decreased in the group with higher lead levels (mean scores, W.I.S.C. plus W.P.P.S.I., 95 v. 103). Children in all ages in the lead group also had significant slowing in a finger-wrist tapping test. Full-scale I.Q., verbal I.Q., BEHAVIOUR, AND HYPERACTIVITY RATINGS DID NOT DIFFER.