

# Weak association for blood lead levels, criminal behavior

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(HealthDay)—Childhood blood lead level (BLL) is a poor discriminator

between criminal conviction and no conviction, according to a study published online Dec. 26 in *JAMA Pediatrics*.

Amber L. Beckley, Ph.D., from Duke University in Durham, N.C., and colleagues examined the correlation between [childhood](#) BLL and the risk of [criminal conviction](#), recidivism, conviction for violent offenses, and variety of self-reported criminal offending where BLL was not associated with low [socioeconomic status](#). Data were included for 553 individuals who had their blood tested for lead at age 11 years.

The researchers found that 27.8, 15.6, and 9.6 percent of participants had a criminal conviction, recidivated, and had a violent offense conviction, respectively. For self-reported offending, variety scores varied from 0 to 10 offense types at each assessment. Self-reported offending followed the established age-crime curve, with the mean variety of self-reported offending peaking at 4.24 at age 18 years. BLL had poor discriminatory ability for no conviction and conviction (area under the curve, 0.58). Weak associations were seen between BLL and conviction outcomes overall. The estimated effect of BLL was lower for recidivism than single convictions and for violent versus nonviolent offending. For only one of the six self-reported offending outcomes at age 15 years, sex-adjusted associations with BLL reached statistical significance.

"This study overcomes past limitations of studies of BLL and crime by studying the association in a place and time where the correlation was not confounded by childhood socioeconomic status," the authors write. "Findings failed to support a dose-response association between BLL and consequential criminal offending."

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