

Lead Prevention THE UNIVERSITY of TENNESSEE Extension and Healthy Housing Newsletter

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New Study Results Published:

Lead's Influence on Children's Behavior

The June 30, 2014 edition of *JAMA Pediatrics* provides additional insights into lead poisoning's effect on children's social and emotional behavior, publishing the results of a longitudinal study conducted on 1,341 preschool children in the Chinese province of Jiangsu. The study, funded by the National Institute of Environmental Health Sciences, focused on three to five year olds, with an average blood lead level of 6.4 $\mu\text{g}/\text{dL}$. Blood lead screenings were conducted on participating children a single time—at the age of either three, four, or five. School behaviors were reported by teachers during the final month of the children's preschool education, which occurs at age six.

Using the Chinese versions of the Child Behavior Checklist for Ages 1.5-5 and the Caregiver-Teacher Report Form, standardized instruments for assessing behavioral and emotional problems, researchers concluded that "blood lead concentrations had statistically significant harmful associations with scores on emotional, anxiety, and pervasive developmental problems." Research further revealed that girls with elevated lead levels were more vulnerable to negative behavioral effects than their male counterparts.

Now Available!

UT Extension's new CLPPP publication for general audiences is available **FREE** for use or distribution by health professionals.

Download copies of Publication #SP 756 at our website: <http://fcs.tennessee.edu/lead>, or contact **BONNIE HINDS** at bhinds@utk.edu

Excerpted from
*Environmental Health
News*

April 18, 2012:

“Since mood disorders are twice as likely to be reported in women than men, there is a great need to determine the underlying factors of mood disorders in women of all ages.

Although the connection is not well understood, experts are beginning to understand how lead influences mental health. One way is that lead affects hormone and stress pathways in brain regions involved in depression and anxiety.

It also influences the development of hypertension and other cardiovascular diseases that lead to depression.”



Happy
Back to School
2014
to students
and teachers!

This behavioral study diverged from most others of its kind, in that its primary focus was the revelation of *internalized* emotional issues, such as depression and anxiety. The body of research as it relates to *externalized* behavioral issues, i.e., aggression, bullying, and violence, has corroborated the neurological implications of lead poisoning time and again.

While the research team professes that there were several limitations imposed by their methodology, they also affirm their decision to use early childhood educators and educational instruments to measure behaviors, noting that teachers are “better informants . . . on internalizing problems” than are parents, particularly in China, where most families have only one child, denying them a close comparative look at the behaviors of their son’s or daughter’s age cohorts.

The article can be found online at:

<http://archpedi.jamanetwork.com/article.aspx?articleid=1884486>

An older study, published in a 2012 issue of *Environmental Health Perspectives*, examined the effects of long-term, low-level lead exposure on 617 middle-aged through elderly women, also confirming a negative impact on mental health issues, in particular noting a correlation between lead levels and depression and anxiety among older women. The association, the study further added, was strongest in those women receiving hormone replacement therapy.

The average blood lead level for participating research subjects was only 2.3 µg/dL. The reference level for lead poisoning in adults is currently 10 µg/dL.

**COMING
SOON!**

National Lead Poisoning Prevention Week is observed during the third full week of October each year.

The LPPW theme and associated materials are released by federal partners CDC, EPA, and HUD in early September.

Stay tuned!

Contact **Bonnie Hinds** for ways your community can observe LPPW 2014!

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**CONGRATULATIONS to
U.S. Senator Jack Reed!**

On March 21, 2014, Senator Jack Reed of Rhode Island received the **National Child Health Champion Award**,

honoring his support and leadership in the area of childhood lead poisoning prevention. The award was presented to Senator Reed by the National Center for Healthy Housing. Executive Director of NCHH, Rebecca Morley, emphasized that “We simply couldn’t ask for a better and more effective leader in Congress on this issue.”

Senator Reed was one of the earliest and most vocal proponents of federal funding to combat childhood lead poisoning and is credited with establishing National Lead Poisoning Prevention Week.

The senator is a graduate of West Point and Harvard. He served in the House of Representatives for six years before election to the Senate, where he has represented Rhode Islanders since 1997.