

Childhood malnutrition could weaken brain function in elderly

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A study led by Michigan State University sociologist Zhenmei Zhang suggests malnutrition early in life appears to diminish brain function in older adulthood. Credit: Michigan State University

Malnutrition early in life appears to diminish brain function in older adulthood, according to a study led by a Michigan State University researcher that has implications for many poor, developing nations.

The study of more than 15,000 elderly people in China suggests that fighting [hunger](#) throughout [childhood](#) not only saves lives and improves health but also may enhance cognitive well-being in late life. The study appears in the journal *Social Science & Medicine*.

Across the world, 178 million children under age 5 are stunted or short in stature due to hunger, infection or both, said Zhenmei Zhang, MSU

assistant professor of sociology and lead researcher on the project.

"It's important for policymakers to know that investing in children really has long-term benefits, not only for those individuals but for society as a whole," Zhang said. "For example, fighting childhood hunger can reduce future medical expenditures. It's very expensive for families and society to take care of people who suffer from dementia or cognitive impairment."

Zhang said researchers previously have focused on how childhood malnutrition affects physical health and mortality, with little attention devoted to the long-term, negative effects on brain development and function.

Zhang and colleagues from Portland State University and the University of Texas examined the data of 15,444 elderly people who participated in the Chinese Longitudinal Healthy Longevity Survey, which is funded by the U.S. National Institutes of Health. The survey included a screening test for cognitive impairment, measurements of arms and lower legs (which indicate childhood malnutrition or infection) and a question on childhood hunger.

According to the study, women who suffered from childhood hunger were 35 percent more likely to have cognitive impairment at age 65 or older, while men who suffered from childhood hunger had a 29 percent higher chance.

Zhang said understanding the effects of childhood [malnutrition](#) is especially important for developing countries such as China, where a large proportion of older adults lived in poverty when they were children.

"The older Chinese population examined in this study experienced

childhood hunger on a scale unmatched in the United States," Zhang said. "Many of China's surviving older individuals suffered from severe hunger and devastating wars in their childhood. Before 1949, for example, life expectancy in China was 35 years."

Provided by Michigan State University

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