

Childhood trauma tied to tooth loss later in life

28 May 2019, by Morgan Sherburne



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Even if children grow up to overcome childhood adversity, the trauma they experience in early life causes them to be at greater risk for tooth loss, according to University of Michigan researchers.

Haena Lee, a postdoctoral researcher at the U-M Institute for Social Research, assessed the impact of adverse [childhood](#) events on [oral health](#)—specifically, total tooth loss—later in life. These events included [childhood trauma](#), abuse and, to a lesser extent, smoking.

"The significant effects of these adverse experiences during childhood on oral [health](#) are persistent over and above diabetes and [lung disease](#), which are known to be correlates of poor oral health," Lee said.

Current research focuses on [health conditions](#) such as diabetes and lung disease that can be risk factors for oral health, she says. Medication for diabetes causes dry mouth, which can lead to poor oral health. Heavy smoking, associated with lung disease, can also cause tooth loss.

"But it's not just these medical conditions that explain your oral function," said Lee, also a research fellow affiliate of the Population Studies Center and a research fellow in the Survey Research Center. "Nearly 20 percent of Americans over age 50 are estimated to live with no teeth, and I want to draw attention to life course histories that can capture some other important pathways to this oral health disparity."

Lee drew data from the 2012 Health and Retirement Study, a nationally representative longitudinal study of older adults and their spouses in the United States. The study includes a core survey collected every two years and a supplemental survey every off year. In 2015, the supplemental survey asked detailed information about childhood family history.

Lee derived the participants' oral health information from the 2012 HRS core survey and their childhood experiences, adult educational attainment and poverty status from previous HRS surveys and the 2015 supplemental survey.

Using this data, she investigated three models of life course research: the sensitive period, defined as the time in a person's life during which events have the most impact on his or her development; the accumulation model, which examines the effect of the accumulation of events over the life course; and the social mobility model, which examines the change in a person's socioeconomic status during that person's life.

She discovered that more than 13 percent of adults over 50 had lost all of their permanent teeth. Nearly 30 percent of respondents experienced financial hardship, or had lost their parents or experienced a parental divorce by age 16. Ten percent of the respondents had experienced physical abuse and 18 percent smoked during childhood. Nearly half held a [high school diploma](#) or less and 20 percent of respondents had lived in poverty at least once

since age 51.

After controlling for adult socioeconomic status, diabetes and lung disease, Lee found the long-term impact of childhood trauma and abuse on total tooth loss. She also found that older adults are at higher risk of total tooth loss if they have consistently experienced adverse events throughout life.

Lee says she suspects adverse events could impact tooth loss through sociobehavioral pathways. For example, abused children may be more likely to engage in health behaviors such as binge drinking or excessive consumption of sugar or nicotine use, which can contribute to [tooth loss](#).

Stress can also impact inhibitory control of the brain, which may lead to nicotine dependence. Childhood trauma may have a negative effect on learning and achievement, and people with low educational attainment may be less likely to hold jobs that provide dental insurance.

"It's really sad to say that adversity breeds adversity, but it really seems that dental health is rooted in adverse experiences you encounter over the life course, particularly in childhood," Lee said. "Future policy may benefit from considering the role of [childhood adversity](#) and beyond to reduce further oral health disparity."

More information: Haena Lee. A life course approach to total tooth loss: Testing the sensitive period, accumulation, and social mobility models in the Health and Retirement Study, *Community Dentistry and Oral Epidemiology* (2019). [DOI: 10.1111/cdoe.12463](#)

Provided by University of Michigan

APA citation: Childhood trauma tied to tooth loss later in life (2019, May 28) retrieved 3 December 2021 from <https://medicalxpress.com/news/2019-05-childhood-trauma-tied-tooth-loss.html>

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