

Poverty predicts stress levels in teens, research suggests

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Teens who have lived in poverty experience physical signs of stress at higher levels than those in more economically secure families, showing that public policy programs that help alleviate poverty can improve psychological and physical health even in pre-adulthood, researchers suggest.

"If you boost these families out of [poverty](#) in that window of adolescence, it's possible that this may protect them from having later [health problems](#), and possibly reduce the chances of them developing depression, and even cutting down the risk of suicide farther down the line," said Lisa Johnson, a doctoral scholar and lead author of a new study by the University of California, Davis, Healthy Emotions and Relationships Development Lab.

In an ongoing [longitudinal study](#), researchers tested the saliva of 229 17-year-olds, many of whom had lived at or below the [poverty level](#) between the ages 10 and 16, for their levels of cortisol—a hormone in the blood that can be found in, for instance, saliva and hair. It is one of the common metrics for measuring stress. The testing

was done in the years before the COVID-19 pandemic.

The study was published online this month in the journal *Psychoneuroendocrinology*.

Decades of studies have previously shown that poverty in children has resulted in downstream [health issues](#) over time, but this study looked specifically at how the body responds to stress, Johnson explained. Researchers examined cortisol levels after participants experienced a social stressor. Cortisol typically increases following stress. Atypical patterns of cortisol release can indicate that the body is overtaxed in a stressful situation and can't respond normally, she added.

Research subjects were a subgroup of a larger UC Davis cohort of families of Mexican origin, a group underrepresented in research. The larger body of research is known as the California Families Project, and consists of a prospective, longitudinal study designed to examine developmental risks and resilience factors.

Latinx teens, in particular, are a good group to study because they make up more than 50 percent of the population under 18 in California and are a group lacking in resources, she said.

"It's important to have more research on this group—they are vastly underrepresented in neurobiological research and overrepresented in poverty contexts, and are subject to structural and systemic racism," Johnson said. "They generally have poor access to services that could help them."

The study showed that even families whose financial circumstances had improved over time showed an atypically low stress response when measuring their [cortisol levels](#), illustrating that the effects reach beyond the years someone is poor, Johnson said. Those tested showed blunted levels of cortisol in reaction to stressful circumstances, a

situation that was simulated with an online game.

A blunted stress response can indicate the body is overwhelmed and cannot meet the energetic demands of the immediate situation, Johnson explained. "Over time, this can lead to deficits in both physical and mental health," she said.

More information: Lisa E. Johnson et al, Patterns of poverty across adolescence predict salivary cortisol stress responses in Mexican-origin youths, *Psychoneuroendocrinology* (2021). DOI: [10.1016/j.psyneuen.2021.105340](https://doi.org/10.1016/j.psyneuen.2021.105340)

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