

Children with behavioral problems more at risk of inflammation

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Children with behavioral problems may be at risk of many chronic diseases in adulthood including heart disease, obesity, diabetes, as well as inflammatory illnesses (conditions which are caused by cell damage).

Analyzing data on more than 4,000 participants in the Children of the 90s study at the University of Bristol, researchers from Harvard and Columbia's Mailman School of Public Health found that children with behavioral problems at the age of 8, had higher levels of two proteins (C-reactive protein—CRP; and Interleukin 6—IL-6) in their blood when tested at the age of 10. This was the case even after a large number of other factors, including sex, race, background, and medication use, were taken into account.

Having raised levels of CRP and IL-6 can be an early warning sign that a person may be at risk of chronic or [inflammatory conditions](#) later in life.

Previous research has shown that children with behavioral problems can go on to develop health problems during [adulthood](#), but this is the first time that a link has been found between mental health and inflammation in childhood.

The researchers believe the link may be due to the fact that many behavioral problems are associated with how the hypothalamic pituitary adrenal (HPA) axis works. The HPA axis plays a major role in controlling reactions to stress and the immune system and, if it malfunctions, it can stimulate the release of the two proteins that cause

chronically elevated levels of inflammation, which is tissue's response to injury.

Speaking about the findings, Karestan Koenen, PhD, the report's senior author and associate professor of Epidemiology, said:

"This new research shows for the first time that having behavioral problems in childhood can put children on the path to ill health much earlier than we previously realized. The important message for healthcare professionals is that they need to monitor the [physical health](#) as well as the mental health of children with [behavioral problems](#) in order to identify those at risk as early as possible."

Findings are published in the journal *Psychoneuroendocrinology*.

Provided by Columbia University's Mailman School of Public Health

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