

Early-life experience linked to chronic diseases later in life

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People's early-life experience sticks with them into adulthood and may render them more susceptible to many of the chronic diseases of aging, according to a new UBC study.

A team led by UBC researchers Gregory Miller and Michael Kobor performed genome-wide profiling in 103 healthy adults aged 25-40 years.

Those who participated in the study were either low or high in early-life socioeconomic circumstances related to income, education and occupation during the first five years of life. But the two groups were similar in socioeconomic status (SES) at the time the genome assessment was performed and also had similar lifestyle practices like smoking and drinking habits.

Their study, to be published in this week's [Proceedings of the National Academy of Sciences](#), shows that among subjects with low early-life socioeconomic circumstances, there was evidence that genes involved with inflammation were selectively "switched-on" at some point. Researchers believe this is because the cells of low-SES individuals were not effectively responding to a hormone called [cortisol](#) that usually controls inflammation.

"We've identified some 'biologic residue' of people's early-life experience that sticks with them into [adulthood](#)," says Miller, an associate professor in the Department of Psychology and a member of

the Brain Research Centre at UBC Hospital.

"The study suggests that experiences get under the skin," says Kobor, an assistant professor in the UBC Department of Medical Genetics and a scientist at the Centre for Molecular Medicine and Therapeutics at the Child & Family Research Institute.

This pattern of responses might contribute to the higher rates of infectious, respiratory, and cardiovascular diseases as well as some forms of cancer among people who grow up in low-SES households, according to the interdisciplinary research team that also includes scientists from the University of California, Los Angeles.

"It seems to be the case that if people are raised in a low socioeconomic family, their immune cells are constantly vigilant for threats from the environment," says Miller. "This is likely to have consequences for their risk for late-life [chronic diseases](#)."

Source: University of British Columbia ([news](#) : [web](#))

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