

DNA signature found in ice storm babies

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The number of days an expectant mother was deprived of electricity during Quebec's Ice Storm (1998) predicts the epigenetic profile of her child, a new study finds.

Scientists from the Douglas Mental Health University Institute and McGill University have detected a distinctive 'signature' in the DNA of [children](#) born in the aftermath of the massive Quebec ice storm. Five months after the event, researchers recruited women who had been pregnant during the disaster and assessed their degrees of hardship and distress in a study called Project Ice Storm.

Thirteen years later, the researchers found that DNA within the T cells - a type of immune system cell - of 36 children showed distinctive patterns in DNA methylation.

The researchers concluded for the first time that maternal hardship, predicted the degree of methylation of DNA in the T cells. The "epigenetic" signature plays a role in the way the genes express themselves. This study is also the first to show that it is the objective stress exposure (such as days without electricity) and not the degree of [emotional distress](#) in [pregnant women](#) that causes long lasting changes in the epigenome of their babies.

The health impacts on these children is less clear, but changes in the family of genes related to immunity and sugar metabolism detected in these babies, now teenagers, may put them at a greater risk to develop asthma, diabetes or obesity.

Provided by Douglas Mental Health University Institute

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