

STRICT PARENTING CAN GENETICALLY LEAD CHILDREN TO DEPRESSION

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Presenting the work at the ECNP Congress in Vienna, Dr Evelien Van Assche said: "We discovered that perceived harsh parenting, with physical punishment and psychological manipulation, can introduce an additional set of instructions on how a gene is read to become hard-wired into DNA. We have some indications that these changes themselves can predispose the growing child to depression. This does not happen to the same extent if the children have had a supportive upbringing".

The researchers from the University of Leuven in Belgium chose 21 teenagers who said their parents were good parents (for example, they were supportive and gave their kids freedom), and then compared them to 23 teenagers who said their parents were tough parents (for example, manipulative behaviour, physical punishment, excessive strictness). All of the adolescents ranged in age from 12 to 16, with a mean age of 14 for both groups. If adolescents in each group were born, indicating that

instance, methylation may cause a gene to generate more or less of an enzyme than it would otherwise. Depression has been linked to increased methylation variation. According to Evelien Van Assche, "We based our strategy on earlier work with identical twins. Two independent groups found that the twin diagnosed with major depression also had a higher range of DNA methylation for the majority of these hundreds of thousands of data points, as compared to the healthy twin".

Dr Van Assche (now working at the University of Munster, Germany) continued "The DNA remains the same, but these additional chemical groups affect how the instructions from the DNA are read. Those who reported harsher parenting showed a tendency towards depression, and we believe that this tendency has been linked into their DNA through increased variation in methylation. We are now seeing if we can close the loop by linking it to a later diagnosis of depression and perhaps use this increased methylation variation as a marker, to give advance warning of who might be at greater risk of developing depression as a result of their upbringing".

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example, manipulative behaviour, physical punishment, excessive strictness). All of the adolescents ranged in age from 12 to 16, with a mean age of 14 for both groups. 11 adolescents in each group were boys, indicating that the two groups were comparable in terms of age and the distribution of boys to girls. Many people who had parenting”>strict parenting displayed early, subclinical indicators of depression.

The range of methylation was then evaluated at more than 450,000 locations in each subject’s DNA, and the researchers discovered that it was much higher in people who reported having had a difficult upbringing. Methylation is a standard process that takes place when a small chemical molecule is added to the DNA, altering how the instructions contained in your DNA are read. For instance, methylation may cause a gene to generate more or less of an enzyme than it would otherwise. Depression has been linked to increased methylation variation. According to Evelien Van Assche, “We based our strategy on earlier work with identical twins. Two independent groups found that the twin diagnosed with major depression also had a higher range of DNA methylation for the majority of these hundreds of thousands of data points, as compared to the healthy twin”.

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In this study, we investigated the role of harsh parenting, but it’s likely that any significant stress will lead to such changes in DNA methylation; so in general, stresses in childhood may lead to a general tendency to depression in later life by altering the way your DNA is read. However, these results need to be confirmed in a larger sample”.

Commenting, Professor Christiaan Vinkers, Department of Psychiatry, Amsterdam University Medical Centre, said: “This is significant work to understand how adverse childhood experiences have life-long consequences for both mental and physical health. There is a lot to gain if we can understand who is at risk, but also why there are different effects of parenting strict parenting.

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