

Social anxiety is highly heritable but is affected by environment

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Genes play a crucial role over time although environmental factors matter most in the short term, according to a major study into social anxiety and avoidant personality disorders from the Norwegian Institute of Public Health.

"The results show a surprisingly high heritability of the long-term risk of developing [social anxiety](#)," says Fartein Ask Torvik, a researcher in the Department of Genetics, Environment and Mental Health at the institute.

It has long been known that both genetics and the environment play a role in the development of social anxiety, but researchers have been previously unaware of the strong effect of genetic factors over time.

Twin research

For over a decade, the NIPH has followed approximately 3000 Norwegian twins to find out more about how mental disorders develop over time. The results for social anxiety and avoidant personality disorder among women are now available. Twins were studied so that researchers can see the extent to which the disorders are influenced by genetic and environmental factors. The women were interviewed twice – once when they were in their twenties and once in their thirties.

"Social anxiety is known to have an early onset, often in adolescence. Social anxiety usually does not appear after your mid-twenties if you

have not had it before," says Torvik.

Transient

Just under 4 per cent of participants had social anxiety disorder in their twenties. Another ten per cent had symptoms that did not qualify for a diagnosis. Ten years later, five per cent and just under nine per cent respectively had social anxiety disorder or its symptoms. It was not necessarily the same people who had social anxiety in their twenties and thirties.

"The anxiety was less stable than expected. Two-thirds of those who had social anxiety when they were interviewed in their twenties no longer met the diagnostic criteria when they were interviewed ten years later. It appears to fluctuate for individuals, says Torvik.

"However, the prevalence was not lower in the thirties than in the twenties, since other people had the disorder again when they were interviewed" he adds.

Social anxiety

Social anxiety is the fear of being negatively evaluated in social situations. Many people experience this occasionally and it is considered to be normal. Anxiety only qualifies as a diagnosis when it becomes marked enough to prevent normal social interactions.

"Social anxiety disorder or social phobia can lead to persistent and significant distress and impairment in important areas of functioning," says Torvik.

Avoidant personality disorder

Avoidant personality disorder often occurs together with social anxiety, but the study suggests that this personality disorder is not the same as strong social anxiety.

"The risk of developing social anxiety is associated with avoidant personality traits. These traits can lead to avoiding the feared situations. Many also use safety behaviours to cover or control their anxiety. In the long term this could lead to more anxiety," says Torvik.

Environment versus genetics

Looking at the long-term risk of developing social anxiety, the risk is strongly influenced by [genetic factors](#).

This is probably because personality traits that predispose to the disorder, such as introversion and low emotional stability, are influenced by genetics. If you have both of these traits, the risk of developing social anxiety is high. However, at any particular moment, the environment will have the greatest impact on whether you have social anxiety.

The events that affect social anxiety in the twenties have little effect in the thirties. The environment has the strongest effect in the short term, and the impact of most experiences will pass.

When researchers looked at the causes of stability and change over time, they found that the genetic risk was persistent and contributed to the stability, while the environment largely contributed to change.

"Social anxiety is highly heritable. While [environmental factors](#) are most significant in the short term, your genes play a crucial role over time, says Torvik.

"This means that the impact of environmental events, such as being bullied or losing a job, is of limited duration. The effect of the events that cause social anxiety at one point will pass. The fact that [social anxiety disorder](#) is so unstable should give hope for those who are struggling with it," he adds.

For long-term risk associated with genes, the findings show that the risk cannot completely be avoided:

"If you have avoidant personality traits, you have a high risk of experiencing social anxiety in periods. Even people who have had a good, secure upbringing can experience social anxiety. However, if you have an inherited risk, you can learn to defy the tendency of avoidance and know what to do if the anxiety appears. Although the genetic risk is long-lasting, it does not mean that you have to live with the symptoms. There are good treatments for social anxiety. The treatment involves exposure to the feared situations and acknowledging your anxiety."

More information: Fartein Ask Torvik et al. Longitudinal associations between social anxiety disorder and avoidant personality disorder: A twin study., *Journal of Abnormal Psychology* (2016). [DOI: 10.1037/abn0000124](#)

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