

Sexual responses can be learned and unlearned

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Undesirable associations with sex can be unlearned, but return if the circumstances change. They must therefore be unlearned in different situations. The drug D-cycloserine may help here. These are the findings of psychologist Mirte Brom.

Treating sexual disorders

Leiden PhD candidate Mirte Brom conducted a large-scale study of 600

test subjects. Her findings could help treat people with a sex addiction, for instance, or alternatively people who find it difficult to become aroused. Test subjects were conditioned to feel aroused, and Brom researched whether this could be unlearned again.

Experiment

In an experiment Brom showed images to healthy test subjects. Their [sexual arousal](#) could be measured and stimulated: in the women with a tampon-like device and in the men with a band around the penis. They were shown a neutral image while vibrations were applied to arouse them. They were also asked about the image's effect on them.

Neutral images can become sexually charged

The neutral image was then offered without vibration, and the test subjects also become sexually aroused. Brom: 'Healthy men and women can easily become sexually conditioned, which means that neutral stimuli can also become sexually charged. It could be that people with little sexual desire have too few associations between stimuli and sexual reward. People with too much sexual desire may have too many of the stimuli that induce sexual arousal.'

Unlearning learned associations

A subsequent experiment showed that it was possible to unlearn the learned association. One way to achieve this was by showing the image without vibration but with another colour of light in the experiment room. This helped: the image then left the test subject cold. But the sexual response returned if the image was shown again later in the old, yellow light.

Attention to environment and context

The environment and context in which these sexual associations are learned and unlearned (this is also known as extinguishing) thus play an important role. This finding could help in the development of treatment methods. Brom: 'Undesirable sexual responses can be unlearned in a treatment setting, but back at home people can revert to the undesirable behaviour. This means that undesirable sexual responses and behaviour must be extinguished in as many contexts and circumstances as possible. So also where they were initially learned.'

Results of medication promising

Brom is the first to study whether a drug, D-cycloserine, can help extinguish sexual responses. A number of [test subjects](#) were given a low dose of this medication, which is also used to treat anxiety or addiction disorders. Brom: 'The results were promising. The medication appears to help extinguish acquired sexual responses, also in another context. With the placebo pill, learned associations remained even after a day.'

More information: PhD defence 10 March 2016 'The role of incentive learning and cognitive regulation in sexual arousal', Mirte Brom

Provided by Leiden University

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