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## Fungicide Linked to Anxiety, Obesity and Autistic Traits in Rats

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Reviewed by John M. Grohol, Psy.D. on May 23, 2012

Rats who were exposed to fungicide had babies, grandbabies, and even great grandbabies with an increasing amount of [autism](#) and obesity, according to a study published in the *Proceedings of the National Academy of Sciences*.

"We are now in the third human generation since the start of the chemical revolution, since humans have been exposed to toxins. There is no doubt that we have been seeing real increases in mental disorders like autism and [bipolar](#) disorder," David Crews, Ph.D., of the University of Texas.

For the study, researchers exposed pregnant rats to vinclozolin, a commonly used fungicide sprayed on fruits and vegetables known to disrupt hormones. Since researchers were not trying to determine the risk for humans but rather understand the effects caused by exposure, they used a "higher than expected" amount of the chemical than what is typically found in the environment.

After exposing up to three generations of male rats, researchers found that third generation rats were more anxious in response to physical restraint during adolescence. The rats with a family history of fungicide exposure were also heavier with high levels of obesity.

In terms of evaluating any autism-related risk, the exposed rats showed less interest in new individuals and environments.

Researchers believe that high levels of exposure ultimately changed the genetic makeup of the sperm and eggs which led to the responses in future generations of rats.

Vinclozolin was widely used in the 1980s to prevent crop rot, but its use began to decline when scientists discovered its effects on hormones and sexual development.

Source: [Proceedings of the National Academy of Sciences](#)

[Scientist holding a rat photo by shutterstock.](#)

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### APA Reference

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