

Press release

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Publication in Science. Can the internet be addictive?

Whether computer games or sex - he is an expert of addiction: Prof. Dr. Matthias Brand from the University of Duisburg-Essen (UDE) has been researching for years what goes on in the minds of addicts and how their behavior can be changed. In the current issue of Science, the psychology professor now analyzes the similarities between problematic Internet use and other addictions.

When gaming for days and nights, some people forget to eat and drink and barely make contact with their outside world. "Problematic Internet use provides pleasure and helps relieve stress and negative moods. Parallels can be drawn here with addictive substances: They, too, affect the brain's reward system," Brand said.

Worldwide, up to 3% of adolescents and young adults suffer from computer game addiction, and around 7% of the general population repeatedly turns to various Internet applications in an addictive manner. "Because we humans are increasingly online, it's important to understand when enriching use becomes problematic," Brand explains in his paper.

What are the resilience and risk factors? Or put another way, why do some become addicted, while others manage to control their Internet use well, so that it is functionally integrated into everyday life and does not lead to negative consequences? Brand describes two drive paths to addictive online behavior: "The feel-better path" includes both positive reinforcement experiences (pleasure, reward) and negative ones (reduction of stress and negative mood). The "must-do pathway" includes habits, e.g., automatic responses to stimuli, and especially compulsive behavior, even though one is aware of the negative consequences.

Self-control is the important counterpart to the two drive pathways, according to Brand, who argues that there is probably an imbalance of these brain systems in online addicts. What exactly causes such an imbalance is not yet clear, he said. Genetic factors could play a role, as could familial ones.

Even though much has already been achieved in research on online addictions, many questions are still unanswered. For example, it is not yet clear whether diminished self-control is a cause or consequence of addictive behavior, or both, he said. "We need to better understand the mechanisms of online addictions and what role specific features of Internet applications play in order to further develop prevention and therapy," Brand said.

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