New brain research: Hunger for stimulation driven by dopamine in the brain

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Our need for stimulation and dopamine's action upon the brain are connected, which explains why people who constantly crave stimulation are in danger of addictive behaviour such as drug abuse and gambling.

The urge to actively seek out new experiences is a personality trait that psychologists have known about for years, but up until now scientists have been unable to prove how this urge relates to hormonal activities in the brain.

Now, an international research team made up of scientists from the University of Copenhagen, University of Aarhus and University of Tokyo have been able to prove for the first time that this hunger for stimulation is greater on average among people who possess more of the gratification hormone - dopamine in the brain.

The research team lead by Professor Albert Gjedde from the Department of Neuroscience and Pharmacology at the University of Copenhagen and
Doctor Arne Møller from CFIN at Aarhus University used PET scans at Aarhus University Hospital to map the areas in the brain where dopamine was active among healthy volunteers.

Measurement of dopamine showed that the test subjects who had the strongest urge to seek out new and thrilling experiences had both more dopamine in the brain and more areas in the brain where dopamine was active, explains Professor of Neurobiology and Pharmacology Albert

Gjedde.

The results will be published in the leading scientific journal *Proceedings of the National Academy of Sciences*.