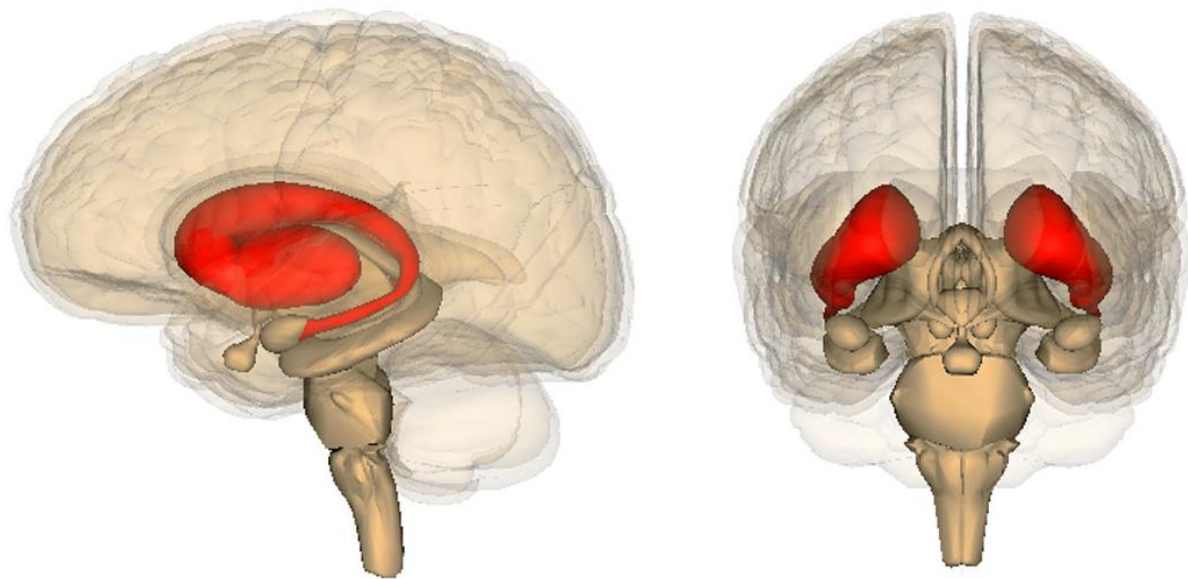


# In psychopathic adults, psychiatrists observe significant striatal volume

BY [ELIZABETH PASCKA LATIM](#) | MON, 20 JUN 2022 AT 10:34:55 |

SCIENCE



According to new neuroimaging findings published in the *Journal of Psychiatric Research*, a region of the forebrain known as the striatum tends to be larger in psychopathic individuals.

Specifically, although many researchers have studied psychopathy, there is not much known about the involvement of this brain region, the striatum, in psychopathy, according to the author of a research at the Nanyang Technological University in Singapore.

Nevertheless, previous studies examining striatal volume in adults with psychopathy have found mixed findings. However, the inconsistent findings might be the result of comorbidity between psychopathy and several psychopathy disorders, such as substance dependence and attention deficit hyperactivity disorder (ADHD). Only three previous studies examining the topic had been examined for other psychopathy symptoms.

Choy and her colleagues used magnetic resonance imaging to investigate the brain structure of 108 men from the Los Angeles area and interviewed them using the Psychopathy Checklist Revised, a psychological screening tool to identify the presence of psychopathic traits in individuals.

In a news release, the use of the Psychopathy Checklist Revised in a community sample remains a novel scientific approach: "Helping us understand psychopathic traits in individuals who aren't in jails or prisons," according to Robert Schug of California State University.

On average, psychopathic individuals had a 9.4% greater striatal volume than matched controls. A supplementary analysis of 12 female participants provided preliminary evidence that the findings might also be useful to women.

The striatum, which is involved in processing reward-related information, is being developed by adults with more psychopathic traits, according to Choy. This suggests that there might be structural brain differences between individuals with psychopathic traits and individuals without. Moreover, impulsivity and need for stimulation are linked to psychopathy.

After the researchers were evaluated for antisocial personality disorder, previous or contemporaneous substance dependence and abuse, ADHD, history of head injury, total brain volume, exposure to childhood family adversity and abuse, and demographic variables, respectively.

Choy and her colleagues found out that stimulation-seeking and impulsivity influenced the connection between striatal volume and psychopathy.

In a news release, psychopaths go to extreme lengths to seek out rewards, including criminal activities that involve property, sex, and drugs. We are now discovering a neurobiological foundation of this impulsive and stimulating behavior in the form of enlargement to the striatum, a key brain area involved in rewards.

The findings suggest useful clues about psychopathy, but the researchers argue that their conclusions will not explain the cause.

There are a few exceptions: the study was cross-sectional and only the anatomical structure of the brain was assessed, thus we cannot make allegations about the causal role of the striatum on psychopathy or about brain function. Departure of this, what causes the striatum to enlargement in adults with psychopathy remains a mystery.

The study, which explains a greater striatal volume, has been published on March 6, 2022.