

# Psychopathic individuals have larger striatum volume

Dawn O'Shea Medical News 16 May 2022

A study published in the Journal of Psychiatric Research has found that the striatum region of the forebrain was, on average, 10 per cent larger in psychopathic individuals compared to controls with low or no psychopathic traits.

The researchers performed magnetic resonance imaging (MRI) and the Psychopathy Checklist – Revised on 108 community-dwelling males and a small sample of females.

Increased striatal volumes were associated with more psychopathic traits ( $P=.001$ ). Effects were observed for all striatal regions, even after controlling for age, substance dependence and abuse, antisocial personality disorder, attention deficit hyperactivity disorder, social adversity, and total brain volume.

An analysis of 18 psychopathic individuals showed that striatal volumes increased 9.4 per cent compared with 18 matched controls ( $P=.01$ ). Psychopathy in females was also significantly associated with increased striatal volume ( $P=.02$ ).

Stimulation-seeking and impulsivity partly mediated the striatal-psychopathy relationship, accounting for 49.4 per cent of this association.

Lead author of the paper, Assistant Prof Olivia Choy from Nanyang Technological University, Singapore, said: “A better understanding

of the striatum's development is still needed. Many factors are likely involved in why one individual is more likely to have psychopathic traits than another individual. Psychopathy can be linked to a structural abnormality in the brain that may be developmental in nature.”