

Disruptions in adolescent brain development may signal risk for autism, schizophrenia

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A research team led by scientists at SUNY Downstate Medical Center has identified a brain receptor that appears to initiate adolescent synaptic pruning, a process believed necessary for learning, but one that appears to go awry in both autism and schizophrenia.

Sheryl Smith, Ph.D., professor of physiology and pharmacology at SUNY Downstate, explained that “Memories are formed at structures in the brain known as dendritic spines that communicate with other brain cells through synapses. The number of brain connections decreases by half after puberty, a finding shown in many brain areas and for many species, including humans and rodents.”

This process is referred to as adolescent “synaptic pruning” and is thought to be important for normal learning in adulthood. Synaptic pruning is believed to remove unnecessary synaptic connections to make room for relevant new memories, but because it is disrupted in diseases such as autism and schizophrenia, there has recently been widespread interest in the subject.

“Our report is the first to identify the process which initiates synaptic pruning at puberty. Previous studies have shown that scavenging by the immune system cleans up the debris from these pruned connections, likely the final step in the pruning process,” added Dr. Smith.

Read full, original post: [Synaptic Pruning Discovery May Lead to New Therapies for Neuro Disorders](#)