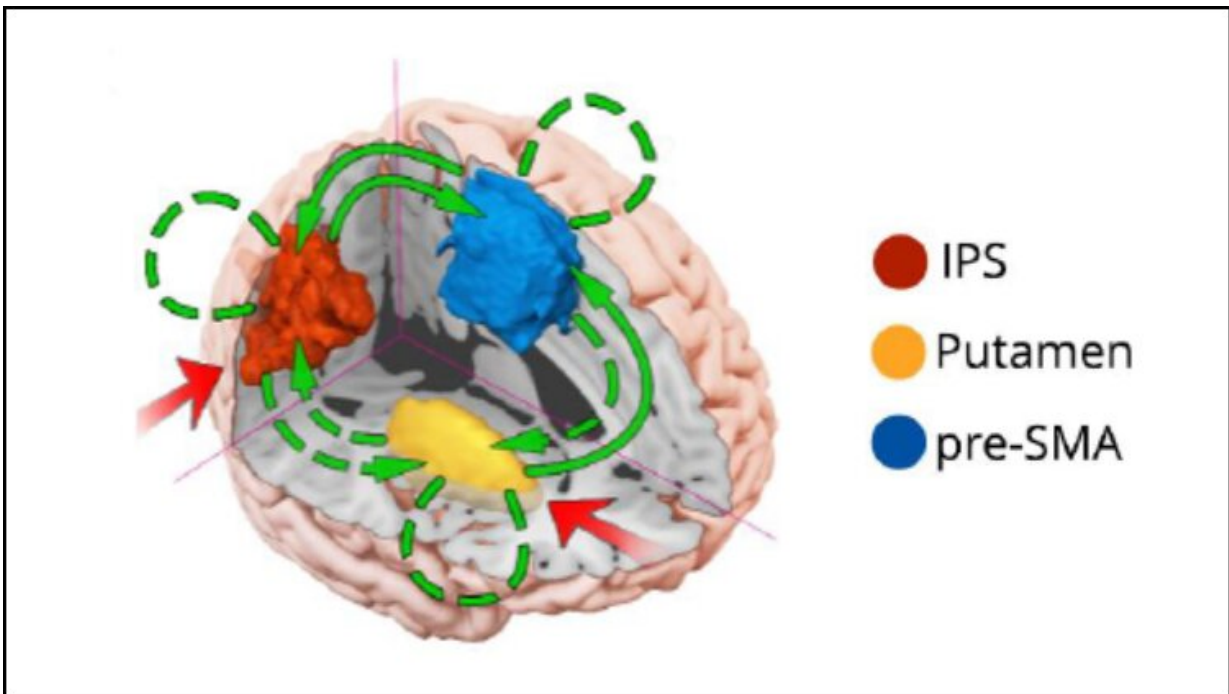


The missing piece of the brain's multitasking network

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Proposed model for the modulatory influence of multitasking. Credit: Garner et al., *eNeuro* 2020

Multitasking performance stems from the speed of information exchange between inner and outer regions of the brain, according to new research in *eNeuro*.

Doing two things at once courts disaster, as multitasking requires outer

cortical [brain](#) regions to rapidly communicate with each other. The speed of this information exchange limits multitasking capability yet can improve with practice. But that's not the whole story: multitasking also depends on the striatum, a previously overlooked region deep inside the brain.

Garner et al. compared the [brain activity](#) of 100 [healthy adults](#) before and after a week of multitasking practice. The participants completed two different tasks, first separately and then at the same time.

The putamen—a brain [region](#) in the striatum involved in habitual behavior—and two cortical regions were activated by the tasks separately and increased activity during multitasking.

After testing a variety of potential models, the research team found that multitasking ability hinged on how effectively the putamen could exchange information with the cortical areas.

A week of practice improved the participant's task performance in concert with an increase in communication rates between the putamen and the cortex.

More information: Cognitive Capacity Limits Are Remediated by Practice-Induced Plasticity Between the Putamen and Pre-Supplementary Motor Area, *eNeuro*, [DOI: 10.1523/ENEURO.0139-20.2020](#)

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