

Chess experts use brain differently than amateurs

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People play "shogi" or Japanese chess, during a street shogi tournament in Tokyo's central business district of Shimbashi in 2007. Experts use different parts of their brains than amateurs, maximizing intuition, goal-seeking and pattern-recognition, said a study out Thursday that examined players of shogi, or Japanese chess.

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Researchers used [magnetic resonance imaging](#) (MRI) scans to compare the [brain activity](#) of amateurs and professionals who were presented with various shogi board patterns and were told to think of their next move.

They found that certain regions of expert brains lit up, while the

amateurs' did not, said the research led by Japanese scientist Xiaohong Wan and published in the journal *Science*.

When they asked players to mull their next move, experts' brains showed more activity in the area associated with visualizing images and [episodic memory](#), known as the precuneus area of the parietal lobe.

When pressed to come up quickly with a move, activity surged in another region called the caudate nucleus, where goal-directed behavior is rooted.

"This activation did not occur in the amateurs or when either group took their time in planning their next move," said the study.

Researchers believe that experts who train for years in shogi are actually perfecting a circuit between the two regions that helps them quickly recognize the state of the game and choose the next step.

"Being 'intuitive' indicates that the idea for a move is generated quickly and automatically without conscious search, and the process is mostly implicit," said the study.

"This intuitive process occurs routinely in experts, and thus it is different from inspiration, which occurs less frequently and unpredictably."

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