Deliberate practice: necessary but not sufficient

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(Medical Xpress) -- Psychological scientist Guillermo Campitelli is a good chess player, but not a great one. “I’m not as good as I wanted,” he says. He had an international rating but not any of the titles that chess players get, like Grandmaster and International Master. “A lot of people that practiced much less than me achieved much higher levels.” Some of the players he coached became some of the best players in Argentina. “I always wondered: What’s going on? Why did this happen?”

Now a researcher at Edith Cowan University in Joondalup, Australia, Campitelli studies practicing. He’s written an article with Fernand Gobet of Brunel University in the United Kingdom on their and other people’s research on chess for Current Directions in Psychological Science, a journal of the Association for Psychological Science.

In one survey of chess players in Argentina, Campitelli and Gobet found that, indeed, practice is important. All of the players that became masters had practice at least 3,000 hours. “That was not surprising,” he says. There is a theory in psychology that the more you practice, the better you’ll do in areas like sports, music, and chess. “But the thing is, of the people that achieved the master level, there are people that achieved it in 3,000 hours. Other people did, like, 30,000 hours and achieved the same level. And there are even people that practiced more than 30,000 hours and didn’t achieve this.”

Campitelli and Gobet concluded that practice is necessary to get to the master level—but it’s not enough. There has to be something else that

sets apart the people who get really good at chess.

Similar results on practice have been found for music. A study published in Psychological Science last year found that musicians need a lot of practice, but that practice isn't enough. The researchers identified one additional factor: musicians who are better at sight-reading have better working memory, the ability to keep relevant pieces of information active in your mind.

But, for chess, that factor has not been pinned down. One possibility is intelligence. A lot of studies have found that children who play chess have a higher IQ than the general population. (Because of the ongoing debate on whether IQ really shows intelligence, Campitelli prefers to be conservative and call it "IQ.") But studies have found mixed results on whether adults who play chess have higher IQs than adults who don't play chess. And only one study—of several that have been performed—found that adults with higher IQs are better at chess.

Campitelli and Gobet suggest that more intelligent children may be attracted to chess, and use their good reasoning skills to play well, but later they need to practice hard to learn all the strategies and plans that make a good chess player—and intelligence isn't much help.

Other things that set apart chess players are handedness—while about 90 percent of the general population is right-handed, only about 82 percent of adult chess players are right-handed. This could indicate some difference in brain development that makes people better at the spatial skills you need to be good at chess. But it still doesn't explain what makes some people better at chess than others.

Campitelli was disappointed that he didn't get to be a better chess player, despite all his practice. "But actually, when I started studying these things, I was happy, because I don't play chess as well as I want, but I can

do scientific research and I can coach other people."

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