

Smart people may learn music faster

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Why do some people learn music more quickly than others?

Intelligence could play a role, according to a Michigan State University study that investigated the early stages of learning to play piano.

Published in the journal *Intelligence*, the study may be the first to examine the relationship between intelligence, music aptitude and [growth mindset](#) in beginner pianists.

Growth [mindset](#) refers to whether students believe they can improve basic abilities, like piano ability.

"The strongest predictor of skill acquisition was intelligence, followed by music aptitude," said Alexander Burgoyne, a doctoral candidate in cognition and [cognitive neuroscience](#). "By contrast, the correlation between growth mindset and piano performance was about as close to zero as possible."

In the study, 161 undergraduates were taught how to play "Happy Birthday" on the piano with the help of a video guide. After practice, the students performed the 25-note song multiple times. Three MSU graduate students judged the performances based on their melodic and rhythmic accuracy.

There were striking differences in the students' skill acquisition trajectories. Some learned quickly, earning perfect marks within six minutes of practice. Others performed poorly at first but improved substantially later. By comparison, some seemed to fade as if they had lost their motivation and others never figured it out, performing poorly throughout the study.

So why did some students fail while others succeeded?

To find out, the researchers gave the students tests of cognitive ability that measured things like problem-solving skills and processing speed, and tests of music aptitude that measured, for example, the ability to differentiate between similar rhythms. They also surveyed their growth mindset.

"The results were surprising, because people have claimed that mindset plays an important role when students are confronted with challenges, like trying to learn a new musical instrument," Burgoyne said. "And yet, it didn't predict skill acquisition."

That said, results will likely differ for those with greater skill.

"Our study examined one of the earliest stages of skill acquisition," Burgoyne said. "Early experiences can be formative, but I would caution against drawing conclusions about skilled musicians based on our study of beginners."

But applied generally, the study's findings may be helpful in education.

It follows a [recent review of mindset research](#) that found a weak relationship between growth mindset and academic achievement. Perhaps more concerning, that study found interventions designed to boost achievement by encouraging children to believe they can improve their basic abilities may be fruitless.

That is, when those interventions successfully altered students' mindsets, there wasn't a significant effect on academic achievement.

More information: Alexander P. Burgoyne et al, Predicting piano skill acquisition in beginners: The role of general intelligence, music aptitude, and mindset, *Intelligence* (2019). [DOI: 10.1016/j.intell.2019.101383](https://doi.org/10.1016/j.intell.2019.101383)

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