

A dream study for father-daughter duo

ASU professor teams up with his 9-year-old daughter to study lucid dreams

By Dolores Tropiano, ASU News
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Many parents only dream of sharing their passion with their child. But one father recently had an opportunity to make that dream a reality.

[Michael Varnum](#), a psychology professor at Arizona State University, and his 9-year-old daughter, Clara Varnum, co-authored a scientific [study](#) that links personality traits and other individual differences to the frequency of lucid dreams.

Lucid dreaming is the state of consciously realizing you are dreaming while still inside of the dream. The study offers insights into what makes some people more likely to have these unusual dream experiences.

"There's not a whole lot of scientific work out there on lucid dreams, nor dreams more generally, compared to other topics that modern psychologists tend to study," Varnum said. "Dreams are inherently fascinating to most of us, and lucid dreams especially. But we know very little about them. Clara and I realized we had some new questions we wanted to ask about them."

The study ran in "Dreaming," a scientific journal published by the American Psychological Association.

Eye-opening findings

Our fascination with dreams goes back to ancient times when philosophers such as Plato thought they represented a challenging puzzle about the nature of reality. Neurologist Sigmund Freud believed they were windows into our deepest fears and desires.

In psychological studies of dreams, called oneirology, researchers focus on how dreams relate to brain function, especially memory and mental health. Unlike dream interpretation, which looks for meaning, scientific dream research studies how dreaming works using measurable data.

"We sought to explore the relationship of a wide range of individual differences and the propensity to experience lucid dreams," wrote Varnum in the study. "We attempted to replicate prior associations with openness, nightmare frequency and how often people experience lucid dreams."

The researchers explored the link between lucid dream frequency and variables such as the need for cognition, vividness of waking visual imagery and scholastic aptitude.

According to the duo's research, people who had a more open attitude along with a cognitive curiosity were more likely to have lucid dreams.

“Big personality traits, people who are more open to new experiences and people who are more outgoing reported having more frequent lucid dreams,” Varnum said.

The pair discovered that people who have the ability to create more vivid visual imagery in their minds when they are awake “also have more lucid dreams as well as more unusual dreams — dreams where the person visits the same fictitious place or has dream friends that don't exist in real life, that kind of stuff.”

And they found that it is not always “sweet dreams” for lucid dreamers.

“This is something that was observed in prior studies as well, that people who report more nightmares also have more lucid dreams,” Varnum said.

That made sense for Clara, who gave a nod to all of those experiences.

“People with openness are ... generally more trusting. I find that I'm quite trusting and ... honest,” said Clara, who attended ASU's [Child Study Lab](#) in preschool and is currently enrolled at the Knox Gifted Academy. “And also, it's rare that I have a dream that I remember not being a nightmare. And they're very intense nightmares.”

When it came to scholastic aptitude, they found that people with high grades on tests such as the SAT or ACT are actually less likely to experience lucid dreams. People who were considered “emotionally stable” were also less likely to experience lucid dreams. No gender factor was found in the study.

The dream team

The idea for a lucid dream study sprung from an ordinary conversation between Varnum and his daughter while they were driving in the car — and it evolved from there.

“We talk a lot about ideas,” Varnum said. “She has a scientist for a parent and that's something I love to do and something she finds interesting. We were talking about a dream she'd had — a lucid dream — and how we, and probably lots of other folks, have dreams where we sometimes become aware that we're asleep. And we were speculating a little bit about what's behind that and whether some people are more likely to have them than others.

“And then she came to my lab every day with me, and I walked her through the whole process, from hypothesis to generation,” he said.

Varnum sees this research as a steppingstone toward more scientific studies in this area. Dreams have always intrigued people, but lucid dreams have been gaining significant scientific attention in recent years.

“I think it seems to be entering the zeitgeist more,” he said. “So it seems like — at least among part of the scientific community — that there is a greater interest as well.”

He hopes his experience will also serve as encouragement or perhaps even a wake-up call for other scientists with children.

“I hope this inspires other scientists to take their kids a little more seriously in their curiosity,” he said. “And just because you're 9 years old doesn't mean you can't co-author a scientific paper. It doesn't mean you can't be part of pretty much every step of the process.

“This is how we train future scientists, right? And even if we're not training future scientists, we're helping people to actually understand the process.”

Varnum was the lead for data curation on the study, responsible for formal analysis, investigation, methodology, project administration, writing, reviewing and editing. Clara served in a supporting role for investigation, methodology, writing, reviewing and editing.

This is the fifth grader's first academic publication, and she said that coauthoring the study helped her learn more about lucid dreams as they relate to her personal experience.

“I never really thought about them as a thing that some people just don't really have,” she said.

And though Clara says she aspires to become a fashion designer when she grows up, she also enjoyed the scientific process.

“I'd really like to do this sort of thing in science again,” she said, “because I love science, and honestly, when you have a dad who's a scientist, it's kind of hard not to.”

This story originally appeared on [ASU News](#).

Main image



ASU psychology Professor Michael Varnum and his 9-year-old daughter, Clara, pose for a portrait in his office on ASU's Tempe campus. The two worked together on publishing a study on lucid dreaming that was inspired by Clara's dreams. Photo by Charlie Leight/ASU News