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NEWS

Rare disorder may be the key to rare musical gift

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Before Lori Sweazy knew that her son Alec had a rare medical disability, she knew he had a talent for music.

The Minnetonka mother says she noticed it when he was 3 months old and he suddenly mimicked one of the notes she was playing on the piano. She played it again, and he mimicked it again. "I just got chills," she said.

Thirteen years later, Alec is, by all accounts, an extraordinary pianist, and an impressive accordion player as well. He can play Rachmaninoff, even though he can't read music.

Some believe that his talent is a legacy of a curious disorder called Williams Syndrome, a genetic ailment that carries with it some heartbreaking traits - low IQ, learning disabilities, heart problems - and some joyous ones as well - outgoing personalities and a gift for language, and perhaps, music.

This week, Alec Sweazy is exhibit A at the annual convention of the Williams Syndrome Association, which opens today in Bloomington. There, scientists and parents will explore the apparent link between music and this rare condition. And Alec will be featured both as a subject in a new research study and a featured player at the convention's talent show Saturday night.

To many, he is a prodigy who shows just how much some people with the syndrome can accomplish.

"They have a musical intelligence we are just beginning to unlock."

That is the judgment of Howard Lenhoff, a California researcher whose 43-year-old daughter, Gloria, can barely add, but can sing in 25 languages. "Most of them can't make change from a dollar," he said. "The fact that we have winners in this population is phenomenal."

People with Williams Syndrome aren't like the autistic children who can play music but withdraw from the world. In fact, some say they're polar opposites: they thrive in social settings.

Many parents of children with Williams Syndrome, which occurs in about 1 in 20,000 births, or about 12,000 Americans, have long suspected that their kids had a special knack for music. They even established a weeklong summer camp in Lenox, Mass., to give them special instruction in music and the arts.

But there was little scientific evidence to back up their claims. So in the past few years, scientists have started studying their reactions to music, rhythm, singing, dancing and harmony. So far they've found that many - though not all - have a special bond to music, if not an outright talent.

"Most of them have perfect pitch, and just really tune in to rhythms, melodies and harmonies," said Lori Sweazy, the music chairwoman of the convention. She's so convinced of their budding talent that she persuaded teachers from the MacPhail Center for the Arts in Minneapolis to offer their trademarked music minilessons at the five-day convention at the Radisson South Hotel.

`God-given talent'

To watch Alec play the piano is to witness something extraordinary. He can hear a simple melody once and play it from memory. Or he'll work for months on a Rachmaninoff piece and suddenly vary the mood, the timing and nuance - without even realizing it.

"The way he interprets music is really extraordinary," says his piano teacher, Joanne Scully. At her home in Minneapolis last week he rehearsed "L'Orage" (The Storm) by Friedrich Burmuller, a moody piece made even more haunting by his touch. It's the song he'll play Saturday.

"You know, every time I hear this piece it changes," Scully tells him. "A lot of the things you're doing right now I like better. You're not changing on purpose, are you?" He shakes his head. "Good work," she says, slapping his hands, and he laughs uproariously.

Larry Malmberg, his accordion teacher, said simply: "It's a God-given talent."

Alec, who performed at recitals in Willmar, Minn., in April after winning a regional music competition, clearly loves being at the center of attention. With a shy smile, he cheerfully mugged for a photographer and confided that he likes music "that makes me rock and roll." If he's given much thought to a future in music, it doesn't show. His goal in life? "Maybe be a train operator," he said. "Or maybe a pizza place owner."

Scientists believe that Williams Syndrome is caused, at least in part, by a missing gene or missing genetic material on the seventh chromosome, which is somehow responsible for the strange mix of symptoms. (The syndrome was featured on CBS' "60 Minutes" Sunday.)

Like Alec, people with Williams often have a telltale set of "pixielike" facial features, such as upturned nose, puffy eyes, wide mouth and small chin. They're also prone to a wide range of developmental and health problems, such as IQs in the 60s or 70s, kidney problems, hernias and heart and blood vessel disorders.

Alec, however, is at the high end academically, his mother said. Most kids with Williams struggle with math, drawing or spatial skills; Alec has done better than most and is mainstreamed at Hopkins' North Junior High School, where he'll enter the eighth grade this fall.

But he clearly shares one of the most intriguing symptoms, if you can call it that: an endearing personality. Williams kids can be charming to a fault; they love flowery language and are extremely polite. "You can't teach them not to talk to strangers," said Ursula Bellugi, a neuroscientist who studies Williams Syndrome at the Salk Institute in La Jolla, Calif.

That unrestrained sociability may, in itself, make them natural performers, experts say. But the key to the musical mystery may lie with their hearing, which is extrasensitive to certain frequencies and noise levels.

"Possibly, that sensitivity helps them to kind of hear the rhythms that some of us {can't}," said Terry Monkaba of Troy, Mich., executive director of the Williams Syndrome Association.

Her 12-year-old son, Benjamin, a drummer, can pick out every drum beat on a song the first time he hears it - and play it back, she said. Much like Alec Sweazy.

Musical geniuses?

Few were surprised when Lenhoff, a biochemist, discovered that his daughter Gloria and Alec Sweazy have perfect pitch, meaning they can identify any note, even the noise from a piece of machinery.

But Alec's mother, Lori, is a professional violinist, so couldn't this just be a case of inherited talent?

Yes, of course, Lenhoff said. And right now, he and others concede, there's no proof that Williams kids have an innate musical talent. But some new studies, to be presented at the conference this week, may shed more light on the question.

In one survey, Lenhoff found that children with Williams were much more likely to be perceived as enjoying music, dancing and singing than their brothers and sisters, as judged by their parents.

In another study, researchers found "an unusually high level of engagement with music" among Williams children, said **Daniel Levitin**, a Stanford University music scholar who conducted the study with Bellugi of the Salk Institute. In that test, they asked Williams kids to duplicate a pattern of clapping sounds, and found that, in spite of their poor coordination, they were just as good as other children.

"People ask us, 'Are they musical geniuses?' They're thinking of the 'Rainman' movie," Levitin said. "There's no evidence they're musical geniuses."

What's striking, he said, is that their musical skills are so normal compared with their impairments. And he doesn't rule out that future research may show even more. "The study is in its infancy," he said.

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