

# Singing can provide understanding of relationship between perceiving and doing, psychologist says

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Credit: University at Buffalo

A University at Buffalo psychologist is part of a team of researchers and educators behind a new online test that quickly measures singing accuracy.

The Seattle Singing Accuracy Protocol (SSAP) began at a research symposium in the fall of 2013 with the seven-member research group

committed to the goal of creating a measure with a minimum number of tasks necessary to assess pitch accuracy.

Today, the SSAP is a [publicly accessible website](#) where participants can spend about 15 minutes to assess how well they're hitting the correct notes through a series of imitation and listening exercises, according to Peter Pfordresher, a professor in UB's Department of Psychology and an expert in auditory perception.

That 15-minute stretch might seem like a long time for those who have endured bad singing and believe they can identify a clunker much sooner than the time needed to finish the test, but the SSAP is an evolution in measuring pitch accuracy that moves beyond subjective ratings, biases and perception to provide data-driven rather than opinion-driven results.

"There are a couple of good measures out there to determine singing accuracy, but they're long, sometimes taking an hour to complete," says Pfordresher, who developed the test with Steven Demorest, professor of music education at Northwestern University. "That's not going to work if you're thinking about a quick screening."

Similarly, a trained ear may quickly identify an untrained voice, but that assessment doesn't provide an experimental result that can compare participants to other groups.

"The test is for all sorts of people with different music musical backgrounds as well as for those doing research projects," he says.

Pfordresher, an amateur singer, is interested in [music education](#) and helping people make better music, but as a psychologist, he's also interested in singing as a process of imagining sounds and transforming that conception into action.

Music is like language. It's a form of cultural communication. And both are accomplished using complicated processes within the brain, according to Pfordresher.

For psychologists, focusing on music can bring insights to areas that go beyond musical practice.

"Within my own lab, I'm using music as a way of understanding the relationship between perceiving and doing – what I call sensorimotor relationships," he says. "When we're going around in the world we have to constantly update our action plans through our perceptions. Crossing the street means taking a higher step when we encounter a curb."

When singing starts to go off in a wayward direction, the action plan has to be adjusted in any number of ways, some more successful than others, Pfordresher points out.

"I'm interested in pitch from a research standpoint because I think the sensory motor translation, changing perception to action, is particularly tricky for pitch," he says. "We can't visualize very easily what's going on and it's hard to know how to control that."

Singing instructors can deal with other elements, like timbre, but it's much harder to address a pitch problem. In fact, pitch might be the most problematic aspect of singing, according to Pfordresher.

Yet good singing is not just about pitch.

"The case I use to make that example is that of William Hung from American Idol," says Pfordresher. "He was laughed off the stage, but his pitch accuracy was actually good."

Unlike the sometimes harsh judgements of an American Idol audition,

Pfordresher doesn't want people to see their SSAP results as a blanket conclusion about the kind of singer they're always going to be. He says singing is a learned behavior and there is a growing amount of data suggesting that.

The SSAP is one indication, a snapshot, of someone's pitch accuracy at the time they take the test.

"A person might use a poor score as a motivation to keep trying to improve their voice," he says. "If you score perfectly, you can take some pride in that achievement, but it doesn't mean a recording contract is around the corner."

Provided by University at Buffalo

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