

# When it comes to hearing, diet may trump noise exposure

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Although the old wives' tale about carrots being good for your eyesight has been debunked, University of Florida researchers have found a link between healthy eating and another of your five senses: hearing.

UF Health researcher Christopher Spankovich examined the eating habits of participants in the National Health and Nutrition Examination Survey. In previous work, Spankovich found that the higher a person scored on the Healthy Eating Index, a part of the survey, the better his or her auditory function.

Spankovich examined data from 2,366 people. In addition to answering questionnaires about their health during the original survey, participants were given a four-part hearing test. When Spankovich analyzed the data, he found a strong connection among [diet](#), hearing and [noise exposure](#).

The hearing of people who ate well but had higher noise exposure was comparable to the hearing of people with lower noise exposure who ate poorer diets, according to results published recently in the International Journal of Audiology. While eating healthfully may not reverse hearing damage, a good diet may play a part in prevention.

"Our hearing health is linked to our general health. Our auditory system is dependent on our cardiovascular, neural and metabolic health, and if we are not healthy in general, it makes sense that we could increase our susceptibility to hearing loss," said Spankovich, the study's lead author and a research assistant professor in the department of speech, language

and hearing sciences in the College of Public Health and Health Professions.

In the study, a healthy diet meant that the person who scored well on the Healthy Eating Index ate as close to the U.S. Department of Agriculture's diet recommendations as possible. This means they ate plenty of vegetables, fruit and fiber while keeping salt, cholesterol, fat and saturated fat beneath the limits recommended by the Department of Agriculture.

Hearing can be affected in multiple ways, some of which are avoidable and some of which aren't, Spankovich said. Some unchangeable factors include sex, genetics, race, ethnicity and age. Some changeable factors include cardiovascular health issues, diet, ototoxic medications and exposure to loud noise. Spankovich and the study's co-author Colleen Le Prell, an associate professor and interim chair for the department of speech, language and hearing sciences and director of the Hearing Research Center at UF, only found the relationship between a better diet and better hearing in higher frequencies, not in lower frequencies.

The National Health and Nutrition Examination Survey assesses the health and nutritional status of adults and children in the United States, according to the Centers for Disease Control and Prevention. Part of this survey, the Healthy Eating Index assigns points to participants based on how well they eat.

For example, a person might be awarded a full score of 10 points if they eat the full number of servings of vegetables recommended by the U.S. Department of Agriculture. A person may lose points if he or she consumes too much of certain nutrients, such as sodium. Most people who completed the survey, which assigns a score of zero to 100, scored between 58 to 61.

In the population Spankovich studied, the participants' average score was 63.11 percent. Seventy three percent of the sample had intermediate scores, ranging from 51 to 80 percent, which were classified as "needs improvement," while 14.6 percent had poor scores and 12 percent had good scores.

Spankovich emphasized their study identified a relationship between hearing and diet—not a causal link.

"These initial studies are showing the link between diet, auditory function and noise exposure. We can't show cause-and-effect because it's a cross-sectional study," Spankovich said.

Next will be to examine the link in a longitudinal study in which the researchers will study the [hearing](#) and diet of a larger cohort over time.

Provided by University of Florida

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