Canadian Audiologist
The Official Publication of the Canadian Academy of Audiology

The Case of the Missing Dots: AI and SNR* Loss

Published November 12th, 2025

Mead Killon, PhD

> Mead C. Killion and Laurel A. Christensen
> The Hearing Journal, 51(5), 32-47, 1998.
>
> **Annotator's note:* In this paper, "AI" refers to Articulation Index, and "SNR" refers to Speech-to-Noise Ratio.

SOMETHING ABOUT MEAD

One thing about Mead is his extraordinary ability to think conceptually and to formulate a multidimensional treatise that demonstrates certain concepts, even if a reader may, on occasion, have difficulty following it. This paper is an example of such a treatise. But extraordinarily complex thinking was never a good reason for Mead to decline to publish, even in a nuts-and-bolts hearing-aid trade journal: There must be readers out there with exceptional abilities who can follow high-level multidimensional thinking! Fear not, average reader! This article has a summary and an introduction that convey a clear, exquisitely useful take-home message.

SUMMARY (Transcribed)

We used a simple Count-the-Dots approach to estimate the loss of information flow accompanying a given amount of SNR loss at low and high frequencies. Not only does this method nicely predict the reduced slope in the graph of percentage correct vs. SNR for hearing-impaired subjects, but (it) helps explain how hearing-impaired persons with high-frequency loss—those who often have the greatest SNR losses—will often obtain the greatest benefit in noise from the use of high-performance directional microphones. In the experiment reported here, this benefit exceeded the previously predicted benefit by nearly 2 dB. For once, it appears, those who need the most help may receive the most benefit.

> Annotated by: Larry Revitt