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The Effect of Presentation Level on the SCAN-3:A

Audiology & speech-language sciences

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The SCAN-3:A is widely used to screen and diagnose Auditory Processing Disorders (APD). The test is meant to be administered through an audiometer at 50 dB HL. The test manual states that it can be administered through a portable CD player when an audiometer is not available. If presented through a CD player, it is to be played at the patient's most comfortable listening level (MCL), or the clinician may present at their MCL. Because MCL is likely to vary across individuals, even those with normal hearing sensitivity, the question that was asked in this study was whether the presentation level affected scores of the SCAN-3:A.

Twenty-two young adult females from the University of Northern Colorado were recruited to participate in this study and were administered the SCAN-3:A three different times at one month intervals, at 40, 50, and 60 dB HL. Prior to each session, participants passed a hearing screening to ensure normal hearing sensitivity. The stimulus level of the SCAN-3:A was counter-balanced across participants in order to eliminate test order effects.

A Repeated Measures ANOVA with Multiple Comparisons were used to determine effects of presentation level on the scaled composite and subtest scores. There were significant differences across all intensity levels for the composite scores ($p < .001$). Results varied among the subtests. Effect sizes were also calculated and found to be strong.

Several professions outside of audiology, including speech language pathologists and psychologists, are qualified to administer this test. It is likely many of them would be doing this without an audiometer. Depending on the level they present through a CD-player, this could result in incorrect test scores and even misdiagnosis of APD. Because APD is typically diagnosed in children, it would be interesting in the future to evaluate the effect of presentation level on the SCAN-3:C(children's version).