

# Factor analysis of the skills encompassing auditory and cognitive abilities of 8 – 11 year old children

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**Background:** Auditory processing disorder (APD) has been linked to language difficulties, attention deficits, and memory problems. Despite the evidence for these multiple coexisting deficits, there is no consensus among researchers worldwide regarding what test battery should be employed to assess APD. The aim of the current study was to assess children with listening concerns across a variety of skills and to observe which underlying factors had a major role to play within the functioning capabilities of these children. The findings will help understand and address what should constitute the test battery for children with listening concerns.

**Methods:** 77 children (49 male, 8-11 years) with listening concerns were assessed using measures of attention, working memory, Listening in Spatialized Noise – Sentences (LiSN-S), Dichotic Digit difference test, frequency discrimination, and statistical learning. Outcome scores on these dependent variables were entered into a factor analysis.

**Results:** Four factors were extracted: “central executive function,” which encompassed attention and working memory; “speech recognition in noise,” represented by the LiSN-S; “general auditory processing skills,” represented by frequency discrimination and spatial processing; and “listening and learning ability,” which were represented by children’s statistical learning and dichotic listening. These results are consistent with Ahmmed et al. (2014).

**Conclusion:** The findings highlight the importance of central executive functioning combined with specific auditory and learning skills in guiding the performance of children with listening concerns.

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