Speech Perception and ADHD

PRESENTER: Emily Espinel Faculty Advisor: **Reethee Antony**, **Ph.D**. **Division of Speech & Language** Pathology

BACKGROUND

Attention deficit hyperactivity disorder (ADHD) is a neurodevelopmental disorder that affects the overall quality of life.

There is little knowledge on how individuals with ADHD perceive speech sounds and the factors affecting them, hence the need for the scoping review.

AIM

The aim of this study is to synthesize literature in the area of speech perception in individuals with ADHD.

METHOD

1. Finalize inclusion and exclusion criteria

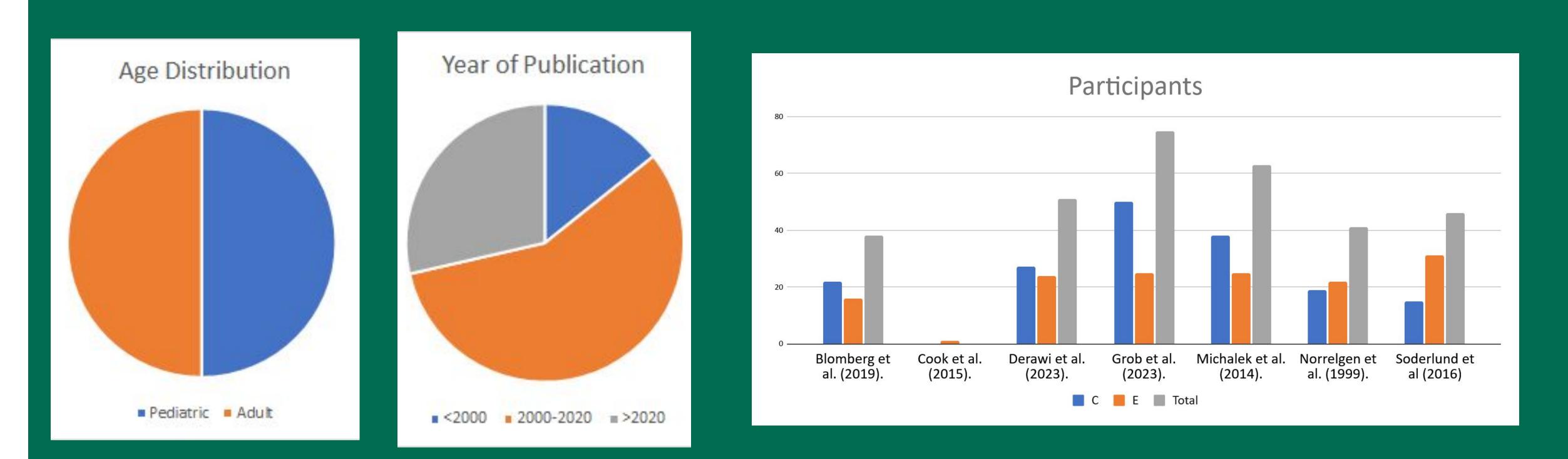
2. Search terms included speech perception, ADHD, noise, and white noise.

3. Read the articles and completed annotated bibliography

4. Organized the data into an excel sheet with variables: country, year, objective, IV, DV, participants, stimuli, noise, procedure, and key findings.

5. Synthesized information from the excel sheet.

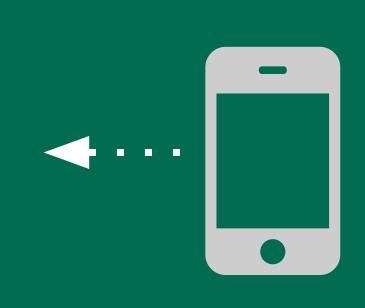




Research suggests individuals with ADHD have more difficulties processing speech-in-noise. Studies also show that that there may be benefits to white noise.







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DISCUSSION

The results showed that individuals with ADHD had more difficulty processing speech in noise compared to typically developing peers (Blomberg et al., 2019; Derawi et al., 2023; Grob et al., 2023; Michalek et al., 2014; Norrelgan et al., 1999).

CONCLUSION

This study helped in understanding speech perception in individuals with ADHD and leads to a bigger project on speech-in-noise processing in individuals with ADHD.

REFERENCES

- Blomberg, R., Danielsson, H., Rudner, M., Soderlund, G. B., & Ronnberg, J. (2019). Speech processing difficulties in attention deficit hyperactivity disorder. Frontiers in Psychology, 10 (1536), 1-14.
- Cook, A., Johnson, C., & Bradley-Johnson, S. (2015). White noise to decrease problem behaviors in the classroom for a child with attention deficit hyperactivity disorder (ADHD). Child & Family Behavior Therapy, 37(1), 38–50.
- Derawi, H., Reinisch, E., & Gabay, Y. (2023). Internal cognitive load differentially influences acoustic and lexical context effects in speech perception: Evidence from a population with attention-deficit/hyperactivity disorder. Journal of Speech Language and Hearing Research, 66(10), 3721-3734
- Grob, C., Bernhofs, V., Mohler, E., & Christiner, M. (2023). Misjudgement of one's own performance? Exploring attention deficit (hyperactivity) disorder (ADHD) and individual difference in complex music and foreign language perception. International Journal of Environmental Research and Public *Health*, 20(19), 6841.
- Michalek, A. M., Watson, S. M., Ash, I., Ringleb, S., & Raymer, A. (2014). Effects of noise and audiovisual cues on speech processing in adults with and without ADHD. International Journal of Audiology, 53(3), 145–152.
- Norrelgen, F., Lacerda, F., & Forssberg, H. (1999). Speech discrimination and phonological working memory in children with ADHD. Developmental Medicine & Child Neurology, 41(5), 335-339.
- Soderlund, G. B., & Jobs, E. N. (2016). Differences in speech recognition between children with attention deficits and typically developed children disappear when exposed to 65 dB of auditory noise. Frontiers in Psychology, 7, 34.