

Clinical Findings in School-Age Children Assessed for Auditory Processing Disorder

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BACKGROUND

Definitions

- **American Speech Language Hearing Association (2005)** defines Auditory Processing Disorder (APD) as marked by deficits in one or more of the following skills which is not the *result* of language or cognitive disorders:
 - Sound localization and lateralization
 - Auditory discrimination
 - Auditory pattern recognition
 - Temporal: masking, resolution, integration, ordering
 - Auditory performance difficulty with degraded or competing acoustic signals
- **American Academy of Audiology (2010)** designates APD as a distinct clinical entity.
- **Functional definition of APD** – Difficulty understanding spoken language (exacerbated in noise or distracting environments).

Clinical Problems

- Professionals across disciplines characterize children with APD differently (Jerger, 2009; Museik et al., 2005; Museik & Chermak, 1994).
- SLPs may use the term Specific Language Impairment (SLI) to describe these children (Ferguson et al., 2011).
- Under Individuals with Disabilities Education Act, APD is not a qualifying diagnosis for special-education services in public schools. APD also does not neatly fit under existing categories of disability.
- Controversies have left clinicians who administer APD tests without a standard protocol.
- Multi-disciplinary evaluation is ideal but often not implemented.

Result

1. Weak diagnostic criteria for APD,
2. Poor educational support for children suspected to have APD, and
3. Confusion to parents.

SPECIFIC AIM

Children suspected to have APD may have co-existing deficits in attention, language, and memory (Moore et al., 2010) which often go unrecognized.

Our aim was to retrospectively examine diagnostic findings in school-age children who were previously evaluated for APD at the UCA Speech, Language, and Hearing Center.

METHOD

Clinical files were reviewed and the following data were tabulated ($N=13$):

1. Occurrence of concomitant disorders (e.g., language disorder, ADD/ADHD, cognitive disorder, ear infections)
2. Parent description of child's behavior
3. Auditory deficits
4. Language deficits
5. Cognitive deficits

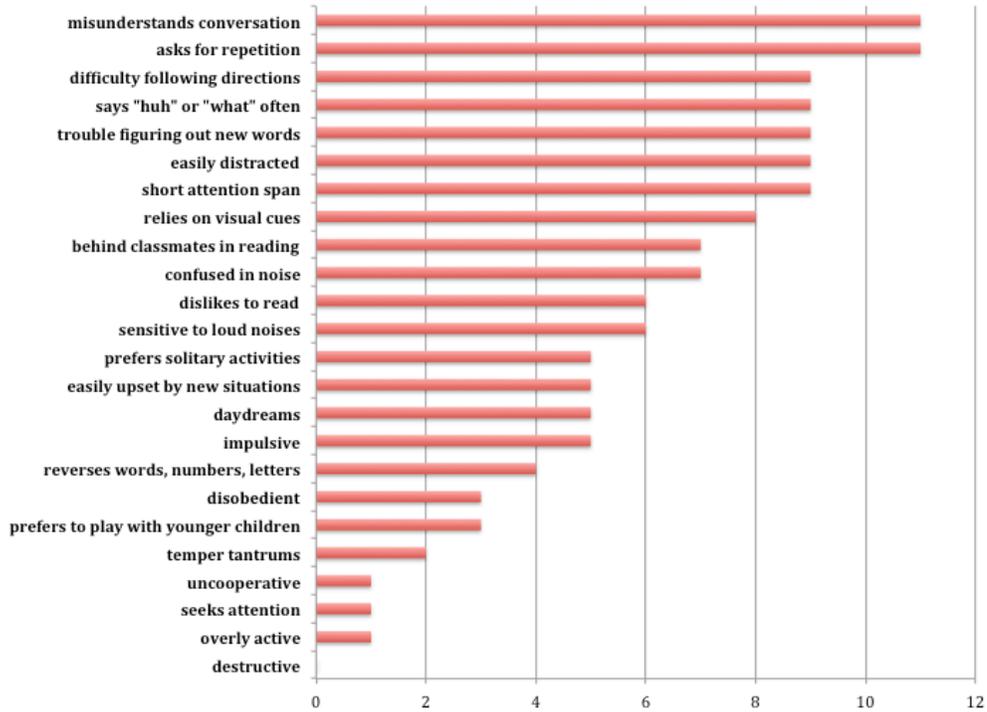
RELEVANT DATA

- Age at first APD assessment:
(Range: 7-18 years)
 - 8 children between 13-18 years
 - 5 children between 7-10 years
- 50% had a history of ear infections (7/13)
(Tomlin & Rance, 2014)
- All children were reported to be struggling in one or more academic area.
- Receiving Academic Accommodations:
 - Individualized Education Plan: 1 child
 - 504 Plan: 3 children
 - No Accommodations: 9 children

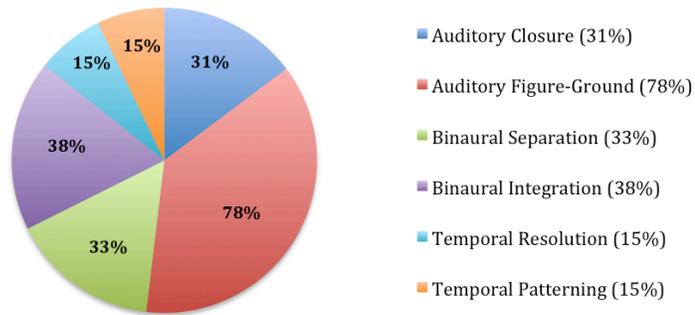
RESULTS

- **Key symptoms:** poor spoken language comprehension, short-attention span, susceptibility to distraction.
- **Key auditory deficits:** difficulty listening to degraded auditory input (separating signal from noise), binaural integration/separation, auditory memory.
- Academic area most affected: **Reading**
- **Concomitant diagnoses** for the majority: Language Disorder; Specific Learning Disorder; ADD (+ regular medication).

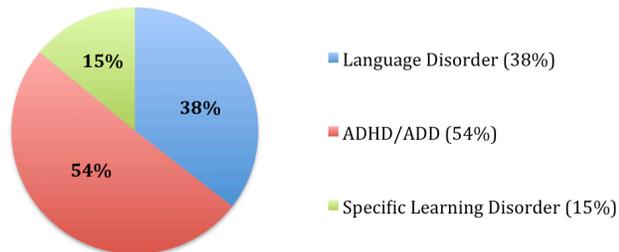
Behaviors and Characteristics



Deficits on Auditory Processing Tests



Other Diagnosed Disorders



CONCLUSIONS

- ❑ Focus must be on deficit area(s) rather than the APD diagnostic label.
- ❑ Hierarchical test battery maybe useful and more realistic (Cameron et al., 2015).
- ❑ A hierarchical battery would assess cognition, language, and auditory processing areas as indicated.
- ❑ Cameron, Glyde, & Dillon (2012) report Spatialized processing (i.e. listening in spatialized noise) as one auditory area that may be unambiguously assessed.
- ❑ Multidisciplinary intervention planning is needed to treat deficit areas in a contextualized manner.
- ❑ Many children do not qualify for language therapy services at school. Auditory or attention/memory training may not be effective in isolation. (e.g., Gillam et al., 2008; Gillam & Gillam, 2012).
- ❑ Systematic large-scale retrospective studies will improve our understanding of this complex condition.

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