

Discrepancies between Parental Reports and Data logging Reports of Hearing Aid Use for Children in a Diverse, Underserved Demographic: Identifying Factors to Facilitate Better Counseling Methods



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BACKGROUND

Approximately 15% of children with hearing loss use their hearing aids less than 30 minutes per day (Wolfe et al., 2013). Several factors have been found to influence the amount of time children use their hearing aids including child's age, age of diagnosis, and degree and laterality of hearing loss (Gustafson et al., 2019; Moeller et al., 2009; Walker et al., 2013). Studies suggest that parents of pediatric hearing aid users reportedly overestimate their child's hearing aid use time by about 2 to 3 hours per day when compared to data logging records (Walker et al., 2013).

To date, there is limited research documenting factors that influence the discrepancies found between a parent/caregiver's estimation of their child's hearing aid use time compared to objective measures, such as data logging technology, in a diverse demographic. This study will examine the unique population of the RFK Children's Evaluation and Rehabilitation Center, which is a multidisciplinary clinic that specializes in the diagnosis and treatment of children with intellectual and developmental disabilities. A goal of this study is to identify factors to facilitate better counseling methods for audiologists working with a diverse pediatric population in order to improve hearing aid use and patient/family-centered care practices.

METHODS

Cross sectional survey of hearing aid usage amongst pediatric patients with hearing loss seen in the audiology clinic at CERC

Data collected: Parental report via questionnaire and data logging of patient's hearing aids through manufactures' software.

Exclusion criteria: Patients with bone-anchored hearing aids, cochlear implants, and/or bimodal. Patients over the age of 18.

- Aim 1** • To identify factors that lead to discrepancies between data logging records and parent reports of pediatric hearing aid use time
- Aim 2** • To determine which factors negatively affect daily HA use in a diverse population of pediatric HA users
- Aim 3** • To facilitate better counseling methods that address these factors and improve hearing aid use and patient/family-centered care practices

LIMITATIONS

This study has limitations within which the findings need to be interpreted carefully:

- Sample size (n=20)
- Selection bias
- Personal factors (i.e. sick, vacation)

Table 1: Patient Characteristics

Category	Number (n=20)	% of total
Children followed for amplification at CERC	~384	-
Male	14	70%
Female	6	30%
Average Age	6	-
Laterality	Unilateral: 5 Bilateral: 14	75% Bilateral
Hearing Aid Fitting	Monaural: 8 Binaural: 11	55% Binaural

Fig. 3: Factors for not wearing hearing aid(s)

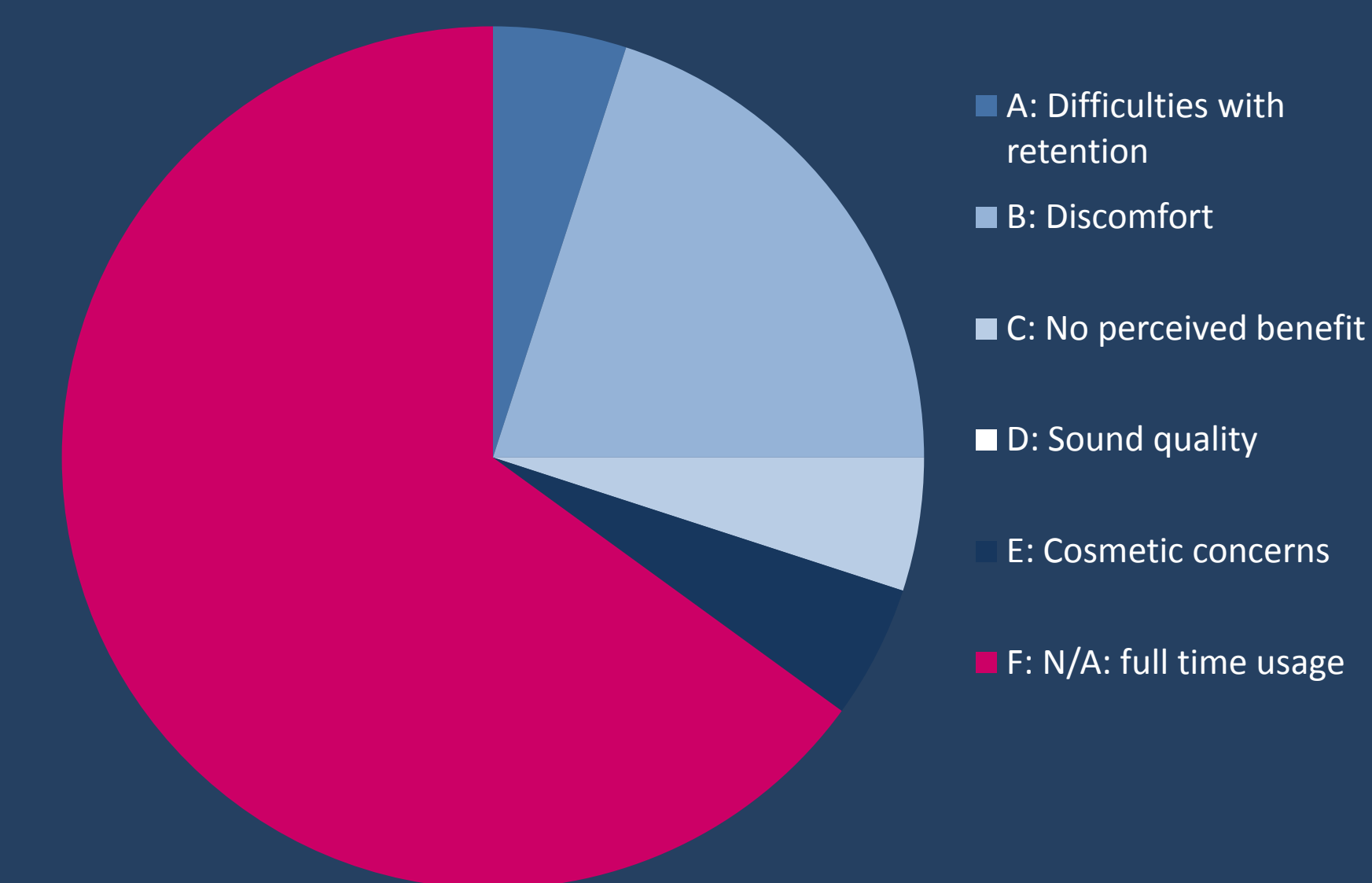


Fig. 1: Parent Report versus Data Logging (Bilateral Hearing Loss)

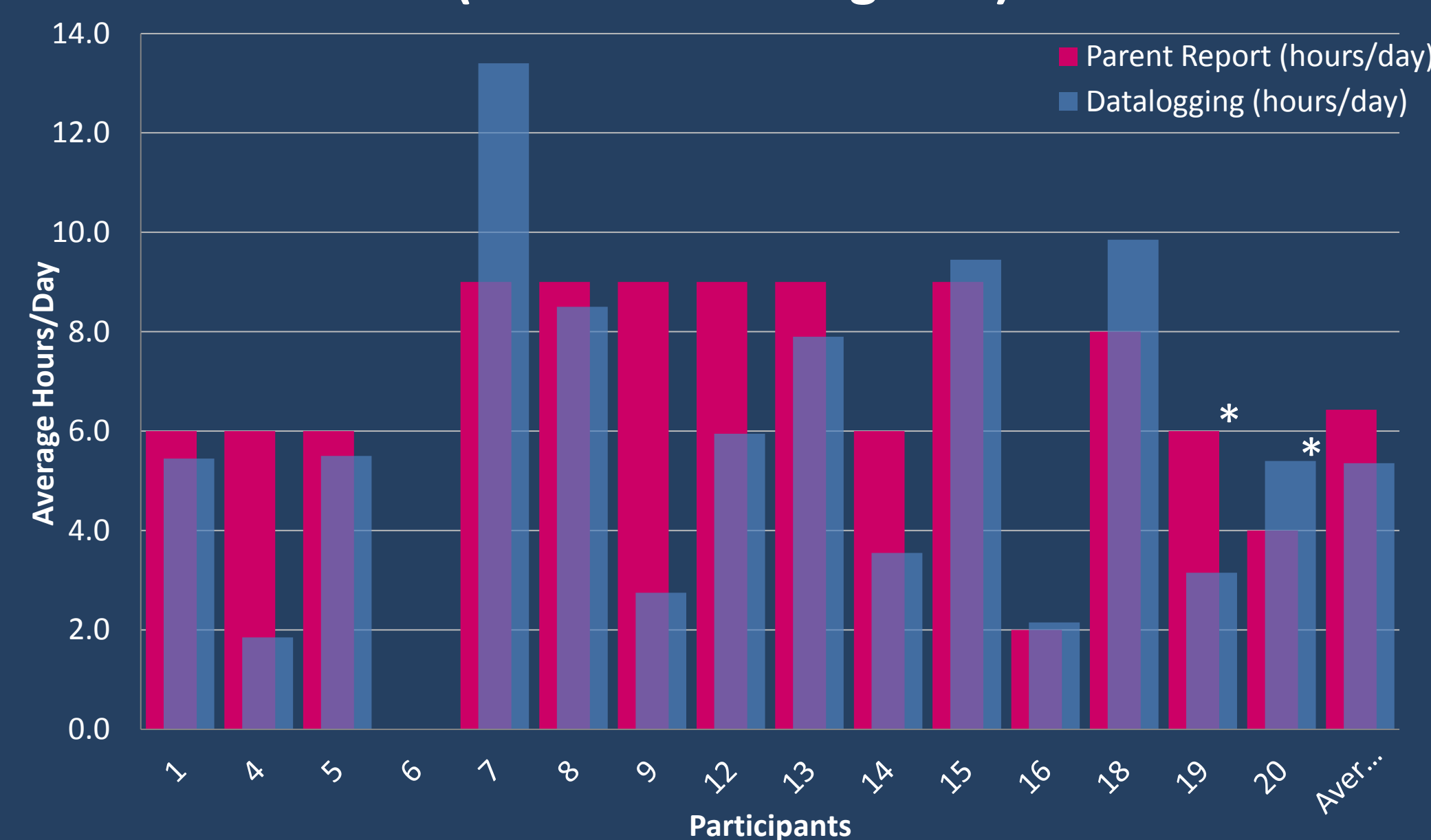


Fig. 4: Factors to promote hearing aid(s) usage

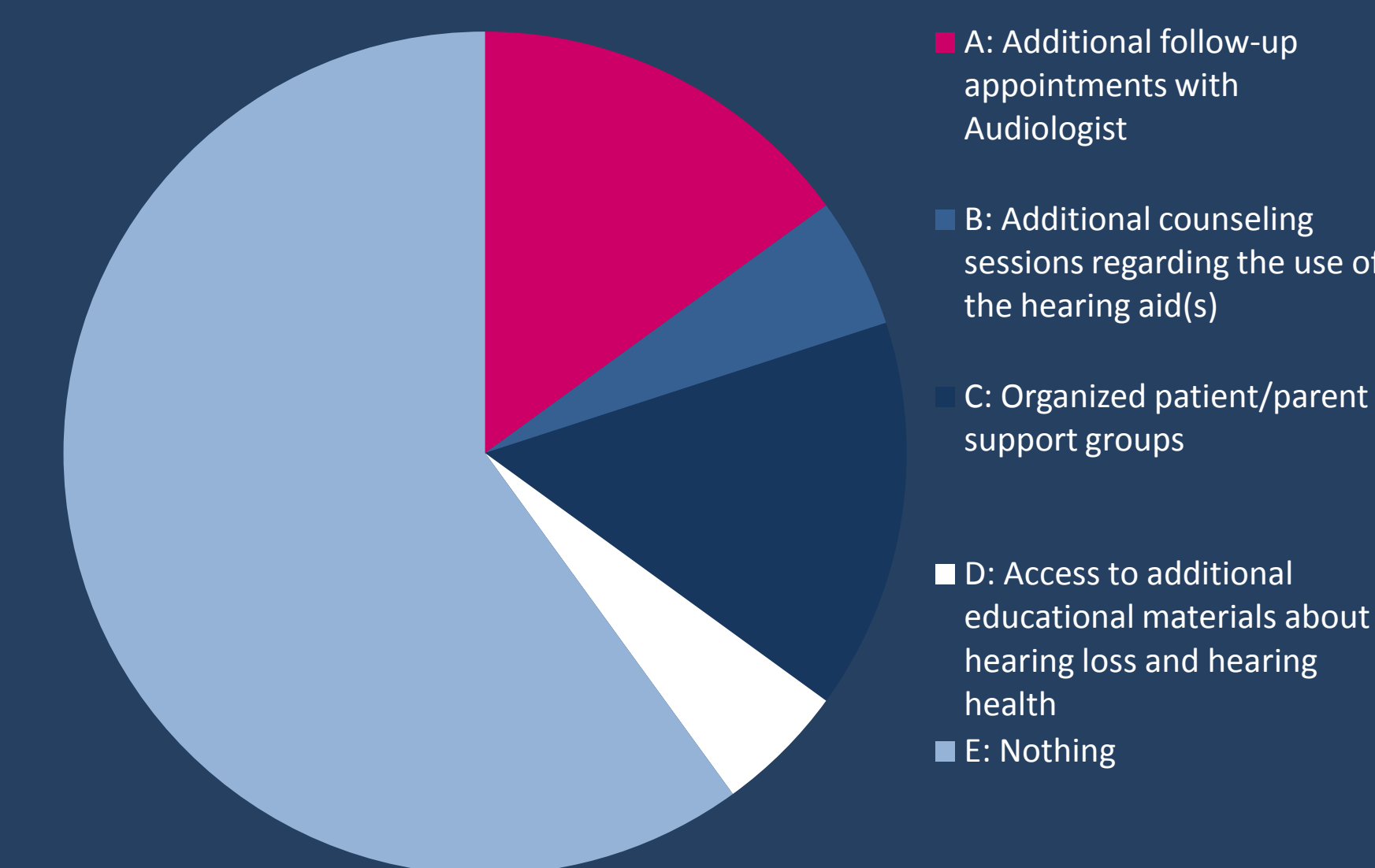
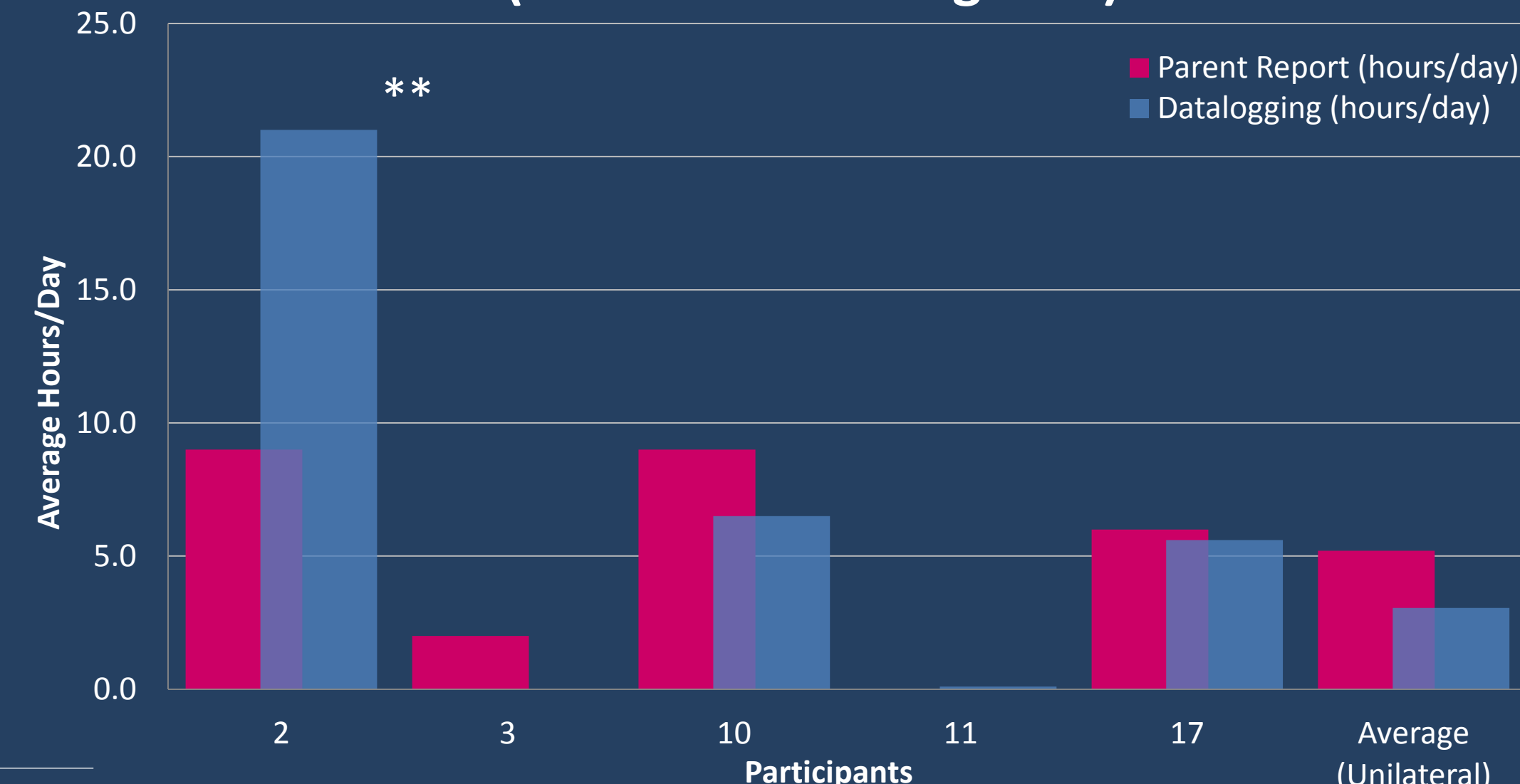
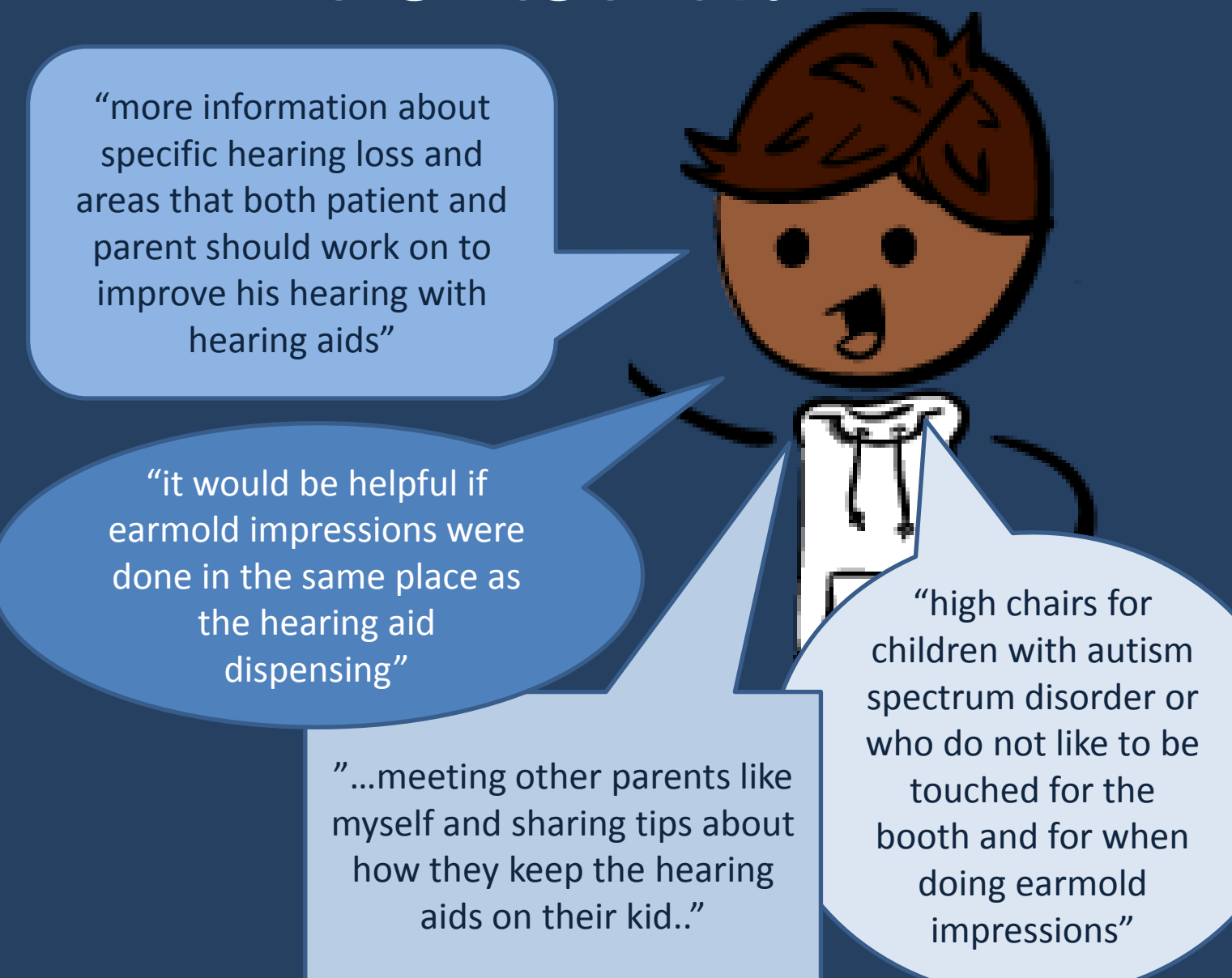


Fig. 2: Parent Report versus Data Logging (Unilateral Hearing Loss)



LET'S LISTEN!



Data logging versus questionnaire
 Data logging provides objective information on the number of hours on average that hearing aids are used in different listening environments on a daily basis.
 It provides clinicians with *objective* information while the questionnaire offers *subjective* information from the hearing aid user and/or the parent.

References
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 -Gustafson, S. J., Ricketts, T. A., & Tharpe, A. M. (2017). Hearing Technology Use and Management in School-Age Children: Reports from Data Logs, Parents, and Teachers. *Journal of the American Academy of Audiology, 28*(10), 883-892. doi: 10.3766/jaaa.16042
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 -Walker, E.A., Spraford M, Moeller MP, Oleson J, Ou H, Roush P, Jacobs S. (2013) Predictors of Hearing Aid Use Time in Children with Mild-to-Severe Hearing Loss. *Language, Speech, and Hearing Services in Schools 44*.

* patient (19 & 20) has separate set of HA for school
 ** not included in the overall average as the parent of patient (7) left the hearing aid battery door closed all the time