

INTRODUCTION

- Over **half of all individuals with Parkinson disease (PD)** will develop **hypophonia**, a speech symptom characterized by low speech intensity that negatively impacts speech intelligibility^{1,2}
- Behavioral treatments **are effective for many people with PD**³
- Some have **difficulty integrating improvements** into everyday life^{1,4,5}
- Speech amplification devices are an alternative treatment option⁶
- Amplification devices can improve **acoustic and perceptual outcomes**^{7,8} as well as **intelligibility & communicative effectiveness**⁹
- It is not clear **what drives the choice of using a device** for individuals with PD⁷ and what the **current attitudes/knowledge of SLPs** are related to amplification devices¹⁰
- Research is needed to identify **why/when SLPs recommend devices**

This study aimed to:

Identify factors that influence SLP's clinical decisions when considering speech amplification device prescription for people with PD and hypophonia.

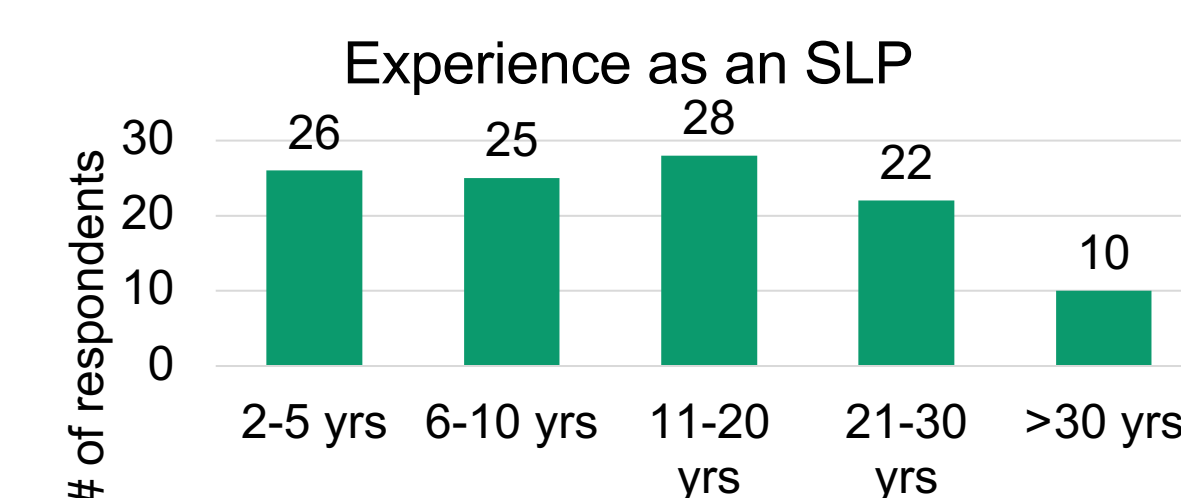
METHODS

This study consisted of a mixed methods design that included two phases:
1) a survey and 2) a set of semi-structured interviews.

Survey

Participants

- 111 SLPs in the United States/Canada with at least 2 years of experience working with PD clients were included in the study.



Data Collection & Analysis

- The survey data was collected via an anonymous Qualtrics survey during a three-month span (January-March 2022).

Interview

Participants

- 10 SLPs in the US/Canada who had at least 5 years of experience as an SLP and at least 2 working with PD were included in the study.

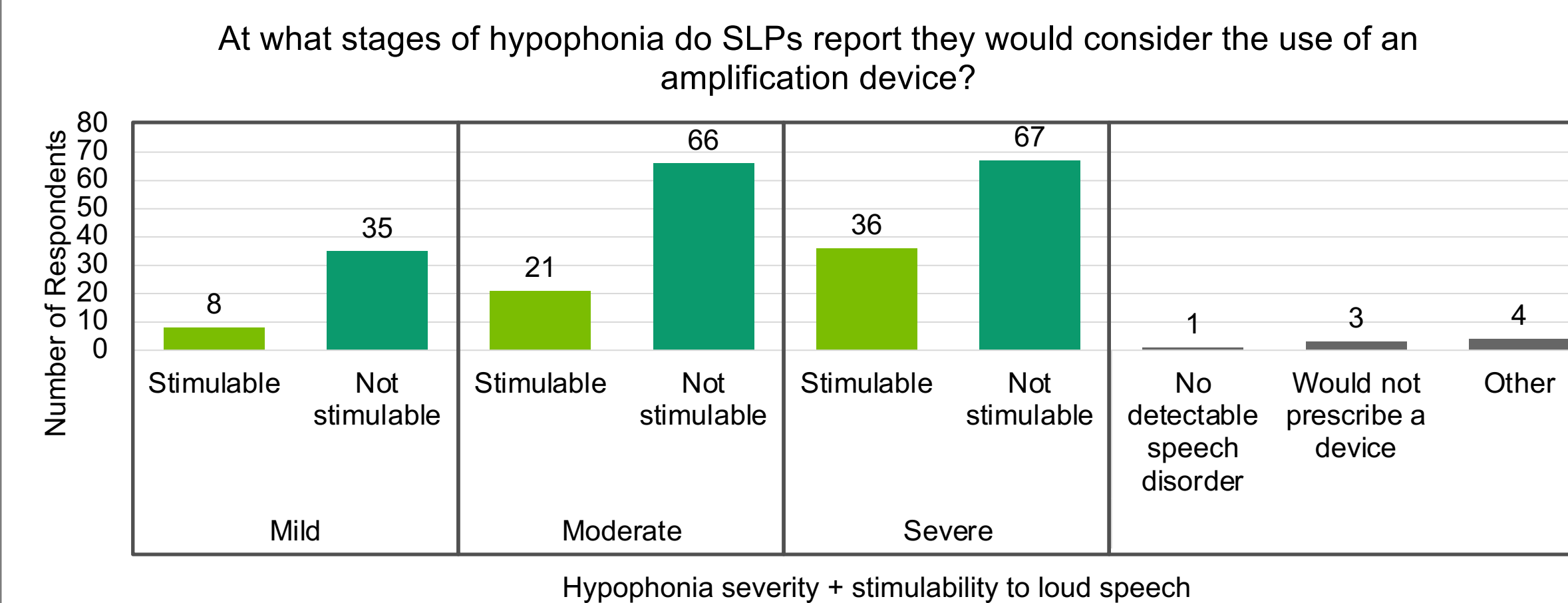
Data Collection & Analysis

- SLPs participated in 30–60-minute semi-guided interviews via Zoom.
- A semi-structured interview guide was created to probe the following:
 - Experiences with amplification devices to manage hypophonia
 - Perceived facilitators and barriers to device use
 - General opinions on amplification device use.
- The authors jointly developed a codebook, following the process outlined in Braun & Clarke, 2006¹¹. Broadly, the stages included:

1. Generating codes
2. Identifying patterns
3. Finalizing patterns to create themes
4. Finalizing themes
5. Using themes to generate a report
6. Linking themes back to excerpts/codes

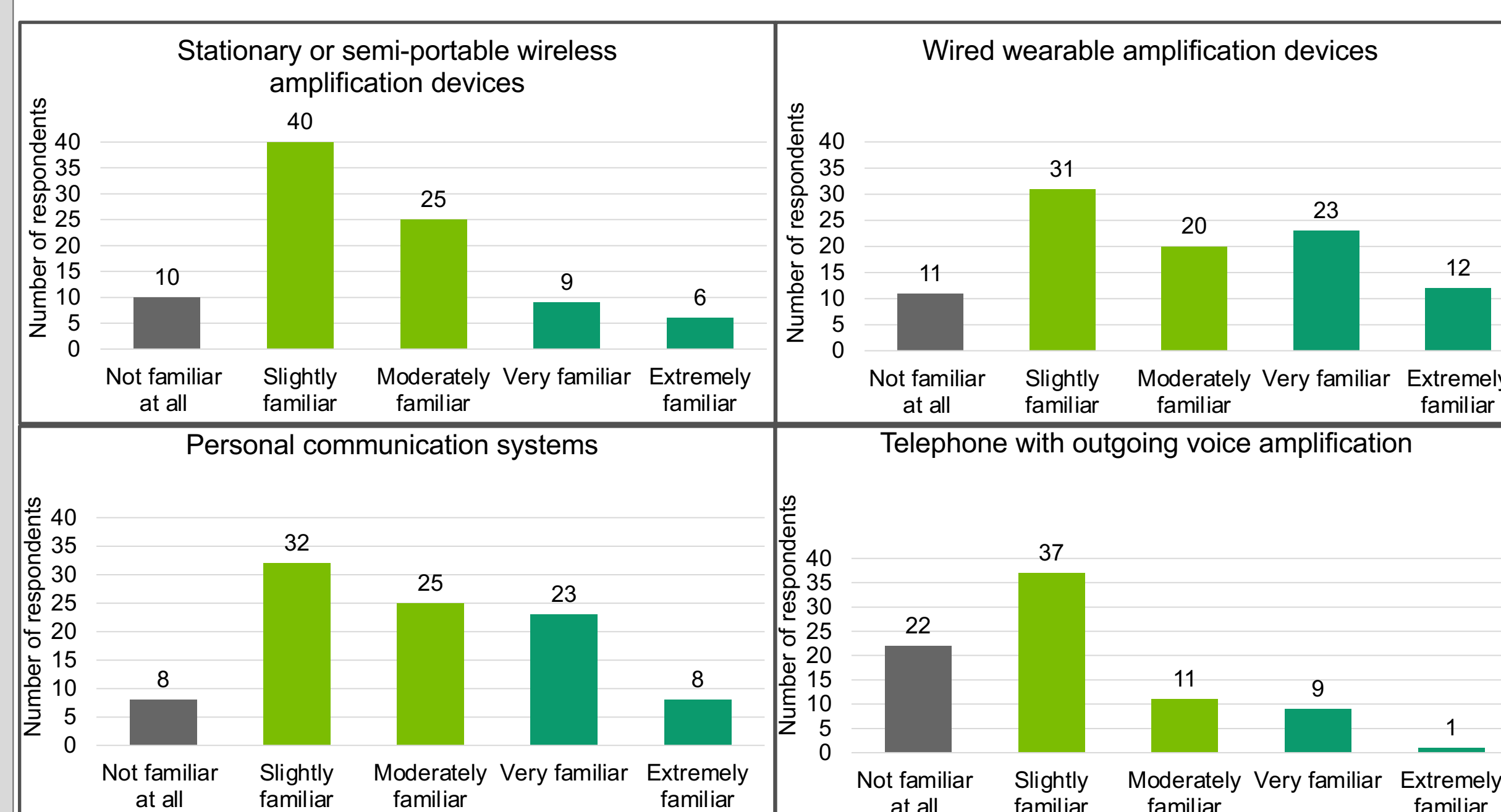
Results: Survey Study

Amplification Device Treatment Considerations



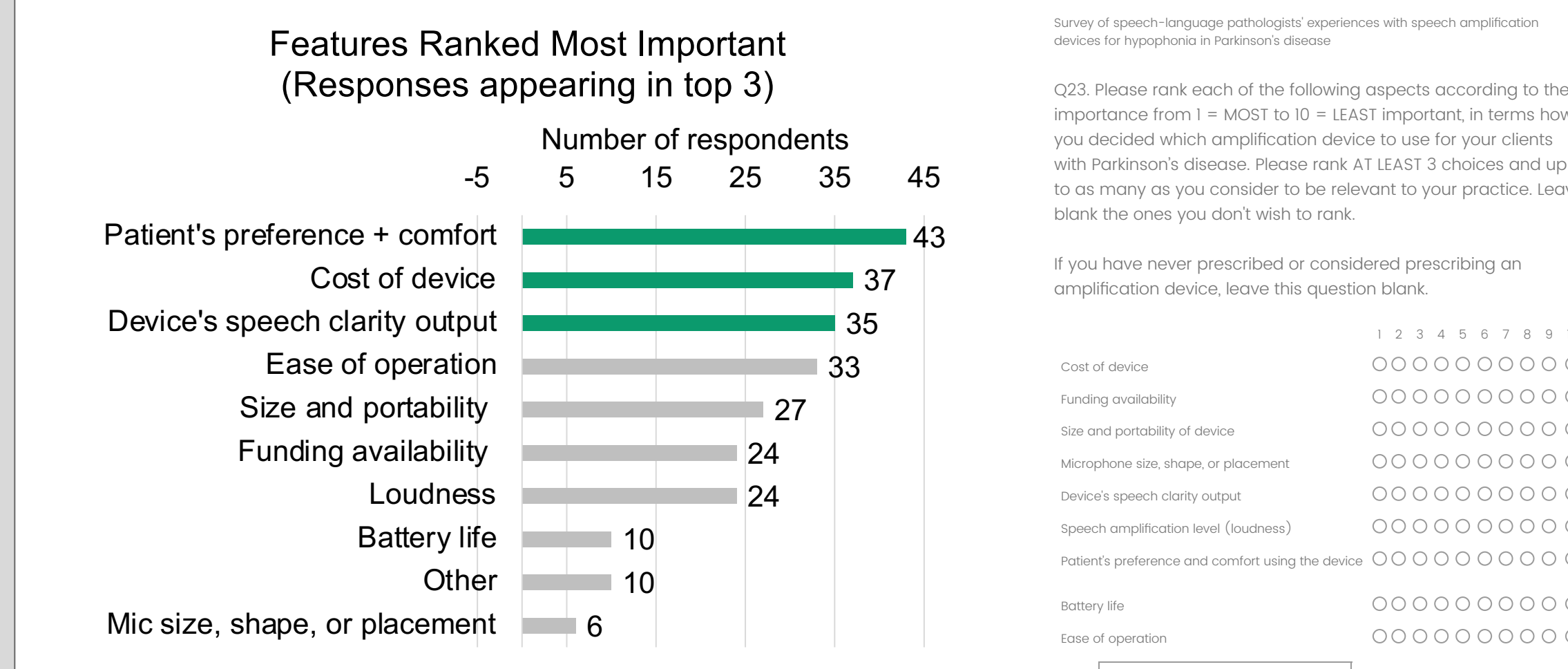
- SLPs most often considered prescribing a device for a patient with PD when they were **not stimulable for louder speech** as well as when **hypophonia was moderate to severe**.
- Hypophonia severity** and **stimulability** for louder speech were listed as **important factors** along with **considering client needs**.

Familiarity with Device Types



- SLPs were most familiar with **wired amplification devices**. (n = 35 – ranked very familiar/extremely familiar)
- The most prescribed device was the **Chattervox**.

Perception of Device Features



Across all respondents, SLPs reported that the **most important overall factors** to consider when **selecting device features** were:

- Client's preferences & comfort**
- Cost of the device**
- Speech clarity output**

Results: Interview Study

Theme 1: Amplification devices as a treatment option

1.1 Behavioral speech strategies as a starting point

- Behavioral techniques** were listed as an option often used as a starting point for treatment.
- Amplification devices were noted to be **possible treatment options** when considering the following factors:
 - Stimulability for louder speech
 - Cognitive impairment
 - Fatigue
 - Speech symptoms & severity
- For **atypical parkinsonism**, the participants stated that there may be **increased severity** in speech symptoms or **quicker progression** of those symptoms, indicating a device may be beneficial sooner.

1.2 Improving communicative effectiveness with a device

- Participants noted that one way to judge the success of a device was its **impact on improving communicative effectiveness**.
- Discussions highlighted one of the main benefits of using a device was **potentially improving communication with key partners**.

SLP P4: "...it's about optimizing their communication success..."

Theme 2: Device selection depends on client needs

2.1 Disease features impacting amplification device selection and use

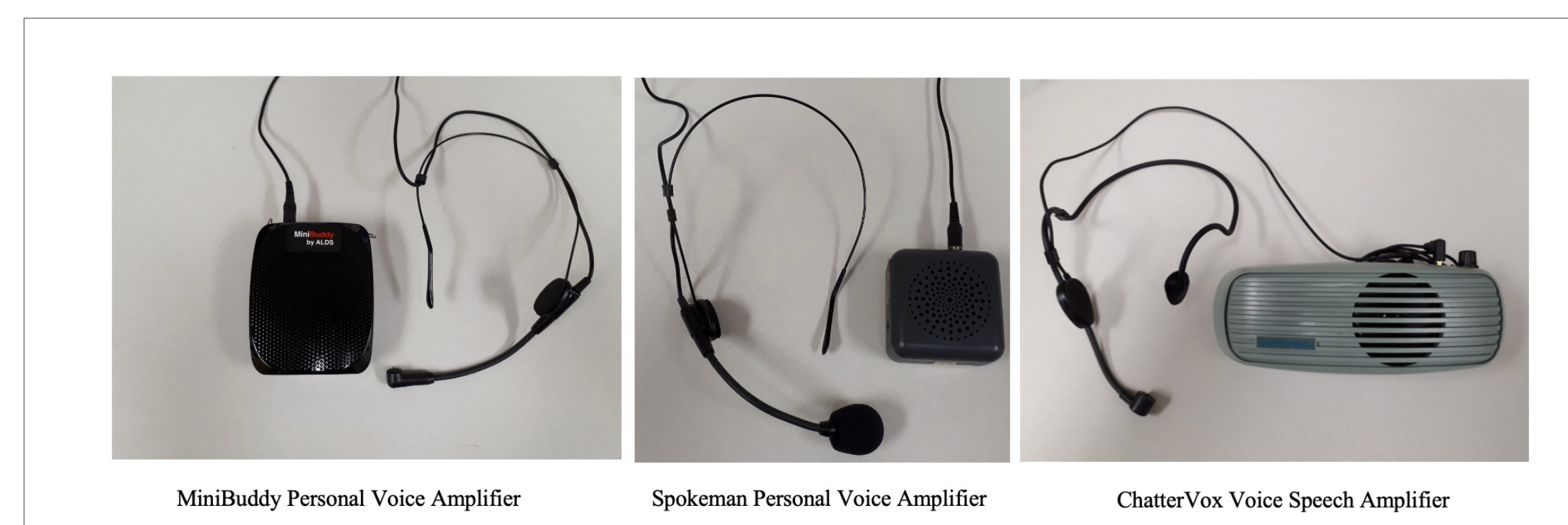
- Respondents indicated that **disease features** and the **severity** of those may be assessed to determine how an amplification device might fit into the treatment plan.
- Some of these features that emerged from the interviews included **hypophonia severity, dysarthria severity, and cognition**.

2.2 Client-Specific Considerations unrelated to disease features

- SLPs outlined client-specific considerations that may reviewed such as **aesthetic preferences, device acceptance, or financial limitations**.
- Respondents generally recommended the use of devices in **select situations**.

2.3 Amplification Device Features

- Participants noted that device features may be selected based on the **needs of the client**.
- Portability, cost, and sound quality** were identified as important features to consider when selecting a device.



SLP P3: "Portability and costs are going to be...the most important. Sound quality is important because you don't want feedback."

Theme 3: Involvement of family and the care team

3.1 The involvement of family members/caregivers may help improve device outcomes

- The family member/caregiver may be able to help:
 - Maintain the device**
 - Learn strategies** to encourage the client to join conversations.
 - Provide **insight** regarding when the device can be used

3.2 Other professionals may be involved

- Other healthcare workers could be involved in **setting up a device or helping implement its use** such as:
 - AAC specialists** help find/select devices.
 - Occupational therapists** help set up the device.
 - Nursing staff** help maintain/set up the device.
 - Primary care physicians** refer individuals to SLPs

3.3 More research and resources are needed around speech amplification devices

- Participants noted that **limited resources** are currently available for SLPs, and the **technological advancement** of devices is needed.

SLP P5: "I always encourage family to be present."

SUMMARY AND NEXT STEPS

Conclusions:

- Results from the survey indicated SLPs may begin considering amplification devices when **hypophonia is moderate-severe**. This was expanded on in the interview study where hypophonia severity was noted as a feature that may impact **device selection**.
- While behavioral therapies were noted as a preferred treatment option, **stimulability to behavioral therapies** was a factor identified in both the survey and interview that may impact treatment selection. Further potential factors were discussed in the interview such as **cognition, fatigue, and access to therapy**.
- The **client's preferences and comfort, the cost of the device, and the clarity of speech output** were listed as the most important features to consider in the survey study. The findings from the interview study further verified the importance of these features while highlighting the **nuance of device selection to meet individual needs**.
- The interview study uncovered ways **the care team** may impact the **viability/success** of devices as a treatment option.

Future directions:

More empirical research is needed to 1) capture insights from other individuals in this decision-making process such as family members and individuals with PD and 2) explore how the combined use of amplification devices and behavioral speech strategies interact in communicative settings.

REFERENCES



Scan the QR code to get information about future studies and to request references.