WSA Wonderful Sound for All

White Paper

Addressing Hearing Aid Sound Preference Improves Clinical Outcomes

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ABSTRACT

This study investigated whether systematically addressing hearing aid sound preference in clinic improves hearing aid adoption. Forty-three hearing care professionals across 28 clinics implemented a sound preference approach over approximately three months, using an online tool that allowed clients to compare natural and enhanced hearing aid sound designs. Preference data were collected from 1,001 clients, and conversion rates were compared with matched control clinics, historical clinic performance, and clients within study clinics who did or did not experience the approach. Preferences were approximately evenly distributed between the two sound designs, with about 40% of clients showing a moderate or strong preference. Use of the approach was associated with consistently higher conversion across all conditions compared. Hearing care professionals rated the approach as easy to use and reported that it improved the clinical experience, supported hearing aid selection, and increased client involvement. The findings confirm that sound preference is measurable, clinically actionable, and can support hearing aid adoption.

Main results

- Approximately 40% of clients in a clinical setting indicate strong or moderate preferences with respect to hearing aid sound design.
- Conversion to hearing aids increases across new and experienced wearers, with increases in conversion rates between 3.1 and 4.3 percentage points depending on baseline.

Clinical consequences

- Sound preference is measurable, clinically relevant, and likely to support hearing aid adoption for both new and experienced hearing aid wearers.

Introduction

It is increasingly well established that individual preferences for different hearing aid sound designs are real and measurable. Balling et al. (2026) showed that many hearing aid wearers and candidates had a clear preference when presented with two fundamentally different signal processing designs, with approximately 40% of listeners across two studies indicating a strong preference for a specific hearing aid sound design. Marmel et al. (2026) extended this research by considering other hearing aid platforms than the ones included in the studies of Balling et al., showing similar distributions of preferences, with many participants also showing a systematic preference across studies. Finally, Lelic et al. (2026) found that preferences identified using a clinical sound preference tool reliably predicted real-life preference.

These studies all consider the sound design of hearing aids defined as the combination of all signal processing and amplification choices made for a specific hearing aid platform, shaping the sound that hearing aid wearers will experience. Alongside this, there is also a varied body of research investigating listener preferences for individual features, including gain settings (e.g., Jensen et al., 2019), compression speed (see the review by Windle et al., 2023), and directionality and noise management more generally (e.g., Houben et al., 2023; Neher & Wagener, 2016; Vatti et al., 2026; Völker et al., 2018). While each study focusing on a specific feature is obviously less wide-ranging than studies investigating differences between full sound designs, the sum of feature studies still add evidence for the existence and importance of preferences when it comes to hearing aid sound.

The existence of wearer preferences for hearing aid sound designs raises the question of how the hearing aid journey may be influenced by whether the device fitted is aligned with the wearer's preference. Alignment could positively affect ease and speed of adaptation as well as specific outcomes and general quality of life with hearing aids. Such positive effects may arise through at least two different mechanisms: First, one may expect a positive effect of the alignment with preference in itself – it may simply be easier and more pleasant to adapt to and wear a preferred hearing aid sound design. Second, addressing hearing aid sound preference provides the hearing care professional (HCP) with a way to systematically involve their clients in the choice of hearing aid, which may have a positive effect by empowering hearing aid wearers to be more active and take more ownership over their hearing life (Engelund & Fischer, 2026). This does not mean excluding the clinician from the choice, but that the choice becomes more collaborative, to the degree that is manageable for the individual client.

The study reported in this white paper investigates the effects of addressing sound preference during consultations on new hearing aids with new or experienced wearers. The study compares conversion to hearing aids for clients for whom sound preference is explicitly addressed in the clinic with conversion for clients who receive the standard of care. Hearing aid conversion is a metric of interest in itself given the familiar challenge of low hearing aid uptake (e.g., Dobyan & Kihm, 2025) but also serves as proxy for satisfaction and wear.

Sound preference was addressed clinically by using the online Sound Preference Tool at www.soundpreference.net. This tool allows listeners to compare two different hearing aid sound designs in five different scenarios, exploring their preferences and indicating at the end whether they have an overall preference for one sound design or the other. All sound files are shaped for an N3 hearing loss (Bisgaard et al., 2010), on top of which overall volume is adjustable for each individual client. The tool is available in multiple languages, including the Spanish used in this study.

Each client's preference and their experiences with the Sound Preference Tool can be addressed in the clinical conversation. The preference on the tool is not intended to stand alone in determining the choice of the hearing aid; instead, the preference on the tool, the clinical conversation about preference and needs, and many other aspects contribute to that choice. Importantly, both the sound preference exploration using the Sound Preference Tool and the clinical conversation about choice and preference are crucial elements of the intervention explored here.

The sounds compared in the tool are labelled 'Natural' and 'Enhanced' and correspond to two fundamentally different hearing aid sound designs. The natural sound in the tool corresponds to hearing aids based on a time-domain filter bank with low signal processing delay and a detailed sound emphasizing the balance between focus on speech and awareness of the surroundings. The enhanced sound matches hearing aids based on a frequency-domain filter bank. This sound design prioritizes speech understanding and listening comfort by suppressing noise and focusing on the most relevant sound sources. While some listeners have clear preferences, others may experience the differences between the sounds as small and may not have a preference. In clinical use, this type of balanced preference is common, and the flexibility of choice it enables should be emphasized.

Based on the Sound Preference Tool and implementation as described above, the research questions of this study are

- **RQ1:** How are users' preferences distributed in terms of which sound designs they prefer and how strong their preferences are?
- **RQ2:** Do conversion rates differ depending on whether sound preference has been systematically explored during the fitting process?
- **RQ3:** How do hearing care professionals regard the process and effects of working systematically with Sound Preference?

Method

Participants
The participants in the study were 43 HCPs working in 28 different clinics across Spain, all part of the Aural clinic network. These HCPs worked with a sound preference approach for a period of approximately three months in 2026, adapting their normal clinical practice to include an exploration of hearing aid sound designs using the Sound Preference Tool, as well as a discussion of sound preference during hearing aid consultations with both new and experienced users. The intervention started after a thorough training session with participating HCPs.

The HCPs used the sound preference approach with as many clients as possible with two main exceptions. The first exception was those whom the HCP judged unable or unwilling to complete the sound preference exploration or be involved in the choice of hearing aid sound design. The second exception was clients whose sound preference would clearly be overridden by other needs that could only be met in one of the two hearing aid portfolios available (see Table 1).

To address RQ2, data on conversion in the study clinics were compared to data from a similar group of clinics working according to Aural's standard practice. The study and control groups were matched as closely as possible in terms of volume, location, and traffic to the clinics. Conversion is calculated as the number of clients purchasing and keeping hearing aids divided by the number of clients receiving an offer for hearing aids. Conversion was also compared for the study clinics between clients who experienced the sound preference approach and those who did not. Improvements in conversion are calculated as the difference between the two groups, relative to the no-sound-preference group.

During the three-month study period, data on the preferences of 1,001 clients were collected to address RQ1 on preferences. Of these, 506 were experienced users, while 495 were new to hearing aids.

Study flow
The Sound Preference Tool and subsequent discussion of listening experiences, preference, and choice of hearing aids were integrated into Aural's fitting flow for both new and experienced Aural clients.

For new Aural clients (85% of whom were also new to hearing aids in the current study sample), the key elements in the initial appointment are understanding the client's needs and clinical history, a battery of tests including pure-tone audiometry, speech audiometry, and UCL assessment, an in-situ experience with the hearing aid model recommended by the clinician, and a recommendation on how to proceed. The Sound Preference Tool was generally used after the hearing tests, and it was run either by the client themselves or more frequently with the interface controlled by the HCP, while the client listened to the sound samples and indicated their preference orally.

Based on the outcome of the exploration, preference and hearing aid choice were discussed and the in-situ

EXCLUSION CRITERION	REASON
Unable or unwilling to participate	Attempt to involve clients would be counterproductive
Severe hearing loss	May struggle to hear differences; portfolio restrictions
Single-sided deafness needing CROS	Portfolio restrictions
Need for CIC rechargeable	Portfolio restrictions
Specific connectivity needs	Portfolio restrictions
Experienced users who are satisfied with current sound design	Years of experience with specific sound design likely to override preference on tool

Table 1: List of client categories with whom not to use the sound preference approach.

experience generally based on any preference identified with the Sound Preference Tool. For clients with a preference for natural sound, Widex hearing aids were recommended, while for clients with a preference for enhanced sound, the recommendation was Aural Select, which are hearing aids based on the same signal processing design as the hearing aids representing the enhanced sound used in previous studies on preference (e.g. Balling et al., 2026). For both preferences, other considerations may result in a recommendation or choice that is not based on sound preference, for instance connectivity needs, cosmetic preferences, or price. For clients with a balanced preference, the recommendation process followed standard clinical practice and was based on the clinical interview, the individual's hearing needs, and the audiologist's clinical judgment. In some cases, some HCPs indicated that the client's choices within specific sound scenes were also considered as supplementary information, particularly when these preferences were consistent with the listening needs identified during the consultation. Taking all available information into account, a recommendation for either Widex or Aural Select was made, followed by an in-situ evaluation to assess the suitability of the proposed solution.

For existing Aural customers, renewal is discussed during regular follow-up appointments and hearing aid check-ups occurring after the warranty on the existing devices has expired after three years. For many clients, renewal may not be relevant after three years, but for those clients where renewal was appropriate during the study period, the sound preference approach was applied in a similar way to how it was done with new customers, except of course that the experiences of existing users with their current hearing aids also inform the discussion. The calculations of conversion rates focus on those clients, both new and existing, who get an offer for new hearing aids.

After the initial appointment, clients may proceed with either direct sale (with a 30-day satisfaction guarantee) or a trial period. In the study sample, new customers who proceeded to a fitting mostly opted for a trial, while existing customers were more evenly split between trials and direct sales. For new customers, three follow-up appointments are scheduled to fine-tune the hearing aids and counsel during the adaptation phase; for existing customers, the follow-up schedule is more individualized.

Results

RQ1: Preferences and compliance
The distribution of preferences on the Sound Preference Tool is shown in Figure 1. The figure shows an approximately even split in preferences between enhanced and natural sound, with a middle group of just under 30% who do not have a clear preference for either sound design. Moderate and strong preferences are indicated by just under 20% for the enhanced sound and just over 20% for the natural sound.

This distribution differs from the studies of Balling et al. (2026) and Marmel et al. (2026) in two expected ways. First, the previous studies used a forced-choice design, which means that some of the weak preferences in the previous studies would most likely correspond to a Balanced preference in the Sound Preference Tool used here. Second, Balling et al. and Marmel et al. found larger proportions of strong preferences. While it cannot be definitively ruled out that this is because the differences appear smaller in the Sound Preference Tool than in those studies, a more likely explanation is how respondents use answer scales. The online studies of Balling et al. and Marmel et al. used five-point rating scales that were subsequently summarized into the weak, moderate, and strong preference labels used in the development of the Sound Preference Tool.

This means that strong preferences in the earlier studies cover both four and five on the five-point scales, i.e., not only the extremes on the answer scale which respondents are often less likely to use. In contrast, the strong preference in this study does represent the extreme on the answer scale. A more reasonable comparison to the strong

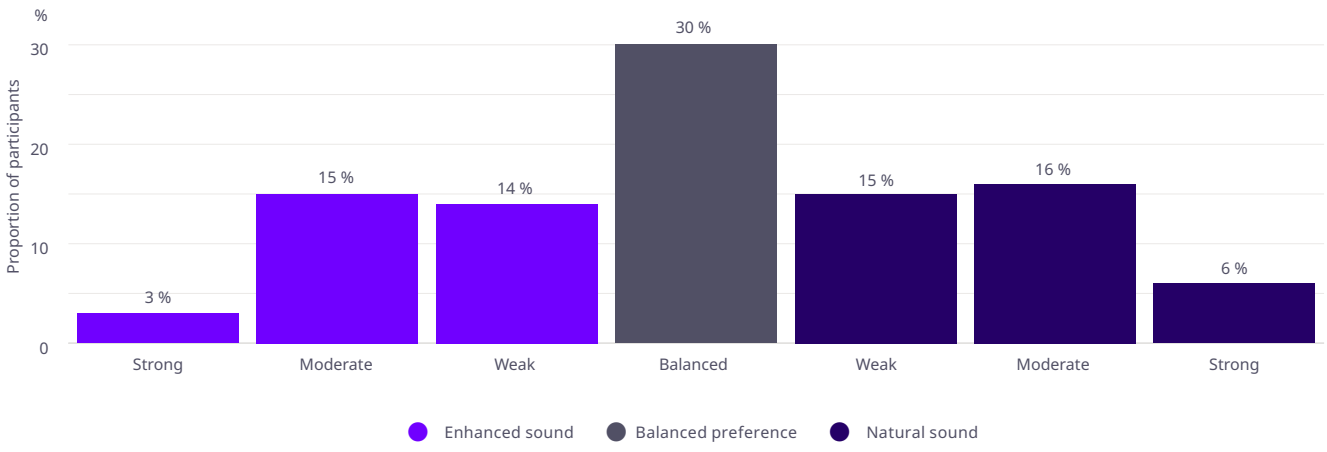


Figure 1: Distribution of client preferences on the Sound Preference Tool, as indicated for sample of 1,001 clients by their HCPs.

preferences in the earlier studies is therefore arguably the strong and moderate preferences. These together make up 20% preference for each sound design, which is similar to the 20–60–20 distribution found by Balling et al. for the same sound designs.

Out of the sample of 1,001 clients for whom preference information was collected, fitting information is available for 680 clients. This is plotted in Figure 2 as a function of preference on the Sound Preference Tool. For the majority of those who expressed a preference, the sound design fitted aligned with that preference, though with a slightly higher alignment for those favoring natural sound. This is to be expected given the history of the study clinics as primarily fitting Widex devices; although encouraged to follow the recommendation in the Sound Preference Tool for the purposes of the study, HCPs can have reason to recommend Widex for clients with previous successful Widex experience. The same reason is probably behind the higher proportion of Widex fittings for clients with a Balanced preference.

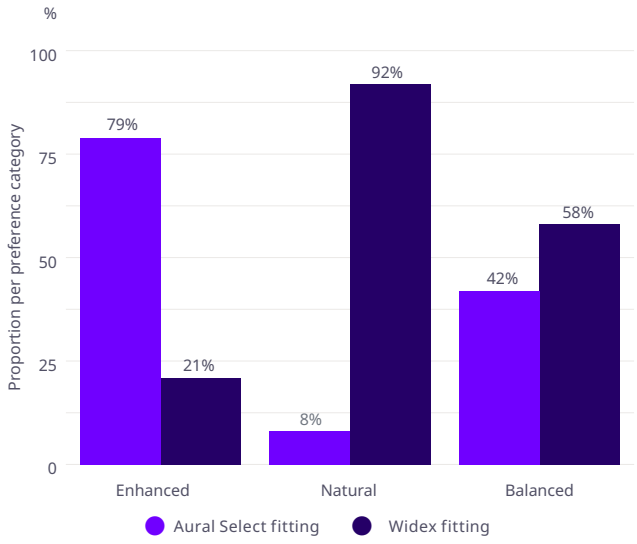


Figure 2: Fitting choice as a function of preference on the Sound Preference Tool for 680 clients fitted.

RQ2: Conversion

While the distribution of preferences described above is interesting in itself, it of course only becomes clinically relevant if using the Sound Preference Tool has positive effects on hearing aid adoption or other outcomes. RQ2 focuses on conversion, i.e., the number of clients who end up purchasing and keeping new hearing aids as a proportion of those who get an offer for hearing aids. Although this is not a direct measure of adoption and use of the hearing aids, it can be argued that the purchased hearing aids are likely to be used given the comprehensive follow-up care provided by Aural and the substantial private-pay component in the Spanish market.

It can be difficult to draw conclusions based on real-life conversion data because variation is large between clinics and over time. Therefore, we study the effect of the sound preference approach using two different comparisons. The first comparison is between study clinics and control clinics that were matched as closely as possible. This shows that conversion is higher for both new and experienced users who start a sales process, with the conversion rate being 3.1 percentage points higher for the study clinics.

In order to make sure that the advantage observed for the study clinics was not solely the result of a generally better performance in the study clinics, we also compared the conversion rates in the three-month study period in spring 2026 to a three-month period in the fall of 2025. This showed a drop in overall conversion for both study and control clinics, likely due to the macro-economic climate, but the decline for the control group was systematically larger than for the study clinics, confirming the positive effect of the sound preference approach applied in the study clinics.

Although the control clinics are matched as closely as possible to the study clinics, the match can never be perfect. Therefore, we also compare within the study clinics the conversion for those clients who experienced the sound preference approach and those who did not. There are potential other differences between those two groups, including hearing loss, connectivity needs, and cognitive barriers, but it is a different set of differences than in the comparison between study clinics and control clinics. Comparing conversion rates across these two groups, we see a difference of 4.3 percentage points.

Summing up, the study shows a consistent advantage when the sound preference approach is used. Crucially, this advantage is observed across three comparisons that complement each other.

+4.3pp

higher conversion rate for clients experiencing the Sound Preference Approach

+3.1pp

higher conversion rate in study clinics compared to control clinics

RQ3: HCP experiences

A key metric for the success of an intervention like the sound preference approach is how the HCPs who implement the approach evaluate it. Therefore, RQ3 addresses HCP experiences, relying on questionnaire responses from all HCPs at the end of the study, as well as by-client comments from the HCP collected throughout the study. The end-of-study questionnaire included both quantitative and qualitative questions. The quantitative questions asked HCPs to rate the sound preference approach in terms of ease of use, effects in clinic, and likelihood to use beyond the study. The results are summarized in Table 2.

A crucial first step is considering ease of use for the HCPs, since without this, a tool is unlikely to be used. With more than 80% agreeing that it is easy to help clients with the tool and to explain the approach more generally, the tool and approach seem to be functioning well in practice.

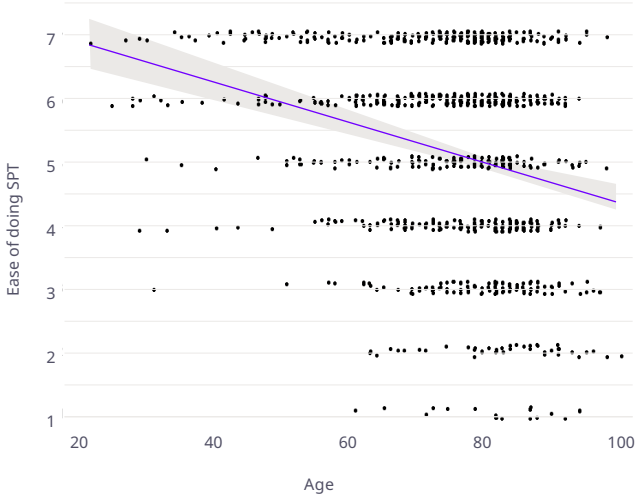


Figure 3: The HCP's ratings of individual clients' ease of use on a scale from 1 'Very difficult' to 7 'Very easy' (vertical axis) as a function of client age in years (horizontal axis). The ease-of-use ratings are jittered around the discrete values from 1 to 7 in order to avoid overlapping dots in the plot. N = 1,005 clients for whom age and ease-of-use ratings were available.

The ease of use of the tool was also assessed by the HCP for each client. Figure 3 plots these ease of use ratings as a function of age, since age, and associated cognitive decline and lack of technological and executive skills are potential concerns. As the figure shows, there is some decline in ease of use ratings with age, though the overall ease of use is good, with many clients also at the higher end of the age range exhibiting high ease of use. In the qualitative comments on candidacy, clients with cognitive decline were the most frequently mentioned group of clients to avoid using the approach with, as also instructed in the criteria for which clients to apply the approach for.

The next set of questions in Table 2 is concerned with how HCPs evaluate the effect of the sound preference approach. The statement for which agreement is highest is that the sound preference approach improves 'the clinical experience you can deliver as a hearing care professional', where 84% agree. A similar sentiment is reflected in the qualitative comments where the most frequently mentioned positive point concerns the tool supporting professionalism and differentiation from other clinics.

Clinicians also broadly agree that the approach helps select the right hearing aid for each client from the beginning; the agreement here is not perfect at 77%, but for a group of professionals who are used to trusting their own judgment on which sound design to recommend, that is in fact a surprisingly high number. Additionally, 67% agree that the approach improves patient satisfaction with their hearing aids, and 63% agree that overall patient outcomes are improved.

In addition to the quantitative questions summarized in Table 2, the end-of-study questionnaire also included open questions on client candidacy for the approach, positive experiences working with it, and input on possible improvements. The input on candidacy to a large degree reflected the study instructions, with many HCPs mentioning that they would avoid the approach for older or cognitively impaired clients (as discussed above), those

EASE OF	helping clients with tool	86% easy
	explaining the approach	84% easy
APPROACH IMPROVES	clinical experience I can offer	84% agree
	likelihood of selecting the right HA	77% agree
	patient satisfaction with HAs	67% agree
	overall patient outcomes	63% agree
LIKELIHOOD OF	continuing with the approach after the study	84% likely

Table 2: HCP evaluations of the sound preference approach. The answers were given on seven-point scales, percentages are the percentage of respondents who responded in the top three categories (e.g., 'Very easy', 'Easy', 'Somewhat easy' for the ease-of-use questions and similarly for the other answer scales).

with severe-to-profound or asymmetrical hearing loss, or clients with strong pre-existing preferences. In terms of who the tool is best for, 17 respondents mentioned first-time users, but there were also eight who mentioned experienced users with previous bad experiences with specific hearing aid brands, and six who mentioned experienced users generally.

Analyzing the positive experiences reported by HCPs in the end-of-study questionnaire, three themes stand out. First, as also discussed above, many mention that clients value the experience and that it adds to the professionalism of the HCP and the differentiation of the hearing clinic. A second theme concerns the experience for the client, that the sound preference approach supports a more personalized hearing experience and more comfortable adaptation to hearing aids. A third key theme, which is also a hypothesized key mechanism for the benefit of the approach, is that it supports involvement, engagement, participation, and empowerment of the client.

In terms of suggestions for improvements and things that would support more confident use, most of the respondents do not make any specific suggestions. Among the remaining comments, six mention a wish for more time in the appointment for some or all clients to use the tool and have the clinical discussion, and four mention a wish for bigger differences between the sounds.

The issue of small differences between the two sound designs as they appear in the tool also surfaces frequently in the per-client comments. It is mentioned both for clients who have no preference and for clients who have a preference but do not find the differences large. There are two likely reasons for this: First, the tool is a practical approach to in-clinic exploration of preference, but it is limited by the fact that the sound designs are presented over headphones in a limited set of scenarios. The differences between the sound designs are likely to be more impactful in real-life use of actual hearing aids. Second, preference is not likely to play a large role for everyone. This is a central aspect to communicate in connection with the tool and sound preference more generally, and it can be phrased in positive terms of giving flexibility to prioritize other aspects of the hearing aid choice.

Other themes arising in the per-client comments on experiences with the Sound Preference Tool are clients' positive views of the sound preference experience, clients appreciating the ability to participate in the process, and the tool making Aural stand out. The only negative theme concerns practical difficulties of using the tool, mostly with clients who struggle with understanding what they are supposed to do, but also a few who struggle with the volume adjustment, an aspect of the tool that has since been adjusted for better usability.

Conclusions and perspectives

The study reported in this paper shows that systematically addressing hearing aid sound preference in the clinic can support the hearing aid journey. Across just over 1,000 clients, preferences for the two sound designs compared were clearly measurable, with an approximately even distribution between natural and enhanced sound and about 40% showing strong or moderate preferences for a specific sound design. This is broadly in line with previous findings (Balling et al., 2026; Marmel et al., 2026) and confirms that sound preference is not limited to a narrow subgroup of listeners.

Importantly, the clinical use of the sound preference approach was associated with consistently higher conversion to new hearing aids. The advantage was observed when comparing study clinics with matched control clinics, when comparing changes over time in study and control clinics, and when comparing clients within the study clinics who did or did not experience the approach. Although real-life conversion data are inherently influenced by clinic-level and client-level variation, the consistency across these complementary comparisons supports the interpretation that addressing sound preference contributed positively to hearing aid adoption.

There are two likely mechanisms behind these positive effects of the sound preference approach. First, positive effects may arise from the match between the sound design that the client prefers and the hearing aids they are fitted with. Such a perceptual match may make the initial listening experience more acceptable and support a smoother adaptation. Second, the process of exploring sound preference creates a structured opportunity for shared decision-making. By inviting clients to compare sound designs and reflect on their own listening experiences, the approach may increase engagement, ownership, and confidence in the solution that the HCP and client jointly settle on. The HCP feedback strongly supports this interpretation, with clinicians reporting that the approach contributed to a more personalized and professional consultation.

The study also highlights some important practical considerations. The Sound Preference Tool is a feasible in-clinic method for exploring preference, but it is limited by practical factors including the presentation of sounds over headphones and limitations on duration and number of listening scenarios. The tool should therefore not be seen as a test that will reveal a fixed truth, but as an indication of preference from which the clinical conversation can take its starting point. The correspondence between tool-based preference and real-life preference reported by Lelic et al. (2026) nevertheless supports the clinical relevance of using the tool as part of a broader preference conversation. For experienced HA wearers, long-term experience with specific HA sound designs should also play a crucial role in this discussion.

For clients who perceive small differences between the sounds, the resulting balanced preference may feel like a failure. For this group, it is important to speak to the balanced preference as supporting flexibility of choice, allowing considerations other than sound design to be decisive. Importantly, the tool can still be used to involve the client in the choice of hearing aid, although the clinical conversation has to proceed in a different way than for clients who do have a sound design preference.

Future work should investigate the mechanisms behind the observed conversion benefit in more detail and examine whether addressing sound preference also improves outcomes such as daily hearing aid use, satisfaction, adaptation for first-time users, and broader quality of life. The present findings suggest that sound preference is both measurable and actionable in routine clinical practice. When used with appropriate clients and embedded in a collaborative clinical conversation, the sound preference approach can help make hearing aid selection more individualized, support client involvement, and improve the likelihood that clients proceed with their hearing aids.

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