

Field Study News

September 2017



Plug and play simplicity of the TV Connector

Television plays an important role in the lives of older adults, but can be a challenging listening experience for those with hearing loss. Traditionally, use of a TV streamer is recommended when hearing aids alone cannot overcome difficulties watching television. Although direct connectivity hearing aids on the market still require a TV streamer as an intermediary device to connect the hearing aids to the TV, setting-up each device independently can be challenging. The Phonak TV Connector automatically pairs with Audéo B-Direct hearing aids and includes only the essential cables for installation. This study found that eight times as many participants were able to install and use the TV Connector with only the user guide provided as guidance. This represents a significant improvement in ease-of-use versus competitor TV streamers currently on the market.

Introduction

Watching television has become an increasingly important activity among older adults. According to Nielsen ratings data, adults over 50 years of age watch an average of 48 hours of television per week. That amounts to almost seven hours per day spent watching television (Nielsen 2015). This phenomenon is not limited to one particular country. By the year 2021, it is projected that 1.68 billion households worldwide will own at least one television. For seniors, watching television has been shown to have positive benefit, offering "an active way to remain socially integrated, to structure daily life, and to satisfy needs for reflection and contemplation (Oestlund, Jönsson & Waller 2010)." Unfortunately for those with hearing loss, watching television can be a frustrating experience. Adults with foreign accents, loud background music, and a lack of visual cues can make understanding speech difficult.

For those people who find watching television difficult, TV streamers are an excellent supplement to traditional amplification. When people with hearing loss were asked what made watching television difficult, approximately 45% of participants reported being bothered by people talking while in the room with them. Another 45% of respondents also indicated that when they set the volume to a comfortable level, others complained the volume was too loud (Strelcyk 2015). Streaming audio from the television

directly into the hearing aids allows the user to set a comfortable listening volume independent of what others hear and determine how much of the surrounding environment they wish to hear as well. While TV streamers have been available for several years, they have often required use of an intermediary wireless device to connect to the hearing aids, which can be seen as burdensome for some users. For those who are not tech-savvy, setting-up a TV streamer and its corresponding intermediary wireless device at home can be difficult, especially without the immediate support of the hearing care provider. As a result, the uptake of TV streaming devices has historically been low. These challenges inspired Phonak to create a simple, hassle-free TV streaming solution that works right out of the box and does not require an intermediary device.

The new Phonak TV Connector allows users to enjoy TV watching in excellent stereo sound quality. Designed with absolute simplicity in mind from start to finish, the TV Connector will automatically pair with detected Audéo B-Direct hearing aids right out of the box. Additionally, the TV Connector has significantly less packaging and cables than competitor TV streaming devices. Finally, the TV Connector is significantly smaller in comparison to the previous generation, TVLink II,

allowing for discreet placement of the device in proximity to the television. The TV Connector is not just the smallest TV solution from Phonak, it is also the most powerful, capable of pairing with an unlimited number of Audéo B-Direct hearing aids. To prove that the TV Connector represents a breakthrough in usability, a study was conducted to determine how easy it was to setup and use in comparison to the TV streaming devices of two competitors.

Methodology

Twelve participants between the ages of 50 and 70 were recruited to participate in this study. All participants were experienced hearing aid users, lived independently in their own home, owned a newer flat-screen television, and self-reported watching at least several hours of television per week. Each participant had also reported previous experience installing a cable box or other media device into their home television. The study was setup and performed by the Sonova User Experience Design team from Switzerland. For the purposes of this study, the hearing aids were not fitted to each participant, but were instead fitted to a mannequin with headphones to verify when the TV audio was successfully streamed to the hearing aids.

The study consisted of one 75-minute test session in a room equipped with a 32-inch Samsung flat-screen television. Each participant was presented with three packages, each containing a TV streamer (one Phonak TV Connector and two competitor TV streamers). They were asked to unpack and install each streamer, so that the sound from the television streamed directly into the respective hearing aids on the mannequin. They were given no instructions apart from the user guides included in each box. For each participant, the order in which the TV streamers were given was randomized to reduce any benefit from experience gained while installing a previous streamer. Two researcher was present in the room to monitor participant progress and record feedback, but did not intervene or offer assistance at any point during the session.

Results

As shown in Figure 1, of the twelve participants, eight were able to independently install the Phonak TV Connector and successfully stream audio to the Audéo B-Direct hearing aids. For each of the competitor TV streamers, only one participant was successful in installing and streaming audio to the hearing aids. With these results in mind, the TV Connector represents an eight-fold increase in usability compared to competitor TV streamers.

The observed low-usability results for competitor TV streamers aligned with comments made by the participants during the course of the study. A significant source of

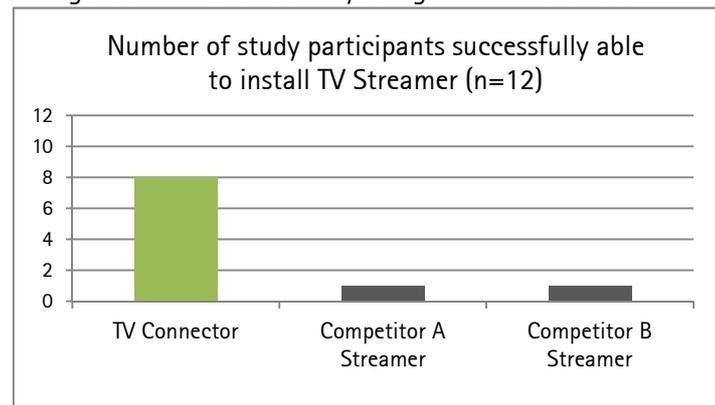


Figure 1. Number of participants who were able to unpack and install each TV streaming device so that audio from the TV was heard in the hearing aids.

confusion for participants, while installing the competitor streamers, was reported to be related to the number of audio cables included in each package (see Table 1). One participant said: "it's like a jigsaw puzzle... there are too many pieces." When installing one particular competitor streamer, eight participants used the incorrect audio cable for the television. The TV Connector in comparison, was found to be easier to set up because the audio cable was already connected to the device and the device has only 2 sockets: one for audio and one for power.

Another significant issue observed during the study was an overall difficulty pairing the competitor hearing aids to the respective TV streamer. Although each participant had access to the user manuals, only six participants understood the need to pair the TV streamer to the hearing aids. The Phonak TV Connector, on the other hand, automatically pairs with the Audéo B-Direct hearing aids right out of the box. Thanks to this feature and the fact that the package includes only the essential cables for installation, eight times as many participants were able to install and use the device without support.

TV Connector	Streamer A	Streamer B
Toslink cable	Toslink cable	Toslink cable
3.5 mm cable	RCA cable	RCA cable
Power supply	Coaxial cable	MiniJack adapter
	MiniJack adapter	SCART adapter
	SCART adapter	Power supply
	Power supply	

Table 1. Cables packaged with each TV streamer.

Conclusion

The average older adult spends almost seven hours a day watching television, and research indicates that television can provide beneficial structure and meaning for this population. Due to accents, background music, and lack of visual cues, people with hearing loss are likely to have difficulty understanding speech while watching television even with appropriately-fit hearing aids. Designed with minimal packaging and automatic pairing right out of the box, the Phonak TV Connector represents a breakthrough in usability. By allowing users to effortlessly stream television audio directly through their hearing aids, the TV Connector provides a truly seamless, plug and play TV watching experience. With the TV Connector and Audéo B-Direct hearing aids, users will spend less time struggling with cables or push buttons and more time enjoying their favorite television shows.

References

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