

## Supplemental Online Content

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**eFigure 2.** International Outcome Inventory for Hearing Aids (IOI-HA) outcomes across the time points

This supplemental material has been provided by the authors to give readers additional information about their work.

## eTable 1. Baseline participant characteristics

The following table represents the participant demographical and audiological characteristics.

<b>Supplementary Table 1. Summary characteristics of the AF and SF participants</b>			
		<b>AF Group</b>	<b>SF Group</b>
Gender	Male ( <i>n</i> )	18	15
	Female ( <i>n</i> )	14	17
Age	Mean (SD)	65.3 (14.9)	62.0 (13.1)
	Median (IQR)	67 (18)	63 (20)
HA experience	New HA users ( <i>n</i> )	26	21
	Experienced HA users ( <i>n</i> )	6	10
Self-perceived hearing loss	I have a little trouble ( <i>n</i> )	20	20
	I have a lot of trouble ( <i>n</i> )	12	12
Pure tone average (PTA) for 0.5, 1, 2 and 4 kHz	Mean (SD)	41.8 (13.6)	38.4 (11.7)
	Median (IQR)	41.2 (20.0)	37.1 (16.3)
Abbreviations: AF, audiologist fit; SF= self-fit; HA, hearing aid; SD, standard deviation; IQR, interquartile range.			

## eMethods. Age and gender effect on self-reported outcomes over time

Participants were divided into two age groups based on a median age of 65 years to evaluate the impact of field wear time on the Abbreviated Profile of Hearing Aid Benefit (APHAB) and International Outcome Inventory for Hearing Aids (IOI-HA) scores using the Mann-Whitney test. The groups comprised individuals younger than 65 years ("younger group") and those 65 years and older ("older group"). Similarly, the study compared males and females in each of the SF and AF groups.

Tables 2 and 3 illustrate the APHAB differences between the SF and AF groups, categorized by age and gender respectively. Several clinically significant age-related effects were noted in the AF group for APHAB global, ease of communication, and reverberation scores at the 6-week follow-up (T2). However, as this subgroup analysis was not initially planned, caution is warranted due to the relatively small sample sizes involved. No gender effects were observed for any APHAB scores at any evaluated time points.

Table 4 details the IOI-HA differences between the SF and AF groups, categorized by age, and Table 5 according to gender. There were some clinically significant differences between younger and older participants in both the AF and SF groups, particularly evident in the quality-of-life domain for AF participants at 6 weeks (T2) and in the benefit and satisfaction scores for SF participants at 2 weeks (T1) and 8 months (T3), respectively. Some gender differences were noted in the AF group in the domains of benefit at 8 months (T3) and residual participation restriction at 2 weeks (T2). Despite these findings, no clinically significant age or gender differences were detected in the primary endpoint, the APHAB global score and IOI-HA total score. However, a potential limitation of the analysis is posed by the small subgroup sample sizes.

**eTable 2. Abbreviated Profile of Hearing Aid Benefit (APHAB) Scores of younger (< 65 years) and older (≥65 years) participants between audiologist fit (AF) and self-fit (SF) groups at T0-T3.**

AF					SF		
		Mean (SD)		Effect Size	Mean (SD)		Effect Size
APHAB subscale	Time	Younger (n=12)	Older (n=20)	Cohen d (95% CI)	Younger (n=19)	Older (n=13)	Cohen d (95% CI)
Ease of communication	T0	35.2 (26.8)	36.6 (21.8)	0.0 (-0.4, 0.3)	43.8 (29.2)	40.5 (26.1)	0.1 (-0.3, 0.4)
	T1	14.0 (19.0)	22.1 (20.7)	-0.2 (-0.6, 0.1)	18.2 (21.6)	11.8 (11.3)	0.2 (-0.1, 0.5)
	T2	8.8 (9.8)	24.1 (23.6)	-0.5 (-0.8, -0.1)*	15.3 (20.5)	13.9 (13.0)	0.0 (-0.3, 0.4)
	T3	29.1 (14.6)	25.9 (16.0)	0.1 (-0.2, 0.5)	30.4 (19.3)	30.8 (11.3)	0.0 (-0.4, 0.3)
Background noise	T0	54.1 (21.1)	55.2 (14.1)	0.0 (-0.4, 0.3)	57.8 (21.1)	58.3 (17.9)	0.0 (-0.4, 0.3)
	T1	32.2 (21.7)	35.1 (15.4)	-0.1 (-0.4, 0.3)	25.4 (15.8)	22.2 (12.2)	0.1 (-0.2, 0.5)
	T2	20.6 (16.0)	31.3 (20.3)	-0.3 (-0.7, 0.04 <sup>a</sup> )	20.6 (12.5)	23.9 (15.7)	-0.1 (-0.5, 0.2)
	T3	17.6 (8.8)	19.9 (10.4)	-0.1 (-0.5, 0.2)	13.6 (13.1)	11.4 (10.3)	0.1 (-0.2, 0.4)
Reverberation	T0	49.6 (23.2)	43.1 (15.4)	0.2 (-0.2, 0.5)	43.8 (18.7)	52.0 (17.3)	-0.2 (-0.6, 0.1)
	T1	26.1 (21.8)	32.4 (14.6)	-0.2 (-0.5, 0.2)	23.5 (18.2)	23.8 (14.0)	0.0 (-0.4, 0.3)
	T2	18.5 (13.7)	31.3 (16.5)	-0.4 (-0.8, -0.1)*	21.0 (17.3)	20.3 (15.4)	0.0 (-0.3, 0.4)
	T3	21.5 (9.5)	18.7 (12.2)	0.1 (-0.2, 0.5)	21.3 (14.2)	16.0 (11.1)	0.2 (-0.1, 0.6)
Aversiveness	T0	32.5 (29.2)	35.6 (20.3)	-0.1 (-0.4, 0.3)	40.7 (27.5)	32.5 (23.5)	0.2 (-0.2, 0.5)
	T1	33.8 (23.4)	41.0 (23.8)	-0.2 (-0.5, 0.2)	36.8 (25.0)	27.3 (22.4)	0.2 (-0.1, 0.6)
	T2	26.1 (24.4)	26.9 (24.0)	0.0 (-0.4, 0.3)	32.8 (26.8)	34.2 (27.6)	0.0 (-0.4, 0.3)
	T3	15.4 (13.8)	22.8 (14.4)	-0.3 (-0.6, 0.1)	17.3 (9.0)	10.8 (12.2)	0.3 (-0.04 <sup>a</sup> , 0.6)
GLOBAL	T0	46.3 (21.4)	44.9 (13.6)	0.0 (-0.3, 0.4)	48.4 (20.7)	50.3 (18.6)	0.0 (-0.4, 0.3)
	T1	24.1 (18.9)	29.9 (14.5)	-0.2 (-0.5, 0.2)	22.4 (16.5)	19.2 (11.0)	0.1 (-0.2, 0.5)
	T2	16.0 (12.3)	28.9 (17.3)	-0.5 (-0.8, -0.1)*	18.9 (14.9)	19.3 (13.1)	0.0 (-0.4, 0.3)
	T3	22.8 (9.5)	21.5 (10.8)	0.1 (-0.3, 0.4)	21.8 (14.5)	19.4 (10.0)	0.1 (-0.2, 0.4)

\*95% CI does not contain a zero, indicating statistical significance at a 5% level of significance

<sup>a</sup>Some of the lower and upper values of the 95% CI are shown to 2 or 3 decimal places to indicate whether the 95% CI includes a zero

**eTable 3. Abbreviated Profile of Hearing Aid Benefit (APHAB) Scores of male and female participants between audiologist fit (AF) and self-fit (SF) groups at T0-T3.**

		AF			SF		
		Mean (SD)		Effect Size	Mean (SD)		Effect Size
APHAB subscale	Time	Male (n=18)	Female (n=14)	Cohen d (95% CI)	Male (n=15)	Female (n=17)	Cohen d (95% CI)
Ease of communication	T0	35.6 (25.5)	36.5 (22.3)	0.0 (-0.4, 0.3)	37.6 (25.3)	47.9 (29.9)	-0.2 (-0.5, 0.2)
	T1	14.4 (13.4)	22.7 (23.9)	-0.2 (-0.6, 0.1)	18.2 (22.1)	12.6 (12.7)	0.2 (-0.2, 0.5)
	T2	17.6 (17.3)	19.0 (23.7)	0.0 (-0.4, 0.3)	18.3 (21.9)	10.6 (10.0)	0.2 (-0.1, 0.6)
	T3	22.7 (14.4)	30.6 (15.5)	-0.3 (-0.6, 0.1)	26.5 (10.6)	35.2 (20.4)	-0.3 (-0.6, 0.1)
Background noise	T0	53.5 (14.9)	55.8 (18.5)	-0.1 (-0.4, 0.3)	53.7 (18.8)	62.8 (20.1)	-0.2 (-0.6, 0.1)
	T1	30.9 (18.3)	36.4 (17.5)	-0.2 (-0.5, 0.2)	24.1 (14.3)	24.1 (14.8)	0.0 (-0.3, 0.3)
	T2	27.7 (23.6)	27.0 (15.8)	0.0 (-0.3, 0.4)	22.9 (16.0)	20.8 (11.1)	0.1 (-0.3, 0.4)
	T3	16.7 (10.5)	20.8 (9.0)	-0.2 (-0.6, 0.1)	10.6 (8.8)	15.0 (14.7)	-0.2 (-0.5, 0.2)
Reverberation	T0	43.9 (14.2)	46.8 (21.8)	-0.1 (-0.4, 0.3)	44.8 (16.2)	49.8 (20.6)	-0.1 (-0.5, 0.2)
	T1	30.7 (16.0)	29.5 (19.2)	0.0 (-0.3, 0.4)	21.7 (13.5)	25.8 (19.3)	-0.1 (-0.5, 0.2)
	T2	28.4 (21.0)	25.0 (12.5)	0.1 (-0.2, 0.4)	23.3 (14.9)	17.7 (17.7)	0.2 (-0.2, 0.5)
	T3	17.7 (11.3)	21.4 (11.2)	-0.2 (-0.5, 0.2)	15.9 (10.4)	22.8 (15.2)	-0.3 (-0.6, 0.1)
Aversiveness	T0	31.0 (17.8)	37.1 (27.6)	-0.1 (-0.5, 0.2)	41.6 (24.2)	32.7 (27.6)	0.2 (-0.2, 0.5)
	T1	31.5 (19.0)	43.6 (25.8)	-0.3 (-0.6, 0.1)	36.0 (25.2)	29.5 (23.2)	0.1 (-0.2, 0.5)
	T2	18.5 (13.1)	32.8 (28.3)	-0.3 (-0.7, 0.001 <sup>a</sup> )	37.4 (26.4)	28.8 (27.1)	0.2 (-0.2, 0.5)
	T3	18.1 (13.8)	21.5 (15.0)	-0.1 (-0.5, 0.2)	14.8 (10.5)	14.4 (11.3)	0.0 (-0.3, 0.4)
GLOBAL	T0	44.3 (14.7)	46.4 (18.4)	-0.1 (-0.4, 0.3)	45.4 (18.0)	53.5 (21.0)	-0.2 (-0.6, 0.1)
	T1	25.3 (13.9)	29.5 (18.0)	-0.1 (-0.5, 0.2)	21.3 (15.2)	20.8 (13.9)	0.0 (-0.3, 0.4)
	T2	24.6 (19.1)	23.7 (15.1)	0.0 (-0.3, 0.4)	21.5 (16.0)	16.4 (11.2)	0.2 (-0.2, 0.5)
	T3	19.0 (10.5)	24.2 (9.6)	-0.3 (-0.6, 0.1)	17.7 (7.8)	24.3 (16.2)	-0.3 (-0.6, 0.1)

\*95% CI does not contain a zero, indicating statistical significance at a 5% level of significance

<sup>a</sup>Some of the lower and upper values of the 95% CI are shown to 2 or 3 decimal places to indicate whether the 95% CI includes a zero

**eTable 4. International Outcome Inventory for Hearing aids (IOI-HA) of younger (< 65 years) and older (≥65 years) participants between audiologist fit (AF) and self-fit (SF) groups at T1-T3.**

AF					SF		
		Mean (SD)		Effect Size	Mean (SD)		Effect Size
IOI-HA	Time	Younger (n=12)	Older (n=20)	Cohen d (95% CI)	Younger (n=19)	Older (n=13)	Cohen d (95% CI)
Use	T1	3.9 (0.7)	4.0 (0.8)	0.0 (-0.4, 0.3)	4.4 (0.8)	4.3 (0.5)	0.1 (-0.3, 0.4)
	T2	4.1 (0.7)	4.2 (0.7)	-0.1 (-0.4, 0.3)	4.4 (0.7)	4.3 (0.5)	0.1 (-0.2, 0.4)
	T3	3.6 (1.2)	3.1 (1.3)	0.2 (-0.2, 0.5)	4.1 (1.0)	3.1 (1.3)	0.4 (0.1, 0.8)*
Benefit	T1	4.1 (0.9)	3.9 (1.0)	0.1 (-0.2, 0.5)	4.2 (0.8)	4.6 (0.5)	-0.4 (-0.7, -0.03 <sup>a</sup> )*
	T2	4.6 (0.5)	4.1 (1.0)	0.3 (-0.02, 0.7)	4.5 (0.7)	4.6 (0.5)	-0.1 (-0.5, 0.2)
	T3	4.4 (0.7)	4.2 (1.2)	0.1 (-0.2, 0.5)	4.1 (1.5)	3.9 (1.1)	0.1 (-0.3, 0.4)
Residual activity limitation	T1	4.2 (0.8)	3.9 (0.8)	0.2 (-0.2, 0.5)	4.2 (0.6)	4.5 (0.5)	-0.3 (-0.6, 0.1)
	T2	4.4 (0.5)	4.1 (0.8)	0.3 (-0.05, 0.6)	4.3 (0.6)	4.3 (0.6)	0.0 (-0.3, 0.4)
	T3	3.7 (1.2)	3.2 (1.3)	0.2 (-0.1, 0.6)	3.7 (1.5)	3.7 (1.4)	0.0 (-0.3, 0.3)
Satisfaction	T1	4.6 (0.5)	4.4 (0.7)	0.2 (-0.2, 0.5)	4.2 (1.3)	4.6 (0.7)	-0.2 (-0.6, 0.1)
	T2	4.7 (0.5)	4.6 (0.5)	0.1 (-0.3, 0.4)	4.6 (1.0)	4.8 (0.4)	-0.2 (-0.5, 0.2)
	T3	3.7 (1.1)	3.0 (1.4)	0.3 (-0.1, 0.6)	3.2 (1.4)	4.2 (0.4)	-0.5 (-0.9, -0.2)*
Residual participation restrictions	T1	4.0 (1.2)	3.7 (1.1)	0.1 (-0.2, 0.5)	4.0 (1.5)	4.1 (1.1)	0.0 (-0.4, 0.3)
	T2	4.4 (0.9)	4.1 (1.2)	0.2 (-0.2, 0.5)	3.8 (1.3)	4.2 (1.1)	-0.2 (-0.5, 0.2)
	T3	3.7 (1.6)	3.1 (1.5)	0.2 (-0.1, 0.5)	3.5 (1.5)	3.5 (1.5)	0.0 (-0.4, 0.3)
Impact on others	T1	4.3 (1.3)	4.1 (1.3)	0.1 (-0.3, 0.4)	4.6 (0.8)	4.3 (1.3)	0.1 (-0.2, 0.5)
	T2	4.3 (1.2)	4.3 (1.2)	0.0 (-0.3, 0.4)	4.7 (0.6)	4.5 (0.9)	0.1 (-0.2, 0.5)
	T3	4.4 (0.9)	4.2 (0.9)	0.1 (-0.2, 0.5)	4.4 (1.0)	4.2 (1.3)	0.1 (-0.3, 0.4)
Quality of life	T1	4.3 (0.8)	4.1 (0.9)	0.2 (-0.2, 0.5)	4.2 (0.7)	4.5 (0.7)	-0.3 (-0.6, 0.1)
	T2	4.8 (0.5)	4.3 (1.0)	0.4 (0.01 <sup>a</sup> , 0.7)*	4.5 (0.6)	4.6 (0.5)	-0.1 (-0.4, 0.3)
	T3	4.2 (0.8)	3.9 (1.0)	0.2 (-0.2, 0.5)	4.4 (0.7)	4.2 (0.8)	0.1 (-0.3, 0.4)
Total scores	T1	29.3 (3.8)	27.9 (3.5)	0.2 (-0.1, 0.5)	29.7 (3.5)	31.0 (3.3)	-0.2 (-0.5, 0.2)
	T2	31.3 (2.6)	29.5 (3.8)	0.3 (-0.1, 0.6)	30.9 (2.2)	31.5 (2.5)	-0.1 (-0.5, 0.2)
	T3	27.6 (5.1)	24.4 (5.5)	0.3 (-0.05 <sup>a</sup> , 0.6)	27.3 (5.0)	26.8 (5.0)	0.0 (-0.3, 0.4)

\*95% CI does not contain a zero, indicating statistical significance at a 5% level of significance

<sup>a</sup>Some of the lower and upper values of the 95% CI are shown to 2 or 3 decimal places to indicate whether the 95% CI includes a zero

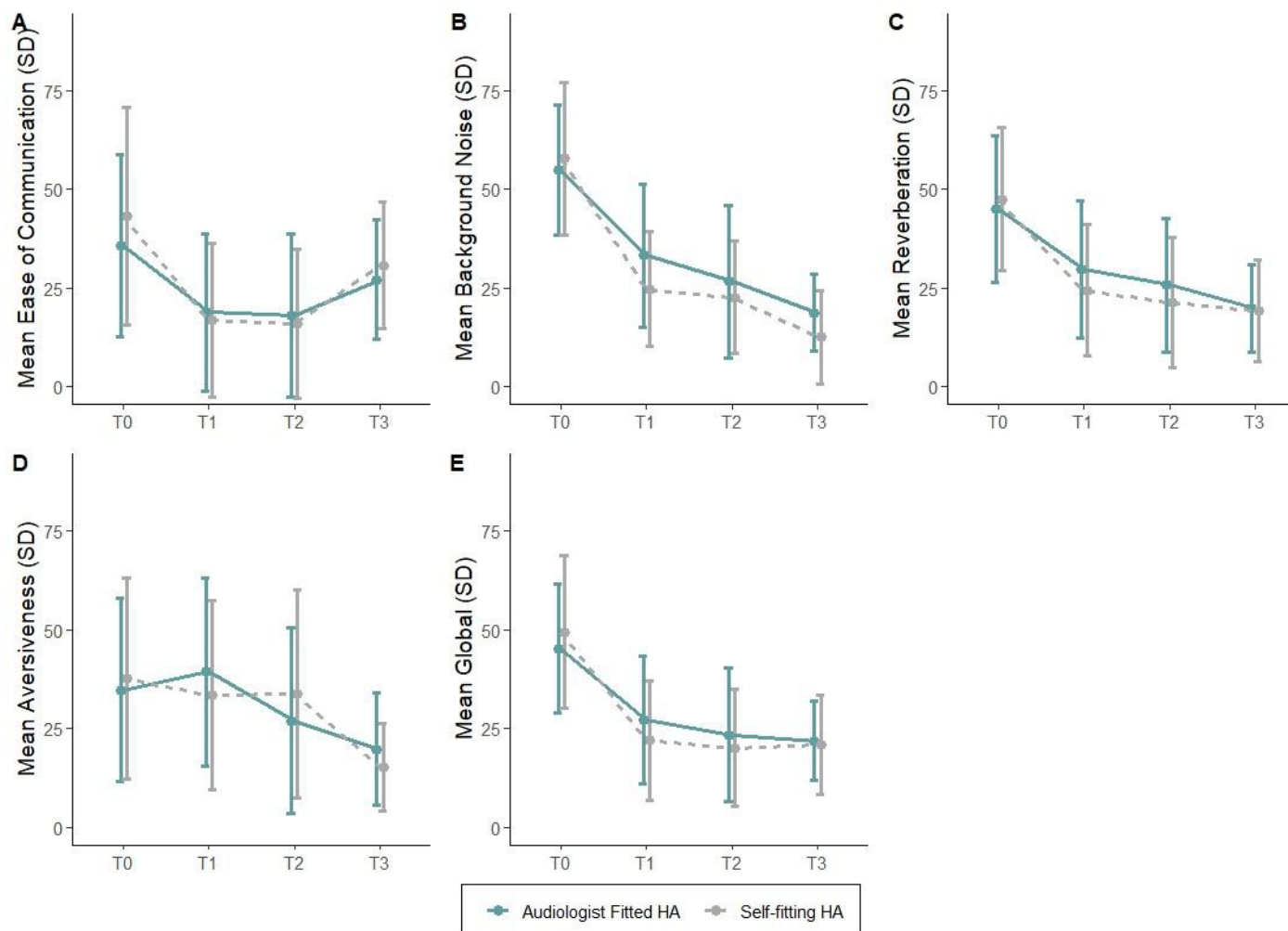
**eTable 5. International Outcome Inventory for Hearing aids (IOI-HA) of male and female participants between audiologist fit (AF) and self-fit (SF) groups at T1-T3.**

		AF			SF		
		Mean (SD)		Effect Size	Mean (SD)		Effect Size
IOI-HA	Time	Male (n=18)	Female (n=14)	Cohen d (95% CI)	Male (n=15)	Female (n=17)	Cohen d (95% CI)
Use	T1	4.4 (0.6)	3.6 (0.7)	0.6 (0.2, 0.9)	4.5 (0.5)	4.3 (0.8)	0.2 (-0.2, 0.5)
	T2	4.3 (0.6)	4.0 (0.7)	0.2 (-0.1, 0.6)	4.5 (0.5)	4.3 (0.7)	0.2 (-0.2, 0.5)
	T3	2.9 (1.4)	3.6 (1.1)	-0.2 (-0.6, 0.1)	3.8 (1.4)	3.6 (1.1)	0.1 (-0.3, 0.4)
Benefit	T1	4.1 (0.9)	3.8 (1.0)	0.1 (-0.2, 0.5)	4.2 (0.8)	4.5 (0.5)	-0.2 (-0.5, 0.2)
	T2	4.2 (1.0)	4.3 (0.8)	-0.1 (-0.4, 0.3)	4.6 (0.6)	4.5 (0.6)	0.1 (-0.2, 0.4)
	T3	3.7 (1.2)	4.7 (0.6)	-0.5 (-0.8, -0.2)*	4.0 (1.5)	4.0 (1.1)	0.0 (-0.3, 0.3)
Residual activity limitation	T1	4.1 (0.9)	3.9 (0.8)	0.2 (-0.2, 0.5)	4.4 (0.6)	4.3 (0.6)	0.1 (-0.2, 0.5)
	T2	4.1 (0.9)	4.2 (0.5)	-0.1 (-0.4, 0.3)	4.3 (0.6)	4.3 (0.6)	0.0 (-0.4, 0.3)
	T3	3.5 (1.2)	3.2 (1.3)	0.1 (-0.2, 0.5)	3.8 (1.3)	3.6 (1.5)	0.1 (-0.3, 0.4)
Satisfaction	T1	4.4 (0.7)	4.5 (0.6)	-0.1 (-0.5, 0.2)	4.1 (1.4)	4.6 (0.6)	-0.2 (-0.6, 0.1)
	T2	4.5 (0.5)	4.7 (0.5)	-0.2 (-0.6, 0.1)	4.7 (1.0)	4.7 (0.5)	0.0 (-0.4, 0.3)
	T3	3.3 (1.4)	3.2 (1.3)	0.0 (-0.3, 0.4)	3.4 (1.2)	3.8 (1.2)	-0.2 (-0.5, 0.2)
Residual participation restrictions	T1	3.4 (1.3)	4.2 (0.9)	-0.4 (-0.7, -0.03 <sup>a</sup> )*	4.1 (1.2)	4.0 (1.5)	0.0 (-0.3, 0.4)
	T2	4.2 (1.0)	4.2 (1.2)	0.0 (-0.4, 0.3)	3.8 (1.3)	4.3 (1.2)	-0.2 (-0.6, 0.1)
	T3	3.4 (1.6)	3.2 (1.5)	0.1 (-0.3, 0.4)	3.5 (1.5)	3.5 (1.6)	0.0 (-0.3, 0.3)
Impact on others	T1	3.9 (1.3)	4.3 (1.2)	-0.1 (-0.5, 0.2)	4.4 (1.0)	4.6 (1.1)	-0.1 (-0.4, 0.3)
	T2	4.5 (0.9)	4.1 (1.4)	0.2 (-0.2, 0.5)	4.5 (0.9)	4.8 (0.4)	-0.2 (-0.6, 0.1)
	T3	4.0 (1.0)	4.4 (0.8)	-0.2 (-0.6, 0.1)	4.5 (0.8)	4.1 (1.4)	0.2 (-0.1, 0.6)
Quality of life	T1	4.2 (1.0)	4.1 (0.8)	0.1 (-0.3, 0.4)	4.2 (0.7)	4.4 (0.7)	-0.1 (-0.5, 0.2)
	T2	4.3 (1.0)	4.6 (0.7)	-0.2 (-0.5, 0.2)	4.5 (0.5)	4.6 (0.6)	-0.1 (-0.4, 0.3)
	T3	3.9 (1.1)	4.1 (0.8)	-0.1 (-0.5, 0.2)	4.2 (0.8)	4.4 (0.6)	-0.1 (-0.5, 0.2)
Total scores	T1	28.4 (4.2)	28.4 (3.3)	0.0 (-0.3, 0.4)	29.9 (3.7)	30.6 (3.1)	-0.1 (-0.4, 0.2)
	T2	30.1 (3.6)	30.2 (3.5)	0.0 (-0.3, 0.3)	30.9 (1.9)	31.5 (2.7)	-0.1 (-0.5, 0.2)
	T3	24.7 (5.9)	26.3 (5.2)	-0.1 (-0.5, 0.2)	27.2 (4.6)	27.0 (5.5)	0.0 (-0.3, 0.4)

\*95% CI does not contain a zero, indicating statistical significance at a 5% level of significance

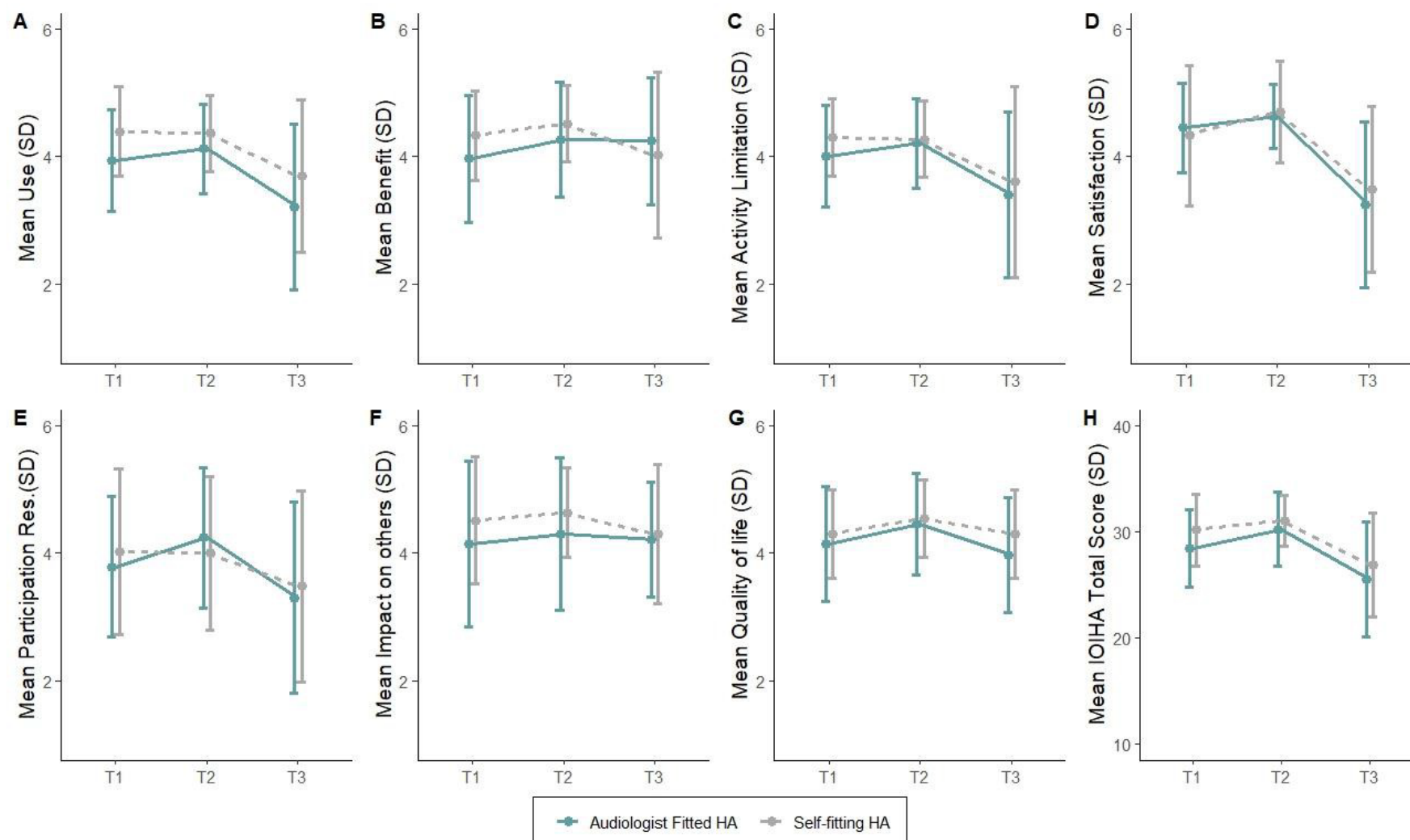
<sup>a</sup>Some of the lower and upper values of the 95% CI are shown to 2 or 3 decimal places to indicate whether the 95% CI includes a zero

**eFigure 1.** Abbreviated Profile of Hearing Aid Benefit (APHAB) outcomes across the time points.



**Figure.** Abbreviated Profile of Hearing Aid Benefit (APHAB) for all domains and total score at all time points (T1, T2, T3) for the audiologist fit (AF) and self-fitting (SF) groups.

**eFigure 2.** International Outcome Inventory for Hearing Aids (IOI-HA) outcomes across the time points



**Figure.** International Outcome Inventory for Hearing Aids (IOI-HA) for all domains and total score at all time points (T1, T2, T3) for the audiologist fit (AF) and self-fitting (SF) groups.