

Supplementary Online Content

le Clercq CMP, Lauschagne LJE, Franken M-CJP, Baatenburg de Jong RJ, Luijk MPCM, Jansen PW, van der Schroeff MP. Association of slight to mild hearing loss with behavioral problems and school performance in children. *JAMA Otolaryngol Head Neck Surg*. Published online November 27, 2019. doi:10.1001/jamaoto.2019.3585

eTable 1. Differences between included (n=4779) and excluded (n=589) participants

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

eTable 1. Differences between included (n = 4779) and excluded (n = 589) participants

	Included participants	Excluded participants	P-value of the difference
N	4779	589	
<i>Sociodemographic</i>			
Age, median (IQR)	9.7 (9.6-9.9)	9.8 (9.7-10.0)	< 0.001
Sex, n (%)			
Male	2358 (49.3)	291 (49.4)	0.976
Female	2421 (50.7)	298 (50.6)	
Ethnicity, n (%)			
Western	3418 (71.5)	224 (38.0)	< 0.001
Non-Western	1286 (26.9)	317 (53.8)	
Missing	75 (1.6)	48 (8.1)	
Gestational age at birth (weeks), mean (SD)	39.8 (1.9)	39.8 (1.8)	0.848
Birth weight (g), mean (SD)	3514.9 (577.5)	3369.6 (569.6)	0.069
Maternal educational level, n (%)			
No or primary education	104 (2.2)	44 (7.5)	< 0.001
Secondary education	1547 (32.4)	167 (28.4)	
Higher education	2624 (54.9)	124 (21.1)	
Missing	504 (10.5)	254 (43.1)	
Household income, n (%)			
Lowest tertile	1040 (21.8)	167 (28.4)	< 0.001
Middle tertile	1530 (32.0)	84 (14.3)	
Highest tertile	1500 (31.4)	59 (10.0)	
Missing	709 (14.8)	279 (47.4)	
<i>Hearing acuity</i>			
Better ear LPTA (dB HL), mean (SD)	6.5 (4.7)	7.5 (6.4)	< 0.001
Better ear HPTA (dB HL), mean (SD)	6.6 (4.9)	7.3 (7.3)	0.025
Worse ear LPTA (dB HL), mean (SD)	9.2 (5.9)	10.6 (7.3)	< 0.001
Worse ear HPTA (dB HL), mean (SD)	9.9 (6.3)	11.0 (8.5)	0.001
SRT (dB SNR), mean (SD)	-5.7 (1.5)	-5.5 (1.6)	0.006

eTable 2. Cito Test scores and corresponding advice for secondary educational level¹⁷.

Cito Test score	Advised secondary educational level
501-522	VMBO_B/VMBO_L (preparing for labour market/very low level of vocational education)
523-528	VMBO_K (preparing for labour market/low level of vocational education)
529-532	VMBO_G/VMBO_T (preparing for moderate-high levels of vocational education)
533-536	VMBO/HAVO (Combination class preparing for high level vocational education and senior general education)
537-540	HAVO (preparing for senior general education)
541-544	HAVO/VWO (Combination class preparing for senior general education and pre-university education)
545-550	VWO (pre-university education)

¹⁷ Cito. Betekenis van de standaardscore op de Citotoets [Meaning of the standard scores of the Cito Test]. www.cito.nl. Published 2014. Accessed 17 April, 2018.

eTable 3. The association of child hearing acuity with standardized behavioral problem scores, in boys (n = 2200) and girls (n = 2271)^a.

	CBCL problem Z-scores	
	Boys	Girls
	β (95% CI)	β (95% CI)
Total problem score		
Better ear LPTA	0.010 (0.001, 0.018)	-0.003 (-0.011, 0.005)
Better ear HPTA	0.004 (-0.004, 0.012)	-0.005 (-0.013, 0.003)
Worse ear LPTA	0.006 (-0.001, 0.013)	0.001 (-0.005, 0.007)
Worse ear HPTA	0.004 (-0.002, 0.011)	-0.001 (-0.007, 0.004)
SRT ^b	-0.016 (-0.052, 0.019)	0.014 (-0.021, 0.050)
Internalizing problem score		
Better ear LPTA	0.005 (-0.004, 0.014)	-0.004 (-0.012, 0.004)
Better ear HPTA	0.001 (-0.008, 0.009)	-0.008 (-0.016, 0.000)
Worse ear LPTA	0.004 (-0.004, 0.011)	-0.001 (-0.007, 0.006)
Worse ear HPTA	0.003 (-0.004, 0.010)	-0.004 (-0.010, 0.002)
SRT ^b	-0.014 (-0.049, 0.021)	-0.018 (-0.054, 0.019)
Externalizing problem score		
Better ear LPTA	0.004 (-0.005, 0.013)	-0.007 (-0.015, 0.001)
Better ear HPTA	0.000 (-0.008, 0.009)	-0.004 (-0.012, 0.004)
Worse ear LPTA	0.001 (-0.006, 0.009)	-0.002 (-0.008, 0.005)
Worse ear HPTA	0.000 (-0.007, 0.006)	-0.002 (-0.008, 0.004)
SRT ^b	0.002 (-0.036, 0.039)	0.007 (-0.029, 0.043)
Social problem score		
Better ear LPTA	0.008 (0.000, 0.017)	-0.001 (-0.009, 0.007)
Better ear HPTA	0.004 (-0.004, 0.013)	-0.002 (-0.011, 0.006)
Worse ear LPTA	0.010 (0.002, 0.017)	0.002 (-0.004, 0.008)
Worse ear HPTA	0.004 (-0.003, 0.011)	0.000 (-0.006, 0.006)
SRT ^b	-0.028 (-0.064, 0.008)	0.025 (-0.012, 0.062)
Attention problem score		
Better ear LPTA	0.012 (0.003, 0.020)	-0.002 (-0.011, 0.006)
Better ear HPTA	0.007 (-0.001, 0.015)	-0.002 (-0.010, 0.007)
Worse ear LPTA	0.009 (0.002, 0.016)	0.003 (-0.003, 0.010)
Worse ear HPTA	0.004 (-0.003, 0.010)	0.003 (-0.003, 0.009)
SRT ^b	0.010 (-0.027, 0.046)	0.039 (0.002, 0.076)

^a Analyses adjusted for age, gestational age at birth, ethnicity, maternal educational level, household income, and maternal and paternal psychopathology

^b Data available for n = 1228 boys, and for n = 1260 girls.