

Supplementary tables

Supplementary Table 1

Characteristics of male participants with subjective hearing loss lasting for 3 months.

Male		No hearing loss	Slightly	A little	Considerably	Severely	p-value
			bothered	bothered	bothered	bothered	
		n=6461	n=134	n=167	n=76	n=74	
Age (years)		41.00 [29.00, 52.00]	54.00 [39.00, 59.00]	50.00 [34.00, 58.00]	55.00 [41.00, 62.00]	49.00 [36.25, 58.00]	<0.001
	20-34	2209 (34.2)	25 (18.7)	43 (25.7)	14 (18.4)	17 (23.0)	<0.001
	35-49	2209 (34.2)	33 (24.6)	39 (23.4)	13 (17.1)	21 (28.4)	
	50-64	2043 (31.6)	76 (56.7)	85 (50.9)	49 (64.5)	36 (48.6)	
BMI		22.46 [20.42, 24.86]	23.32 [21.34, 26.12]	22.66 [20.76, 25.03]	22.86 [21.13, 25.98]	23.49 [21.12, 25.70]	<0.001
Marital status	Married	3118 (48.3)	73 (54.5)	92 (55.1)	48 (63.2)	43 (58.1)	0.007
	Single/divorce/bereavement	3343 (51.7)	61 (45.5)	75 (44.9)	28 (36.8)	31 (41.9)	
Educational level	high school and below	1420 (22.1)	35 (26.7)	50 (29.9)	17 (22.4)	15 (20.8)	0.229
	vocation/college	831 (12.9)	14 (10.7)	20 (12.0)	14 (18.4)	12 (16.7)	
	university and postgraduate	4175 (65.0)	82 (62.6)	97 (58.1)	45 (9.2)	45 (62.5)	
Alcohol	No	590 (9.1)	3 (2.2)	10 (6.0)	3 (3.9)	8 (10.8)	0.059
	Past	2143 (33.2)	46 (34.3)	58 (34.7)	33 (43.4)	26 (35.1)	
	Current	3728 (57.7)	85 (63.4)	99 (59.3)	40 (52.6)	40 (54.1)	
Smoking	No	2929 (45.3)	34 (25.4)	53 (31.7)	20 (26.3)	24 (32.4)	<0.001
	Past	1878 (29.1)	39 (29.1)	59 (35.3)	35 (46.1)	25 (33.8)	
	Current	1654 (25.6)	61 (45.5)	55 (32.9)	21 (27.6)	25 (33.8)	
Work with noise risk	No	4922 (76.2)	107 (79.9)	121 (72.5)	51 (67.1)	54 (73.0)	0.197
	Yes	1539 (23.8)	27 (20.1)	46 (27.5)	25 (32.9)	20 (27.0)	
Work type	Desk work	2842 (48.9)	51 (45.5)	76 (51.0)	28 (41.2)	31 (47.7)	0.79
	Sales work	1321 (22.7)	31 (27.7)	37 (24.8)	19 (27.9)	16 (24.6)	
	Manual work	1653 (28.4)	30 (26.8)	36 (24.2)	21 (30.9)	18 (27.7)	
Somatic symptoms (SSS-8)		9.00 [6.00, 12.00]	11.00 [8.00, 15.00]	13.00 [10.00, 17.00]	15.00 [11.00, 19.25]	18.00 [14.00, 21.75]	<0.001
	No to medium	4183 (64.7)	66 (49.3)	52 (31.1)	17 (22.4)	12 (16.2)	<0.001
	High and more (>=12)	2278 (35.3)	68 (50.7)	115 (68.9)	59 (77.6)	62 (83.8)	
Vertigo in 3 months	No	6225 (96.3)	114 (85.1)	133 (79.6)	61 (80.3)	56 (75.7)	<0.001
	Yes	236 (3.7)	20 (14.9)	34 (20.4)	15 (19.7)	18 (24.3)	
Sleep disorder in 3 months	No	5344 (82.7)	84 (62.7)	102 (61.1)	43 (56.6)	40 (54.1)	<0.001
	Yes	1117 (17.3)	50 (37.3)	65 (38.9)	33 (43.4)	34 (45.9)	
Tinnitus in 3 months	No	6267 (97.0)	99 (73.9)	127 (76.0)	40 (52.6)	41 (55.4)	<0.001

	Yes	194 (3.0)	35 (26.1)	40 (24.0)	36 (47.4)	33 (44.6)	
Hypertension	No	4999 (77.4)	81 (60.4)	99 (59.3)	39 (51.3)	43 (58.1)	<0.001
	Past	392 (6.1)	9 (6.7)	16 (9.6)	7 (9.2)	5 (6.8)	
	Current	1070 (16.6)	44 (32.8)	52 (31.1)	30 (39.5)	26 (35.1)	
Diabetes	No	6047 (93.6)	110 (82.1)	132 (79.0)	63 (82.9)	64 (86.5)	<0.001
	Past	80 (1.2)	3 (2.2)	11 (6.6)	5 (6.6)	2 (2.7)	
	Current	334 (5.2)	21 (15.7)	24 (14.4)	8 (10.5)	8 (10.8)	
Dyslipidemia	No	5419 (83.9)	88 (65.7)	115 (68.9)	44 (57.9)	47 (63.5)	<0.001
	Past	279 (4.3)	11 (8.2)	12 (7.2)	6 (7.9)	3 (4.1)	
	Current	763 (11.8)	35 (26.1)	40 (24.0)	26 (34.2)	24 (32.4)	
Mental distress (K6 score)		2.00 [0.00, 8.00]	3.50 [0.00, 10.00]	6.00 [1.00, 12.00]	7.50 [1.75, 13.00]	11.50 [4.00, 20.00]	<0.001
	No	4024 (62.3)	76 (56.7)	69 (41.3)	29 (38.2)	22 (29.7)	<0.001
	Yes (≥5)	2437 (37.7)	58 (43.3)	98 (58.7)	47 (61.8)	52 (70.3)	
Social isolation (LSNS-6)		9.00 [5.00, 13.00]	9.00 [4.00, 13.00]	7.00 [4.00, 12.00]	7.00 [4.75, 13.25]	3.00 [1.00, 11.00]	<0.001
	No	2303 (35.6)	50 (37.3)	49 (29.3)	22 (28.9)	17 (23.0)	0.051
	Yes (<12)	4158 (64.4)	84 (62.7)	118 (70.7)	54 (71.1)	57 (77.0)	
Presenteeism (Wfun)		13.00 [8.00, 20.00]	15.00 [9.75, 21.00]	18.00 [11.00, 24.00]	19.00 [11.75, 25.25]	20.00 [13.00, 28.00]	<0.001
	No/mild	4501 (77.4)	79 (70.5)	85 (57.0)	37 (54.4)	33 (50.8)	<0.001
	Moderate/severe (≥21)	1315 (22.6)	33 (29.5)	64 (43.0)	31 (45.6)	32 (49.2)	
Absenteeism		0.00 [0.00, 0.00]	0.00 [0.00, 0.00]	0.00 [0.00, 0.00]	0.00 [0.00, 0.00]	0.00 [0.00, 1.00]	<0.001

Data are presented as median (interquartile range). BMI, body mass index; SSS-8, 8-item Somatic Symptom Scale; K6, Kessler Psychological Distress Scale; LSNS-6, abbreviated Lubben Social Network Scale; WFun, Work Functioning Impairment Scale.

Supplementary Table 2

Characteristics of female participants with subjective hearing loss lasting for 3 months.

Female		No hearing loss	Slightly	A little	Considerably	Severely	p-value
		n=7284	bothered n=159	bothered n=191	bothered n=102	bothered n=61	
Age (years)		40.00 [29.00, 52.00]	49.00 [39.00, 57.00]	49.00 [38.50, 57.00]	49.50 [38.00, 57.75]	50.00 [37.00, 56.00]	<0.001
	20-34	2658 (36.5)	28 (17.6)	36 (18.8)	21 (20.6)	15 (24.6)	<0.001
	35-49	2423 (33.3)	56 (35.2)	67 (35.1)	30 (29.4)	14 (23.0)	
	50-64	2203 (30.2)	75 (47.2)	88 (46.1)	51 (50.0)	32 (52.5)	
BMI		20.20 [18.67, 22.38]	20.44 [19.01, 23.21]	20.89 [18.82, 22.94]	21.36 [19.18, 23.63]	20.70 [18.20, 24.46]	0.003
Marital status	Married	4018 (55.2)	88 (55.3)	109 (57.1)	56 (54.9)	28 (45.9)	0.663
	Single/divorce/bereavement	3266 (44.8)	71 (44.7)	82 (42.9)	46 (45.1)	33 (54.1)	
Educational level	high school and below	1730 (23.8)	49 (30.8)	51 (27.0)	37 (36.6)	24 (40.7)	<0.001
	vocation/college	2224 (30.6)	53 (33.3)	70 (37.0)	25 (24.8)	17 (28.8)	
	university and postgraduate	3303 (45.5)	57 (35.8)	68 (36.0)	39 (38.6)	18 (30.5)	
Alcohol	No	1156 (15.9)	16 (10.1)	22 (11.5)	8 (7.8)	9 (14.8)	0.018
	Past	3140 (43.1)	64 (40.3)	88 (46.1)	38 (37.3)	26 (42.6)	
	Current	2988 (41.0)	79 (49.7)	81 (42.4)	56 (54.9)	26 (42.6)	
Smoking	No	5094 (69.9)	92 (57.9)	111 (58.1)	54 (52.9)	41 (67.2)	<0.001
	Past	1510 (20.7)	49 (30.8)	43 (22.5)	31 (30.4)	11 (18.0)	
	Current	680 (9.3)	18 (11.3)	37 (19.4)	17 (16.7)	9 (14.8)	
Work with noise risk	No	6561 (90.1)	148 (93.1)	175 (91.6)	92 (90.2)	55 (90.2)	0.726
	Yes	723 (9.9)	11 (6.9)	16 (8.4)	10 (9.8)	6 (9.8)	
Work type	Desk work	2497 (47.3)	38 (35.8)	55 (44.4)	34 (46.6)	24 (54.5)	0.124
	Sales work	1446 (27.4)	29 (27.4)	36 (29.0)	15 (20.5)	9 (20.5)	
	Manual work	1336 (25.3)	39 (36.8)	33 (26.6)	24 (32.9)	11 (25.0)	
Somatic symptoms (SSS-8)		10.00 [7.00, 14.00]	12.00 [9.00, 16.50]	15.00 [11.50, 19.00]	17.00 [13.00, 22.00]	18.00 [13.00, 24.00]	<0.001
	No to medium	3954 (54.3)	61 (38.4)	39 (20.4)	10 (9.8)	10 (16.4)	<0.001
	High and more (>=12)	3330 (45.7)	98 (61.6)	152 (79.6)	92 (90.2)	51 (83.6)	
Vertigo in 3 months	No	6735 (92.5)	120 (75.5)	138 (72.3)	66 (64.7)	36 (59.0)	<0.001
	Yes	549 (7.5)	39 (24.5)	53 (27.7)	36 (35.3)	25 (41.0)	
Sleep disorder in 3 months	No	5803 (79.7)	81 (50.9)	99 (51.8)	47 (46.1)	31 (50.8)	<0.001
	Yes	1481 (20.3)	78 (49.1)	92 (48.2)	55 (53.9)	30 (49.2)	
Tinnitus in 3 months	No	7022 (96.4)	117 (73.6)	120 (62.8)	50 (49.0)	32 (52.5)	<0.001
	Yes	262 (3.6)	42 (26.4)	71 (37.2)	52 (51.0)	29 (47.5)	
Hypertension	No	6523 (89.6)	132 (83.0)	147 (77.0)	76 (74.5)	43 (70.5)	<0.001

	Past	252 (3.5)	8 (5.0)	11 (5.8)	8 (7.8)	3 (4.9)	
	Current	509 (7.0)	19 (11.9)	33 (17.3)	18 (17.6)	15 (24.6)	
Diabetes	No	7079 (97.2)	150 (94.3)	177 (92.7)	91 (89.2)	53 (86.9)	<0.001
	Past	58 (0.8)	4 (2.5)	4 (2.1)	3 (2.9)	3 (4.9)	
	Current	147 (2.0)	5 (3.1)	10 (5.2)	8 (7.8)	5 (8.2)	
Dyslipidemia	No	6456 (88.6)	125 (78.6)	157 (82.2)	66 (64.7)	43 (70.5)	<0.001
	Past	201 (2.8)	9 (5.7)	10 (5.2)	9 (8.8)	3 (4.9)	
	Current	627 (8.6)	25 (15.7)	24 (12.6)	27 (26.5)	15 (24.6)	
Mental distress (K6 score)		3.00 [0.00, 8.00]	5.00 [1.50, 12.00]	7.00 [3.00, 13.00]	9.00 [3.00, 16.00]	12.00 [5.00, 21.00]	<0.001
	No	4349 (59.7)	74 (46.5)	63 (33.0)	30 (29.4)	15 (24.6)	<0.001
	Yes (≥5)	2935 (40.3)	85 (53.5)	128 (67.0)	72 (70.6)	46 (75.4)	
Social isolation (LSNS-6)		10.00 [6.00, 14.00]	9.00 [6.00, 13.00]	9.00 [5.50, 13.50]	8.00 [4.00, 12.00]	7.00 [4.00, 13.00]	<0.001
	No	3062 (42.0)	56 (35.2)	66 (34.6)	28 (27.5)	19 (31.1)	0.001
	Yes (<12)	4222 (58.0)	103 (64.8)	125 (65.4)	74 (72.5)	42 (68.9)	
Presenteeism (Wfun)		12.00 [8.00, 18.00]	13.00 [9.00, 19.75]	17.00 [11.00, 25.00]	19.00 [14.00, 25.00]	16.50 [11.00, 27.25]	<0.001
	No/mild	4338 (82.2)	84 (79.2)	79 (63.7)	40 (54.8)	25 (56.8)	<0.001
	Moderate/severe (≥21)	941 (17.8)	22 (20.8)	45 (36.3)	33 (45.2)	19 (43.2)	
Absenteeism		0.00 [0.00, 0.00]	0.00 [0.00, 0.00]	0.00 [0.00, 0.00]	0.00 [0.00, 1.00]	0.00 [0.00, 0.00]	<0.001

Data are presented as median (interquartile range). BMI, body mass index; SSS-8, 8-item Somatic Symptom Scale; K6, Kessler Psychological Distress Scale; LSNS-6, abbreviated Lubben Social Network Scale; WFun, Work Functioning Impairment Scale.

Supplementary Table 3

The generalized variance inflation factors for each variable in multivariate logistic regression analysis concerning hearing loss

	Male			Female		
	GVIF	Df	$GVIF^{1/(2*Df)}$	GVIF	Df	$GVIF^{1/(2*Df)}$
Age	1.435431823	2	1.094575297	1.503585618	2	1.107342684
Education	1.082365313	2	1.019984252	1.218079247	2	1.050555222
Alcohol	1.117754448	2	1.028221313	1.123752597	2	1.029597969
Smoking	1.200137131	2	1.046665039	1.169496726	2	1.039919573
Somatic symptoms (SSS-8)	1.233508091	1	1.110634094	1.204272612	1	1.097393554
Vertigo in 3 months	1.115576067	1	1.056208345	1.187550722	1	1.089748009
Sleep disorder in 3 months	1.130663887	1	1.063326801	1.143934422	1	1.0695487
Tinnitus in 3 months	1.15543647	1	1.074912308	1.170220444	1	1.081767278
Hypertension	1.317041395	2	1.071272253	1.290491213	2	1.065832019
Diabetes	1.278840268	2	1.063418168	1.175729997	2	1.041302473
Dyslipidemia	1.34340855	2	1.076594178	1.273994524	2	1.062409365
Mental distress (K6 score)	1.503841408	1	1.226312117	1.342421233	1	1.158629032
Social isolation (LSNS-6)	1.053891908	1	1.026592377	1.104934426	1	1.051158611
Presenteeism (Wfun)	1.299161555	1	1.139807683	1.250031734	1	1.11804818

GVIF, generalized variance inflation factor; Df, degree of freedom; SSS-8, 8-item Somatic Symptom Scale; K6, the Kessler Psychological Distress Scale; LSNS-6, the abbreviated Lubben Social Network Scale; WFun, Work Functioning Impairment Scale.

Supplementary Table 4

The generalized variance inflation factors for each variable in multivariate logistic regression analysis concerning presenteeism

	Male			Female		
	GVIF	Df	$GVIF^{(1/(2*Df))}$	GVIF	Df	$GVIF^{(1/(2*Df))}$
Subjective hearing loss	1.170643846	1	1.08196296	1.179347842	1	1.085977828
Age	1.333163743	2	1.074535761	1.335890172	2	1.075084718
Education	1.066155619	2	1.016143749	1.164261196	2	1.038753753
Alcohol	1.093237993	2	1.02253617	1.066975571	2	1.016339065
Smoking	1.173203522	2	1.040742619	1.12582839	2	1.030073107
Job demand	1.034079581	1	1.016897036	1.057785427	1	1.02848696
Job control	1.06300077	1	1.031019287	1.066380703	1	1.032657108
Somatic symptoms (SSS-8)	1.224064829	1	1.106374633	1.184881252	1	1.088522509
Vertigo in 3 months	1.083945018	1	1.041126802	1.109848822	1	1.053493627
Sleep disorder in 3 months	1.142920022	1	1.069074376	1.132250875	1	1.064072777
Tinnitus in 3 months	1.179217277	1	1.085917712	1.188775065	1	1.090309619
Hypertension	1.257604901	2	1.058975848	1.218740046	2	1.050697673
Diabetes	1.191073257	2	1.044683219	1.101975486	2	1.02457318
Dyslipidemia	1.261629708	2	1.059822113	1.187554942	2	1.043910889
Happiness	1.283275373	1	1.132817449	1.223716627	1	1.10621726
Mental distress (K6 score)	1.240155207	1	1.11362256	1.204828227	1	1.097646677
Social isolation (LSNS-6)	1.108138312	1	1.052681487	1.113482925	1	1.055217004

GVIF, generalized variance inflation factor; Df, degree of freedom; SSS-8, 8-item Somatic Symptom Scale; K6, the Kessler Psychological Distress Scale; LSNS-6, the abbreviated Lubben Social Network Scale.