

Table S1 Comparison of hearing health knowledge and belief between different groups at various intervention stages in male students (n=241).

Variable	Groups	Before intervention	After intervention		<i>p</i>		
		T1 (Mean±SD)	T2 (Mean±SD)	T3 (Mean±SD)	Time group	Control and Intervention	Interaction
Score of hearing health knowledge	Control	30.37±6.24	31.40±8.10	31.57±9.94	0.108	0.896	1.369
	Intervention	29.33±6.77	32.80±7.47	31.28±11.65			
	t	0.611	-1.325	0.353			
	p	0.547	0.297	0.832			
Score of hearing health belief	Control	164.57±18.14	163.02±19.07	163.69±21.45	0.552	0.990	0.314
	Intervention	163.87±16.13	166.34±18.32	161.59±23.74			
	t	0.034	-2.803	2.68			
	p	0.99	0.353	0.447			
Perceived susceptibility	Control	13.05±3.50	12.92±3.63	13.61±3.47	0.305	0.288	0.529
	Intervention	13.77±3.50	13.28±3.48	13.92±3.69			
	t	-0.863	-0.316	-0.186			
	p	0.123	0.582	0.741			
Perceived severity	Control	37.84±4.86	36.96±6.66	36.79±8.21	0.790	0.738	0.392
	Intervention	37.67±4.68	38.10±5.55	36.20±9.37			
	t	0.062	-1.269	0.468			
	p	0.936	0.215	0.731			
Perceived benefits	Control	30.81±4.53	30.59±4.90	29.43±6.13	0.129	0.184	0.778
	Intervention	30.11±3.96	30.61±4.16	28.44±7.31			
	t	0.760	0.450	1.169			
	p	0.280	0.549	0.256			
Perceived	Control	24.92±6.83	24.19±7.37	23.18±7.70	0.105	0.504	0.749

barriers	Intervention	23.93±6.62	24.33±7.16	22.26±8.17			
	t	1.105	0.058	0.541			
	p	0.307	0.960	0.665			
Cues to action	Control	28.69±6.03	28.93±6.17	29.88±6.29	0.005	0.808	0.528
	Intervention	28.56±4.85	29.59±4.55	29.95±6.72			
	t	-0.354	-0.711	0.580			
Perceived self- efficacy	p	0.699	0.443	0.568			
	Control	29.26±5.34	29.42±5.63	30.80±5.98	0.354	0.441	0.619
	Intervention	29.82±5.08	30.44±5.78	30.82±6.79			
	t	-0.676	-1.016	0.108			
	p	0.423	0.262	0.913			

Note: All values are Means±SD(Standard Deviation); T1, before the intervention; T2, at the intervention cessation phase; T3, 3 months after the intervention cessation (maintenance phase);

Significant differences between groups were determined by using Repeated Measures ANOVA and t-test with age and grades being adjusted.

Boldface indicates statistical significance (p<0.05)

Table S2 Comparison of hearing health knowledge and belief between different groups at various intervention stages in female students (n=589).

Variable	Groups	Before intervention	After intervention		<i>p</i>		
		T1 (Mean±SD)	T2 (Mean±SD)	T3 (Mean±SD)	Time group	Control and Intervention	Interaction
Score of hearing health knowledge	Control	31.51±5.17	32.96±6.48	33.46±7.36	0.028	0.018	0.011
	Intervention	31.01±5.47	34.24±4.23	34.98±6.16			
	t	0.251	-1.23	-1.449			
	p	0.586	0.007	0.012			
Score of hearing health belief	Control	171.08±13.98	168.41±16.30	168.67±14.97	0.231	0.535	0.109
	Intervention	168.08±14.67	167.98±15.03	169.40±16.95			
	t	2.265	0.393	-0.722			
	p	0.067	0.77	0.606			
Perceived susceptibility	Control	13.77±3.30	13.13±4.00	14.03±3.44	0.198	0.100	0.870
	Intervention	13.41±2.98	12.87±3.33	13.55±3.55			
	t	0.36	0.303	0.47			
	p	0.18	0.331	0.122			
Perceived severity	Control	38.86±4.42	38.64±5.28	38.75±5.01	0.596	0.475	0.067
	Intervention	38.11±4.74	39.25±5.23	39.13±5.39			
	t	0.511	-0.671	-0.484			
	p	0.197	0.14	0.286			
Perceived benefits	Control	31.06±4.05	31.13±4.32	30.56±4.39	0.752	0.479	0.843

	Intervention	30.65±4.15	30.94±4.56	30.44±4.98			
	t	0.345	0.162	0.075			
	p	0.333	0.675	0.856			
Perceived barriers	Control	25.84±5.97	24.98±6.88	22.64±6.73	0.538	0.116	0.071
	Intervention	24.73±5.79	23.93±6.37	23.26±7.06			
	t	1.015	1.143	-0.221			
	p	0.045	0.045	0.71			
Cues to action	Control	30.11±4.54	30.26±5.57	30.75±4.54	0.492	0.429	0.452
	Intervention	30.48±4.30	30.01±5.32	30.84±5.04			
	t	-0.522	0.114	-0.306			
	p	0.168	0.807	0.464			
Perceived self-efficacy	Control	31.43±4.63	30.27±4.94	31.94±4.60	0.939	0.703	0.023
	Intervention	30.70±4.58	30.98±4.63	32.18±4.84			
	t	0.557	-0.658	-0.256			
	p	0.161	0.11	0.533			

Note: All values are Means±SD (Standard Deviation); T1, before the intervention; T2, at the intervention cessation phase; T3, 3 months after the intervention cessation (maintenance phase);

Significant differences between groups were determined by using Repeated Measures ANOVA and t-test with age and grades being adjusted.

Boldface indicates statistical significance ($p < 0.05$).

Table S3 Baseline characteristics of hearing health behaviors between different groups in male and female students (n=830).

Variables	Male		<i>p</i>	Female		<i>p</i>
	Control (n=180)	Intervention (n=61)		Control (n=231)	Intervention (n=358)	
Average frequency of using headphones			0.343			0.782
<3 times/day	124 (68.9)	38 (62.3)		166 (71.9)	261 (72.9)	
≥3 times/day	56 (31.1)	23 (37.7)		65 (28.1)	97 (27.1)	
Average duration of using headphones			0.645			0.875
<30 minutes/time	62 (34.4)	23 (37.7)		103 (44.6)	162 (45.3)	
≥30 minutes/time	118 (65.6)	38 (62.3)		128 (55.4)	196 (54.7)	
Probability of increasing headphone volume in noisy environment			0.813			0.716
< 50%	62 (34.4)	20 (32.8)		99 (42.9)	148 (41.3)	
≥50%	118 (65.6)	41 (67.2)		132 (57.1)	210 (58.7)	
Volume of the headphones of the total volume			0.605			0.014
<40%	133 (73.9)	43 (70.5)		187 (81.0)	258 (72.1)	
≥40%	47 (26.1)	18 (29.5)		44 (19.0)	100 (27.9)	
Using in-ear type headphones			0.586			0.967
No	102 (56.7)	37 (60.7)		159 (68.8)	247 (69.0)	

Yes	78 (43.3)	24 (39.3)	72 (31.2)	111 (31.0)
Sleeping with headphones for listening to music or radio			0.210	0.125
No	108 (60.0)	31 (50.8)	133 (57.6)	183 (51.1)
Yes	72 (40.0)	30 (49.2)	98 (42.4)	175 (48.9)

Note: All values are n (%), and chi-square test was used to analyze the differences between intervention group and control group; Boldface indicates statistical significance (p<0.05).