

An online study assessing the relationship between hearing loss and noncommunicable disease



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1. Background

- Hearing loss has been shown to be independently associated with non-communicable disease, such as diabetes, cardiovascular diseases, and dementia [1, 2]
- Most research has addressed associations in mid- and older-life. However, younger adults are becoming increasingly at risk of noise-induced hearing loss as a result of headphone use and leisure activities [3, 4]



Aim: To investigate the associations between self-reported hearing loss, cardiovascular health, psychosocial factors, and memory problems.

2. Methods

- An online cross-sectional survey which oversampled for hearing loss, assessed self-reported outcomes using validated measures
- Associations were evaluated using chi-square tests and logistic regression (tables 2-4) using age-stratified analyses.

Table 1. Sample characteristics (N=389).

Mean age (years)	41.28 (18-87)
Female (n)	267 (68.6%)
Hearing difficulties (n)	214 (55.0%)
Memory problems (n)	120 (30.8%)
Sport participation (n)	81 (20.8%)

3. Results

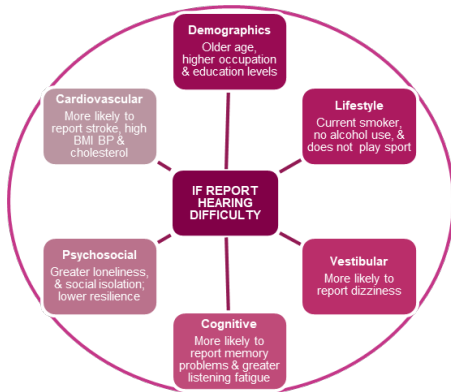


Figure 1. Differences between those with and without hearing difficulties.

- Hearing difficulties were associated with greater likelihood of memory problems, poorer cardiovascular health, and lower sports participation (Figure 1.)
- Age moderated the associations between hearing, memory and sports participation:
 - ❑ The presence of memory problems predicted hearing difficulty in both younger and older adults (Table 2)
 - ❑ Reduced sports participation and greater depression predicted memory problems in older adults only (Table 3)
 - ❑ Hearing and memory problems predicted reduced sports participation in older adults only (Table 4)

Table 2. Predictors of greater hearing difficulty.

	Younger (18-39y)	Older (40+y)
Greater memory problems	✓	✓
Older age	✗	✓
Lower depression	✗	✓
More likely to smoke	✓	✓
Greater listening fatigue	✓	✓

Table 3. Predictors of greater memory problems.

	Younger (18-39y)	Older (40+y)
Greater hearing difficulties	✓	✗
Lower sports participation	✗	✓
Greater depression	✗	✓
More likely to report dizziness	✓	✓

Table 4. Predictors of lower sports participation.

	Younger (18-39y)	Older (40+y)
Greater hearing difficulties	✗	✓
Greater memory problems	✗	✓
Higher occupation level	✓	✗
More likely to report concussion	✓	✗
More likely to consume alcohol	✓	✗

4. Conclusions

- Hearing difficulty can be associated with memory problems in both younger and older adults
 - ❑ This suggests that hearing loss interventions may be necessary at any age
- For older adults, greater hearing and memory difficulties were associated with reduced sports participation
 - ❑ Thus, promoting physical activity in older adults with hearing difficulties may reduce the risk of memory loss
- Depressive symptoms were associated with both hearing difficulties and memory problems in older adults.
 - ❑ This may indicate the importance of addressing the psychological wellbeing of older adults with hearing difficulties.



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