

Incerti, Lisa^{1,2}; Wurm, Susanne²; Wettstein, Markus²; Ilicic, Ana Maria²; Inerle, Kathrin²; Fischer, Rosa-Linde³; Wolff, Julia K.^{2,4}; Steinmetzger, Kurt⁵; Mazurek, Birgit⁵; Williger, Bettina¹

¹ Landshut University of Applied Sciences, Faculty of Health, Communication and Human-Technology Interaction, Landshut, Germany; ² University Medicine Greifswald, Department of Prevention Research and Social Medicine, Institute for Community Medicine, Greifswald, Germany; ³ ORCA Labs Europe, Scientific Institute of WS Audiology, Erlangen, Germany; ⁴ IGES Institute, Berlin, Germany; ⁵ Charité – University Medicine Berlin, Tinnitus Center, Berlin, Germany

Theoretical Background

Age-Related Hearing Loss (ARHL) is a highly prevalent global health problem, affecting approximately 65% of adults over the age of 60, with both prevalence and severity increasing with age [6].

(Untreated) ARHL can have severe consequences [4,6], such as:

- **Health consequences:** increased risk of diseases, depression, and falls
- **Psychosocial consequences:** social withdrawal, social isolation, and restricted communication
- **Functional impairments:** loss of perception of ambient noises
- ➔ **Subsequently:** Impairment of the quality of life (QoL)

Psychosocial Factors are psychological and social influences that affect a person's mental and physical health, well-being, and social functioning [5,7].

- Examples include (hearing-related) adaptive strategies (AStra), social support, and views on aging (VoA).
- They are modifiable and have proven effects on health behavior, healthcare utilization, and QoL [1,2,3].
- ➔ Psychosocial factors may offer significant benefits for hearing healthcare.



Methods

Study Design: Cross-sectional online survey (including a voluntary hearing screening) with adults aged 40 years and older with varying degrees of ARHL.

Sample Characteristics: N = 87

- Age: $M = 64.07$, $SD = 8.73$, Range = [42.5; 83.5]
- Gender: 51.7% female; 48.3% male
- Subjective Hearing Ability (1-4): $M = 2.76$, $SD = 0.67$
- HA Use: 71.3% HA user

Research Questions

RQ1 Which psychosocial factors are associated with QoL in adults with ARHL?

RQ2 Which psychosocial factors predict QoL in adults with ARHL, controlling for sociodemographic and health-related variables, as well as hearing aid (HA) use?

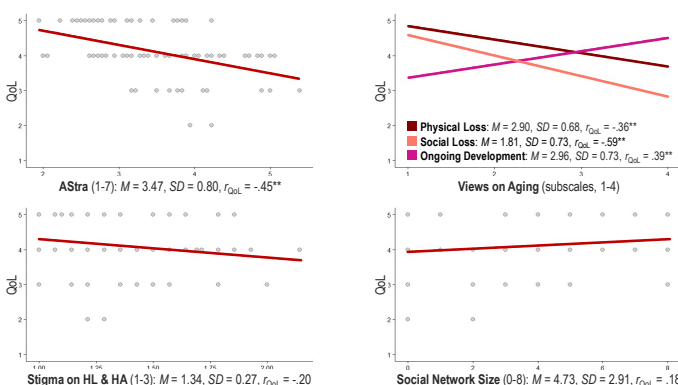
Results

Correlative Findings (RQ1)

Bivariate correlations to identify psychosocial variables associated with QoL (QoL was assessed using a single WHOQOL-BREF item: "How would you rate your quality of life?")

Variable	Range	M	SD	r _{QoL}
Quality of Life (QoL)	1-5	4.13	0.73	-
Education (based on ISCED-11)	1-6	4.11	1.30	.28**
Physical Functioning	1-3	2.65	0.38	.48**
Subjective Hearing Ability	1-4	2.76	0.67	.25*
Hearing Aid Use	0-1	0.71	0.46	-.17

Note. M and SD: mean and standard deviation. Higher scores indicate higher levels on the respective scale. * $p < .05$, ** $p < .01$



Multiple Regression Model (RQ2)

A) Selection of Predictors for Multiple Regression Model based on:

1. Bivariate associations with QoL (statistical meaningful associations)
2. Inspection of intercorrelations to reduce multicollinearity
3. Exploratory LASSO regression with cross-validation

Variables selected: AStra, Social Loss (VoA), Ongoing Development (VoA)

B) Screening of Selected Variables in Adjusted Models: All selected variables emerged as significant predictors of QoL in adjusted regression models.

C) Final Regression Model: $R^2 = 0.54$, adj. $R^2 = 0.48$; $F(9,77) = 9.99$, $p < .001$

Variable	b	SE	t	p
Intercept	3.490	1.03	3.37	.001**
Age (years)	0.005	0.01	0.64	.526
Gender (0 = female, 1 = male)	-0.155	0.12	-1.25	.216
Education	0.072	0.05	1.55	.125
Physical Functioning	0.468	0.18	2.65	.010**
Hearing Aid Use	-0.008	0.15	-0.05	.958
Subjective Hearing Ability	0.028	0.12	0.24	.808
Hearing-Related Adaptive Strategies (AStra)	-0.268	0.09	-2.92	.005**
Social Loss (VoA)	-0.355	0.10	-3.46	< .001***
Ongoing Development (VoA)	0.129	0.09	1.38	.172

Note. b and SE: unstandardized regression coefficients and standard errors. * $p < .05$, ** $p < .01$, *** $p < .001$

Discussion & Outlook

RQ1: All VoA subscales, as well as AStra, showed significant correlations with QoL, while stigma and social network size were only weakly associated.

RQ2: Social Loss (VoA) and AStra both significantly predicted QoL, whereas Ongoing Development (VoA) showed no independent effect in the final model.

Note: The results are preliminary (survey is currently still ongoing) and merely provide initial indications for future analyses.

Limitations: Potential overfitting in the final multiple regression model and limited variance in the dependent variable (QoL).

Implication: The findings may support the future integration of psychosocial factors into hearing healthcare, potentially enhancing the quality of care.

Next Steps: Recruitment will continue **until February 28, 2026**.



Scan to take part in our online survey!

Literature

[1] Alonso Debreczeni, F., & Bailey, P. E. (2021). A Systematic Review and Meta-Analysis of Subjective Age and the Association With Cognition, Subjective Well-Being, and Depression. *The Journals of Gerontology: Series B*, 76(3), 471–482. <https://doi.org/10.1093/geronb/gbaa069>

[2] Beyer, A.-K., Wolff, J. K., Freiberger, E., & Wurm, S. (2019). Are self-perceptions of ageing modifiable? Examination of an exercise programme with vs. without a self-perceptions of ageing-intervention for older adults. *Psychology & Health*, 34(6), 661–676. <https://doi.org/10.1080/08870446.2018.1556273>

[3] Desjardins, J. L., & Doherty, K. A. (2017). Changes in Psychosocial Measures After a 6-Week Field Trial. *American Journal of Audiology*, 26(2), 119–128. https://doi.org/10.1044/2017_AJA-16-0066

[4] Löhler, J., Cebulla, M., Shehata-Dieler, W., Volkenstein, S., Völter, C., & Walther, L. E. (2019). Hearing impairment in old age. *Deutsches Ärzteblatt International*, 116(17), 301–310. <https://doi.org/10.3238/arztbl.2019.0301>

[5] World Health Organization. (2014). *Social determinants of mental health*. World Health Organization. <https://iris.who.int/handle/10665/112828>

[6] World Health Organization. (2021). *World Health Organization*.

[7] Wurm, S., & Blawert, A. (2024). *Gesundheit und Krankheit. In Interventionsgerontologie: 100 Schlüsselbegriffe für Forschung, Lehre und Praxis* (1. Aufl.). W. Kohlhammer GmbH. <https://doi.org/10.17433/978-3-17-042013-7>