

Preventing hearing loss: The development of noise-reduction outreach tools based on health promotion principles

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Overview

BACKGROUND:

- Historically, prevention campaigns focussed on the “science” – including information about ear anatomy (e.g. hair cells damage), and decibels.
- However, there is increasing recognition of the importance of also considering the “personal” – the intentions, beliefs, or motivation that drive health behaviour.

DEVELOPING INTERVENTIONS:

- Health promotion models aim to describe the various factors for encouraging behavioural change.
- Successful interventions require an understanding of which factors should be targeted in order to empower people to engage with relevant activities.
- Here we present examples of hearing health messages developed at National Acoustic Laboratories based on principles described by health promotion theory
- Where specific health promotion/behaviour change **principles** have been targeted or interventions have been implemented, these are referenced in **blue**.

Behaviour Change/Health Promotion Models

Health Belief Model:

²Perceived Susceptibility, ⁴Perceived Severity.

Janz, N. K., & Becker, M. H. (1984). The Health Belief Model: a decade later. *Health Education Quarterly*, 11(1), 1–47.

Rosenstock, I. M. (1974). Historical origins of the health belief model. *Health Education Monographs*, 2(4), 328–335.

COM-B:

¹Psychological Capability, ⁵Automatic Motivation, ⁶Reflective Motivation

Michie, S., Atkins, L., & West, R. (2014). The behaviour change wheel. A guide to designing interventions. 1st ed. Great Britain: Silverback Publishing.

Michie, S. (2012). The Behaviour Change Wheel, Theoretical Domains Framework. In Behaviour Change Techniques. In KT Terminology Meeting. Ottawa, Canada: Conference proceedings

Theory of Planned Behaviour:

³Peer/Social Norming

Ajzen, I. (1991). The theory of planned behaviour. *Organisational Behaviour and Human Decision Processes*, 50, 179–211.

Ajzen, I., & Manstead S.R., A. (2007). Changing health-related behaviours: An approach based on the theory of planned behaviour.

Know Your Noise

www.knowyournoise.nal.gov.au



WHAT:

- An interactive tool aimed at
- Personalised risk results include noise exposure ratings and the relative contributions for different activities based on user input
- Results are presented in relation to peer groups, utilising **social norming**³ to motivate behaviour change



about susceptibility?
KYN effectively assess risk for resulting from behaviours

What Plug: review of filtered earplugs for music patrons

www.hearsmart.org/earplugs/what_plug/

WHAT:

- An online resource aimed at building **knowledge**¹ through increasing community awareness of the existence of hearing protection
- Empowers**¹ music patrons make informed decisions about earplugs for their needs

HOW:

- Enables easy access to relevant information regarding currently available earplugs designed specifically for music listening.
- Includes objective information on attenuation & price.
- Utilises **peer**³ user reviews to provide subjective ratings on comfort, sound quality, conversational ease, and style

e.g.

Noise Reduction:
Cost: \$\$\$\$
Overall: ★★★★★ 4.5



Tinnitus Video: preventing and managing tinnitus

www.hearsmart.org/what-problem/tinnitus

WHAT:

- An animated video focussed on **beliefs about severity**^{4,6} of hearing difficulties resulting from noise exposure.
- Highlights **emotions**⁵ associated with tinnitus – a condition commonly experienced by those exposed to loud sound, and one related to motivation to reduce noise exposure

HOW:

- Provides **knowledge**¹ including advice for prevention and for the management of tinnitus, whilst also highlighting **emotional**⁵ impacts.



NOISE Database: tool for hearing health researchers

<https://noisedb.nal.gov.au/>

WHAT:

The Non-Occupational Incidents, Situations, and Events Database (NOISE DB) aims to allow researchers and the users to better understand the sound levels associated with various leisure activities.

HOW:

Users can:

- Explore the database to access a range of leisure noise measurements (identifying the risk they pose to hearing health)
- Contribute their own data to increase the knowledge base

