

## Exploring acoustical environmental factors influencing the behavior- and psychological symptoms of dementia. Towards (developing) a soundscape model.

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### Abstract

#### Purpose

To explore the acoustical factors triggering the onset and progression of Behavioral and Psychological Symptoms of Dementia (BPSD) in Nursing Home Residents with Dementia (NHRwD) and to develop a valid soundscape-model for enhancing Quality of Life and modifying behavior in dementia.

**Method** In a qualitative design, 15 NHRwD were included in a 24/7 participatory observation in Flanders. Data were analysed in an iterative process with constant comparison. Peer-debriefing with professional caregivers ensured the credibility of the model.

#### Results

Behavior of NHRwD is influenced by the capacity to correctly interpret the sound and to adequately react on it. These two dimensions are interrelated leading to four different typologies of NHRwD; the NHRwD (1) who can interpret correctly and react adequately, (2) those who can interpret correctly, but cannot react adequately, (3) those who cannot interpret correctly but reacts adequately and (4) those who cannot interpret sounds correctly and cannot react adequately.

#### Conclusions

The onset and progression of BPSD is highly individual (relying on personality and typical features of dementia) but also depends on the interaction between personal and acoustical environmental factors. It can be influenced by the caregivers (e.g. support a recognizable sound environment) or the design of the acoustical environment. The model offers opportunities to understand the PwD's reactions on the sound environment and can be used to enable caregivers to create an optimal soundscape for PwD.