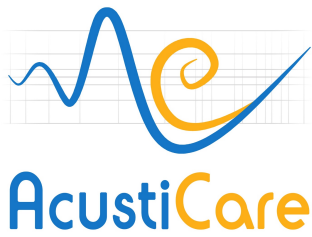


A model of soundscape for people with dementia living in a nursing home



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INTRODUCTION

In soundscape research a common used model is the soundscape model of Axelsson (Fig. 1). It's based on the components pleasantness, eventfulness and the familiarity of the sound. These components lead to four types of appraisal namely chaotic, monotonous, calm and exciting. As Behavior and Psychological Symptoms of Dementia (BPSD) occur very often in Persons with Dementia (PwD) they are considered as a characteristic of dementia, but environmental factors can activate them. It is not clear whether the soundscape model of Axelsson is applicable in dementia-care and how different sounds affect and trigger BPSD. Therefore the aim of this study is (1) to research the acoustical factors that trigger the onset and progression of BPSD in PwD, who live in a nursing home and (2) to develop a valid soundscape model for enhancing and modifying behavior in dementia.

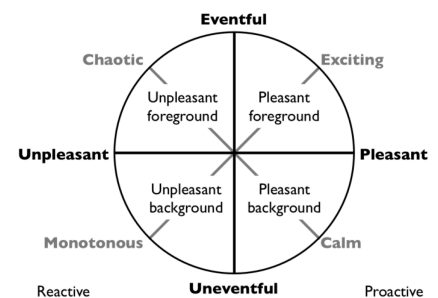
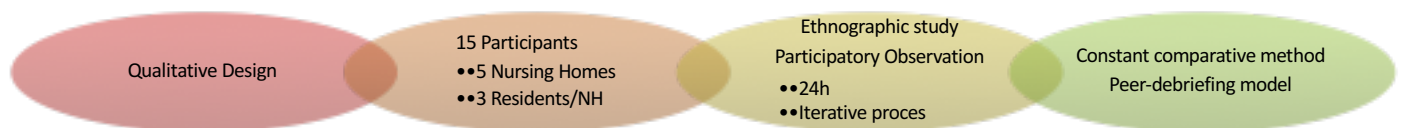


Fig. 1: Soundscape model of Axelsson

METHODS



RESULTS

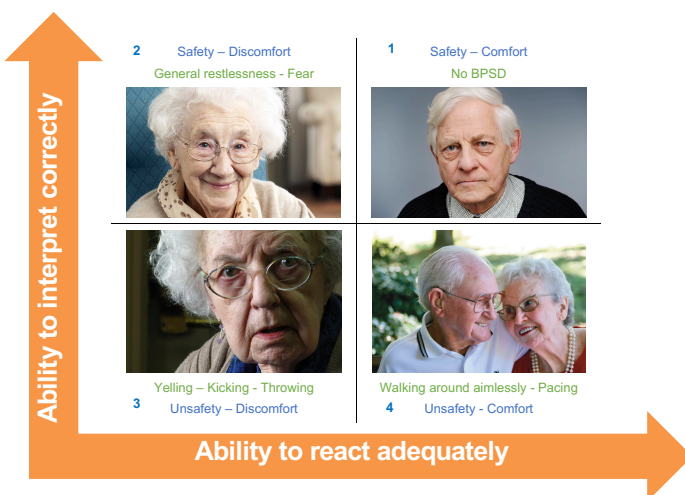


Fig. 2: A model for explaining the relation between the acoustical environment and the presence of BPSD.

Beside the soundscape model of Axelsson in dementia-care two dimensions were identified to explain how the acoustical environment affect BPSD.

The first dimension concerns the ability of the PwD to interpret correctly the sound, leading to safety. The second, concerns the ability to adequately react on it, leading to comfort. These two dimensions are interrelated and lead to four different typologies with accordingly typical BPSD occur (See Fig. 2);

- 1) the PwD who can interpret sounds correctly and react adequately:
type 1: no BPSD occur, the PwD feels safe and experiences comfort,
- 2) the PwD who can interpret sounds correctly, but cannot react adequately:
type 2: BPSD occur as a general restlessness and a feeling of fear,
- 3) the PwD who cannot interpret sounds correctly and cannot react adequately:
type 3: BPSD occur as yelling, kicking, throwing,
- 4) the PwD who cannot interpret sound correctly but reacts adequately:
type 3: BPSD occur as pacing and walking around aimlessly

CONCLUSION

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 new 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.