



## **Perception of disturbing sounds**

Investigations of people with  
hearing loss and normal hearing

av

**Åsa Skagerstrand**

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Kungliga Tekniska Högskolan  
Stockholm

Örebro universitet  
Institutionen för Hälsovetenskaper  
701 82 ÖREBRO

## Abstract

Åsa Skagerstrand (2018): Perception of disturbing sounds: Studies from The Swedish Institute for Disability Research 89.

The present thesis concerns the daily sound environment and the human perception of the same. The sound environment affects the possibility to be active in a communication. With background noise, it may be harder to hear desired signals, and when suffering from a hearing loss, negative effects of the background noise increase. Previous research has explored, that persons with hearing loss benefit from hearing aid usage, but there is a risk of non-usage due to low sound quality. The non-usage of hearing aids has furthermore been described as a cause of isolation and social withdrawal for persons with hearing loss.

The general aim of the present thesis is to explore the concept of disturbing sounds in a daily sound environment and to examine the influence of hearing loss and hearing aid usage. Disturbing sounds were investigated in means of perception of loudness and annoyance, where loudness concerned the acoustical properties, mainly sound level, whereas annoyance concerned the psychological phenomenon, defined as an individual adverse reaction to noise. The results of studies I and II showed, that hearing aid users experience disturbing sounds more or less daily, and that those sounds resulted in a decreased usage of hearing aids. The effect of disturbing sounds seemed to rely on several factors, acoustical as well as psychological, and there was not one single factor providing a full explanation of disturbance. In study III and IV, the perception of sounds in normal hearing and hearing impaired persons were thoroughly examined and revealed that hearing thresholds affect the perceived loudness and annoyance. Furthermore, the effect of hearing aids on loudness and annoyance perception was investigated. The results showed that hearing aids restored the loudness and annoyance to levels comparable to people with normal hearing function. The results of the studies stress that additional research should focus on the implementation of knowledge of disturbing sounds in audiological rehabilitation, in order to increase the benefit of hearing aid usage.

*Keywords:* perception, annoyance, loudness, hearing loss.

Åsa Skagerstrand, Department of Health Sciences  
Örebro University, SE-701 82 Örebro, Sweden, asa.skagerstrand@oru.se