




# Socializing with Cochlear Implants in Mainstream School; A Qualitative Interview Study with d/Deaf Adolescents and Young Adults

Libbi, C.A.<sup>1</sup>, Frijns, J.H.M.<sup>2,3,4</sup>, Eichengreen, A.<sup>1</sup>, Stronks, H.C.<sup>2</sup>, Götze, A.<sup>1</sup>, Buiskool, J.<sup>1</sup>, Schäfer, K.<sup>5</sup>, Rieffe, C.<sup>1,6,7</sup>

 Universiteit Leiden

 Leiden University Medical Center

 **INTENSE**  
INNOVATIVE NEUROTECHNOLOGY FOR SOCIETY

<sup>1</sup>Developmental Psychology, Leiden University, <sup>2</sup>Otorhinolaryngology and Head & Neck Surgery, LUMC, <sup>3</sup>Leiden Institute for Brain and Cognition (LIBC), <sup>4</sup>Bioelectronics, EEMCS, TU Delft, <sup>5</sup>University of Duisburg-Essen, Essen, <sup>6</sup>Human Media Interaction, University of Twente, <sup>7</sup>Institute of Education, University College London.

### Background

- cochlear implant (CI) users face **invisible social barriers** in noisy, fast-paced mainstream school settings [1]
- this **limits regular and effective peer interaction** & reduces opportunities for socio-emotional development [2]
- research gap:** how factors in the built & social school environment affect CI users navigating unstructured social interactions

### Research Questions

RQ.1 What are **social experiences** of adolescents and young adults with CIs in mainstream educational settings?

RQ.2 What's the **role of factors in the social and built environment**?

RQ.3 What are **personal strategies used to navigate challenges** in these settings?

### Methods

**[Participants]** 13 CI-users aged 17-27 (female n=7; unilateral CI n=6) with mainstream education experience; from The Netherlands & Germany

**[Data Collection]** Semi-structured interview (questions co-designed with CI users) or in-situ interview / observation

**[Analysis]** Iterative & collaborative content analysis [3]. Primarily inductive coding of translated interview transcripts into themes and sub-themes

## Results

### THEME I

Challenges relating to social situations

- Running out of energy
- Communication barriers
- Experiencing social isolation

Exhaustion, pressure from expectations and keeping up, sensory/emotional struggles, pushing self to not miss out...

Missing conversation topics, humour, not fully participating in conversations, worrying about socializing...

Feeling lonely, isolated, different / standing out, feeling or being excluded, bullied or ostracized, experiencing microaggressions...

### THEME II

Built- / Sound-environment factors

- Impact noise, acoustics & crowdedness
- Architecture & infrastruc. feat.
- Noise / Seclusion tradeoff

**Where to spend the break?**

- Limited options
- School rules
- Peer pressure
- Available energy
- ...

**Trade-off**

- Not tiring but not social?
- Social but also tiring?

### THEME III

Social environment factors

- (Un-)supportive comm. behaviors
- Impact of group config. & position
- Creating an informed & supportive environment

**Do other people:**

- Make you feel seen & safe?
- Know, respect & support needs?
- Take initiative?
- ...

**How to cope?**

- Adapt & engage
- Stay & be passive
- Avoid / leave & recover

### THEME IV

Coping / adaptation strategies

- Taking care of yourself
- Managing the environment
- Non-interruptive (conversation) strategies / to stay involved

Understanding own needs, managing self-expectations, accepting / overcoming limitations, managing well-being by missing out...

Informing others, telling/reminding about adjusting behaviour, strategic use of self-labels and external expectation management...


Fake it till you make it, adjusting positions, using non-verbal cues, starting smaller conversations within a group, strategic use of tech...

During breaks, you were not allowed on the first floor, so everyone had to go to the ground floor, and you were also not allowed in the media center, so everyone was in the cafeteria or in the hallways, so **wherever you were, it was noisy**

**I didn't want to constantly remind everyone** that I had this limitation because, well, it's part of me, but it doesn't define me

**I was a bit ashamed** every time, what did you say, what did you say, what did you say, **so I just kept it to myself** and then when a joke was made, **I just fake laughed along**

Now that I take more of those moments of **rest**, I do feel like I have more **control over my life... my feelings and emotions. And stress**



## Key Takeaways & Future Directions

This study

- (1) Presents **updated analysis** of social experiences of cochlear implant (CI) users in mainstream schools
- (2) Emphasizing how **social-environmental factors** affect **coping experiences**

**For who is this important, and why?**

### CI Users

- better **understanding own needs**
- expand / use **"coping toolbox"** flexibly
- by gathering more examples of CI coping strategies
- and becoming aware of how they may be affected by what the environment offers

**NEXT** Promote peer exchange and validation of experiences among CI and DHH students

### Peers & Teachers

- increase awareness** / understanding of CIs, living with deafness
- and **how to create a supportive environment**
- this can reduce pressure on CI users to "pass" as hearing
- and help avoid counter-productive or stigmatizing forms of support

**NEXT** Explore how to effectively spread awareness, foster empathy, & shift interactional dynamics among peers & teachers

### School Policy & Design

- inclusive design must extend **beyond classrooms**
- social areas should include **appropriate acoustics, lighting, and seating**
- and be accessible without relying on exceptional accommodations

**NEXT** Assess existing break-time spaces from a CI/DHH perspective to inform school (re)design & **Revise school rules to support CI-users in socializing without sacrificing well-being**

