

# Making up for lost time?

## Comparing volubility and responsiveness by mothers of children with and without cochlear implants

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### Introduction

**Mothers of hearing-impaired children speak less** in interactions with their children (Lederberg & Everhart, 1998).

But what about mothers of congenitally deaf children with a cochlear implant (CI)?

### Method

#### Participants

- 25 NH children and 10 CI children
- CI children: implanted between 6 and 20 months, PTA aided between 28 and 53 dBHL

#### Data

- Monthly video-recordings of 45 - 90 minutes
- NH children from 6 to 24 months, CI children 1 month post CI up to 30 months post CI

#### Measures for RQ1

- Volubility: number of utterances per hour
- Linguistic age: expressed as true canonical babbling ratio (tCBR) (Molemans, van den Berg, Van Severen & Gillis, 2012)

#### Measures for RQ2

- Responsiveness: maternal response within two seconds
- Two linguistic phases: Prelexical (tCBR) and Lexical (cumulative vocabulary) phase

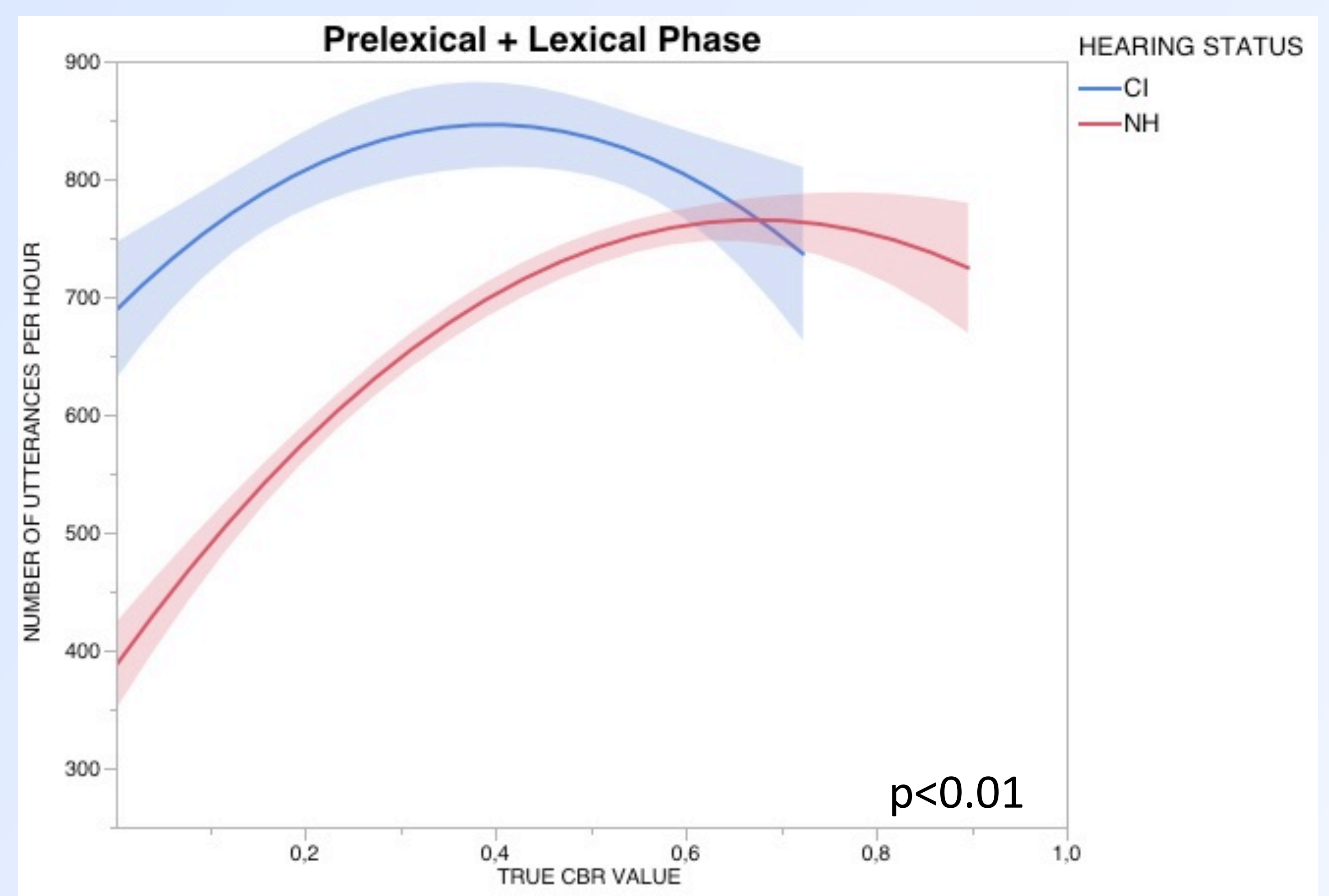
### Research Questions

Are mothers of CI children more, less or equally responsive in interactions with their children than mothers of NH children?

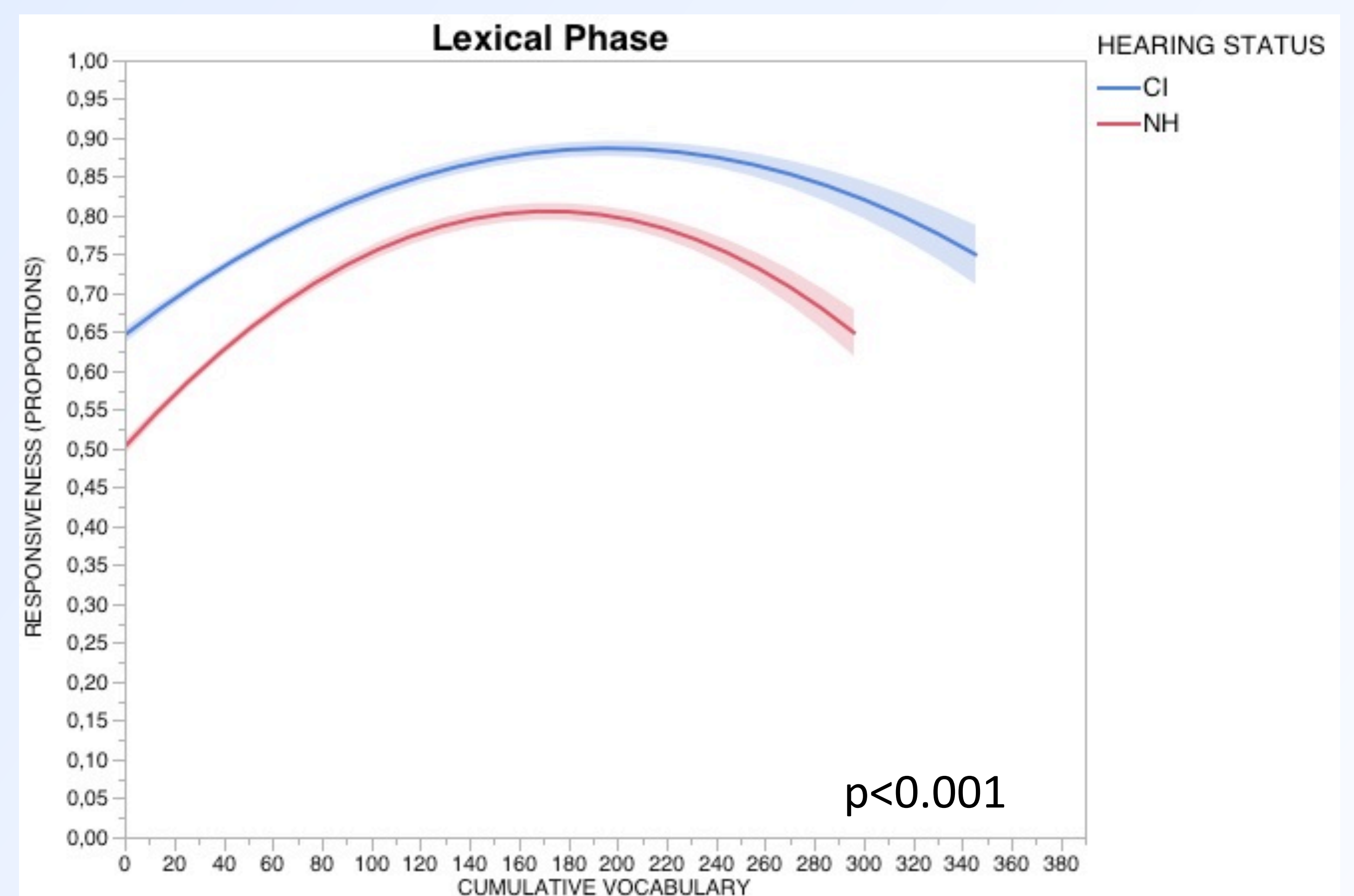
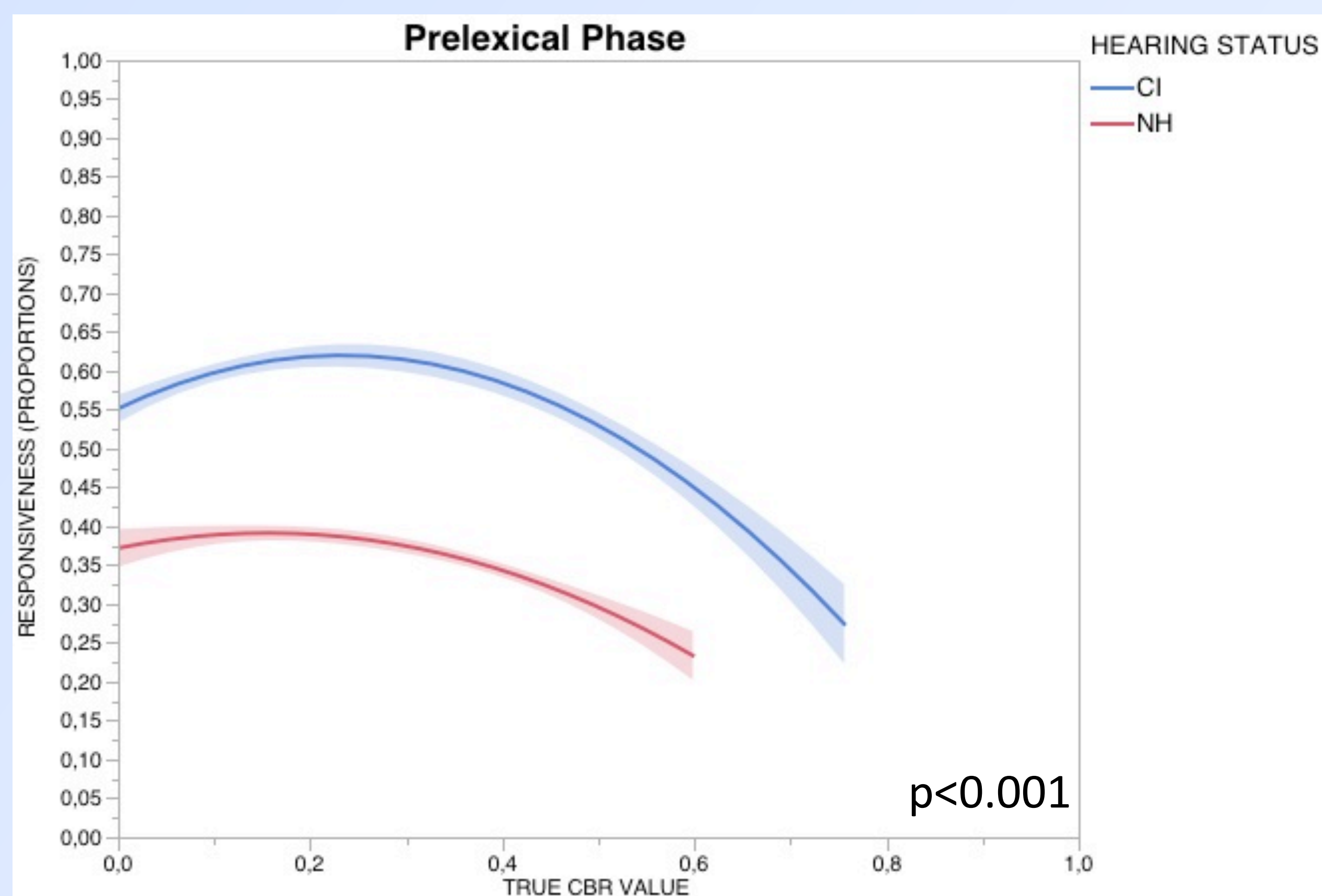
**RQ1:** Are **mothers of CI children more voluble** than mothers of NH children?

**RQ2:** Are **mothers of CI children more responsive** to their children's utterances than mothers of NH children?

### Results – RQ 1 Volubility



### Results – RQ 2 Responsiveness



### Conclusion and Discussion

**Children's hearing status affects mothers' volubility and responsiveness:**

RQ1: Mothers of CI children are significantly more voluble.

RQ2: Mothers of CI children are significantly more responsive to their children's utterances in both the prelexical and lexical phase.

➔ **CI children receive more linguistic input** from their mothers than NH children.

- **Further research:** Do mothers of CI children also differ on other matters such as speech rate?

### References

Molemans, I., van den Berg, R., Van Severen, L., & Gillis, S. (2012). How to measure the onset of babbling reliably? *Journal of Child Language*, 39, 523-552.

Lederberg, A., & Everhart, V. (1998). Communication between deaf children and their hearing mothers: the role of language, gesture, and vocalizations. *Journal of Speech, Language, and Hearing Research*, 41, 887-899.

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