

# Early social communication skills critically moderate mental health trajectories in deaf children

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# Social Communication

## Structural language

Sound system (phonology)

Vocabulary (semantics)

Grammar (morphosyntax)

Expressive and receptive

## Social communication

Use of language and non verbal signals in human interaction

Communicative functions:  
directing attention, asking for help,  
apologizing, asking for information,  
explaining, joking, reporting  
experiences

Conversation skills

# Social Communication

## Learning

Most of what we learn is learned through social communication

- language
- social skills
- play and adaptive skills

Social communication skills enable children to learn in natural situations

## Mental Health

Early communication difficulties are correlated with later mental health problems

Social communication skills moderate the development and outcomes of mental health problems

Social communication skills can have a preventive function

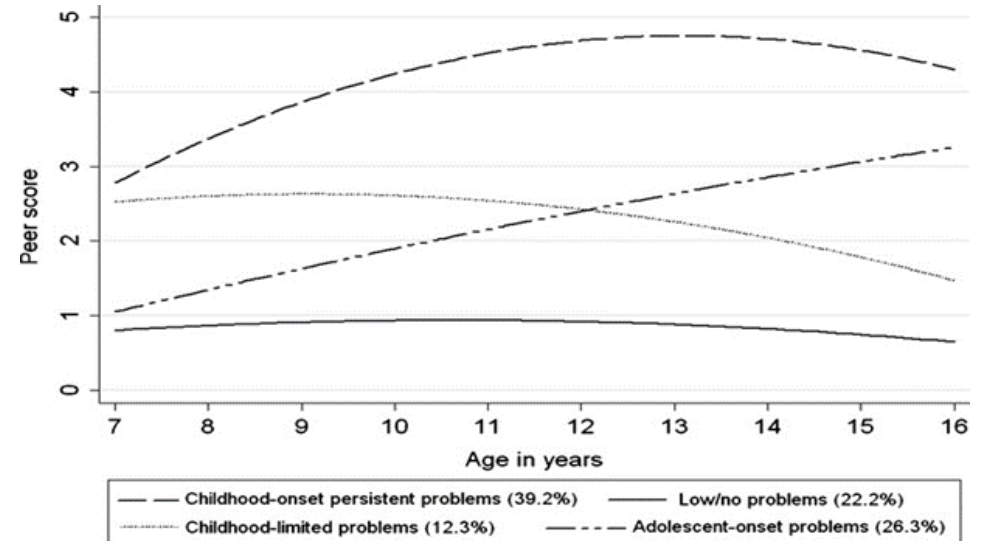
# Social Communication and mental health

frontiers | Frontiers in Psychiatry

TYPE Systematic Review  
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## The link between social communication and mental health from childhood to young adulthood: A systematic review

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# Conversational skills and mental health

 frontiers | Frontiers in Education

TYPE Original Research  
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## Conversation difficulties rather than language deficits are linked to emotional problems in school children with hearing loss

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53 deaf children

Assessment of language abilities,  
conversational skills and mental health  
Conversation skills as a predictor of  
emotional problems

# Social communication development needs: the next frontier

- Restricted participation in rich variety of natural social interactions („overhearing“)
- Higher rates of social communication difficulties
  - Maintaining topic
  - Dominating conversations
  - Initiating conversations,...

# AChild study



Prospective, epidemiological, longitudinal design



All children who are uni- or bilateral deaf below the age of 5 ½ years living in Upper and Lower Austria



Identification of early predictors of developmental trajectories



Multidimensional: hearing, speech, language, communication, cognition, psycho-social, medical, intervention, family



Participatory research

# Language Use Inventory

## Part 1



How your child communicates with gestures

2 subscales

Examples

Does your child...

reach for or point at what she wants?

look at you when she want information from you?

look where something is that she wants you to get?

## Part 2



Your child's communication with words

3 subscales

Examples

Has your child begun to use the following types of words (people, food, animals,...)

Does your child ask for help, by telling you what she wants be name?

My child uses her words to ask for help

## Part 3



Your child's longer sentences

9 subscales

Examples

Does your child...

try to get your attention by asking you to watch her

ask why something happened?

ask what someone is thinking?

describe what she is doing?

talk about toys?



# FIRST RESULTS

## Sample

### Child characteristics

|                              |               |
|------------------------------|---------------|
| N                            | 270           |
| Female (%)                   | 125 (46.3)    |
| Multilingual, n (%)          |               |
| Yes                          | 85 (31.5)     |
| Non-verbal cognition, m (SD) | 94.02 (20.19) |
| 70 – 85, n (%)               | 42 (15.79)    |
| <70, n (%)                   | 38 (14.29)    |

### Hearing characteristics

|                      |            |
|----------------------|------------|
| Laterality, n (%)    |            |
| Unilateral           | 51 (18.9)  |
| Bilateral            | 214 (79.3) |
| Hearing level, n (%) |            |
| Mild                 | 26 (9.8)   |
| Moderate             | 98 (36.8)  |
| Severe               | 36 (13.5)  |
| Profound             | 44 (16.5)  |
| Atresia              | 20 (7.5)   |

# Results

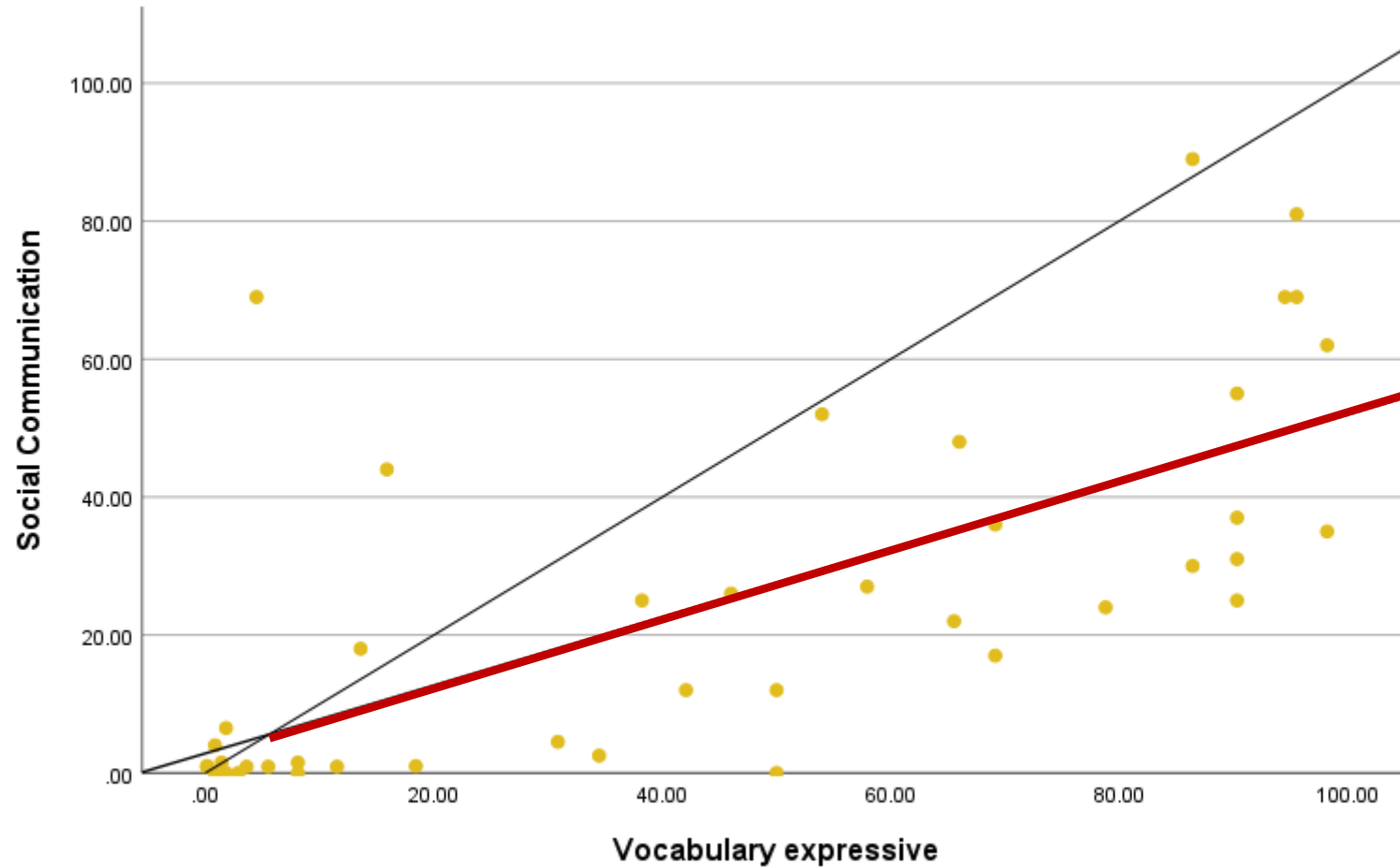
## Language and communication

|                                    |               |
|------------------------------------|---------------|
| Social communication, m (SD)       |               |
| LUI total at 18 months             | 25.51 (27.63) |
| LUI total at 27 months             | 17.56 (24.06) |
| LUI total at 36 months             | 16.64 (21.62) |
| Structural language                |               |
| expressive vocabulary at 27 months | 35.99 (34.78) |
| expressive vocabulary at 36 months | 52.70 (31.76) |

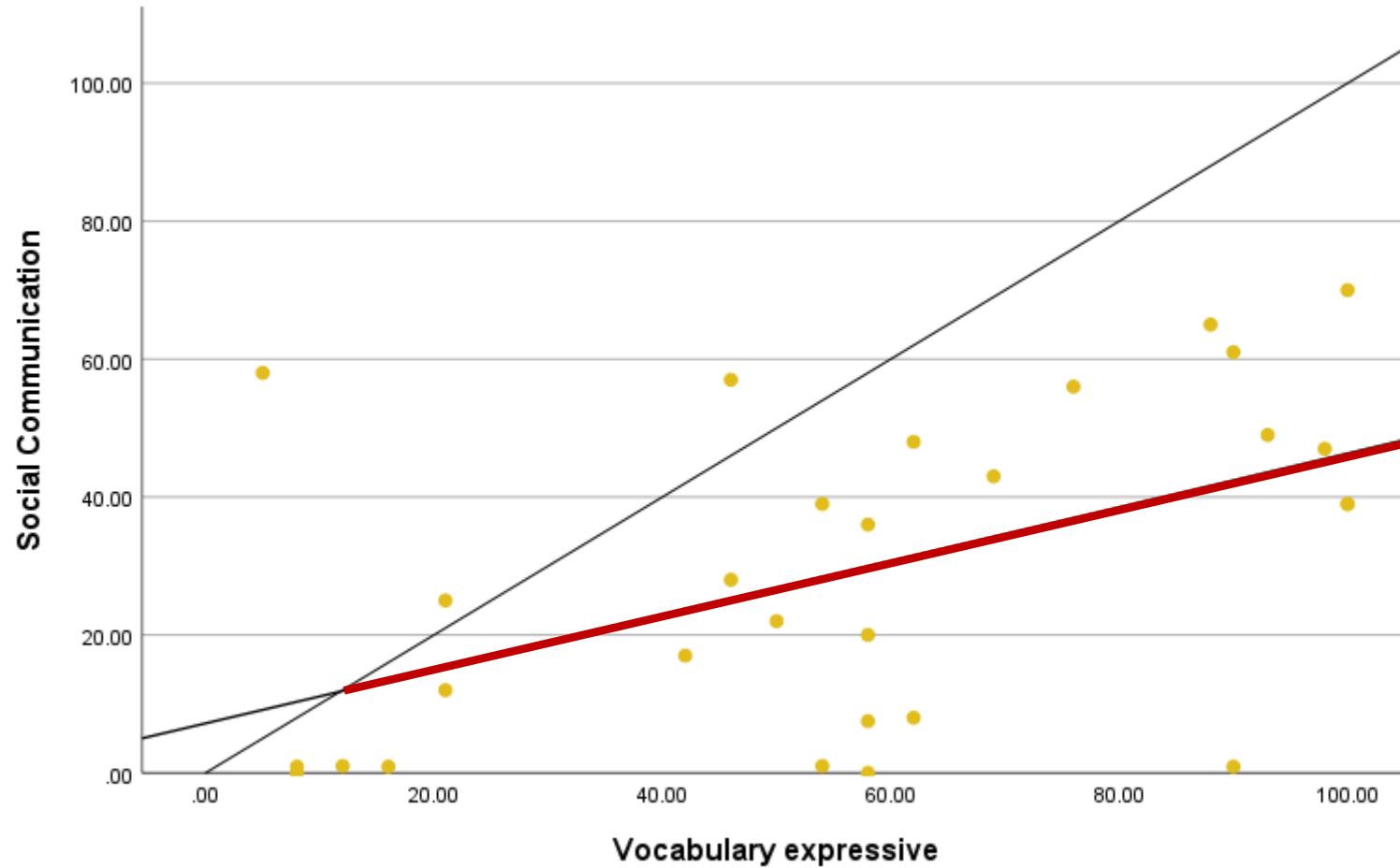
## Mental health

|                  | Emotional problems | Conduct problems | Hyperactivity | Peer Problems | Prosocial   | Total Score |
|------------------|--------------------|------------------|---------------|---------------|-------------|-------------|
|                  | Raised/high        | Raised/high      | Raised/High   | Raised/High   | Raised/High | Raised/High |
| 27 Monate (n=57) | 7.02               | 31.58            | 19.3          | 35.09         | 42.1        | 26.32       |
| 36 Monate (n=62) | 8.06               | 25.81            | 11.29         | 33.87         | 25.81       | 20.97       |
| 48 Monate (n=48) | 25                 | 33.33            | 21.28         | 29.17         | 31.25       | 25.00       |
| 66 Monate (n=54) | 7.41               | 31.48            | 20.37         | 29.63         | 5.56        | 20.37       |

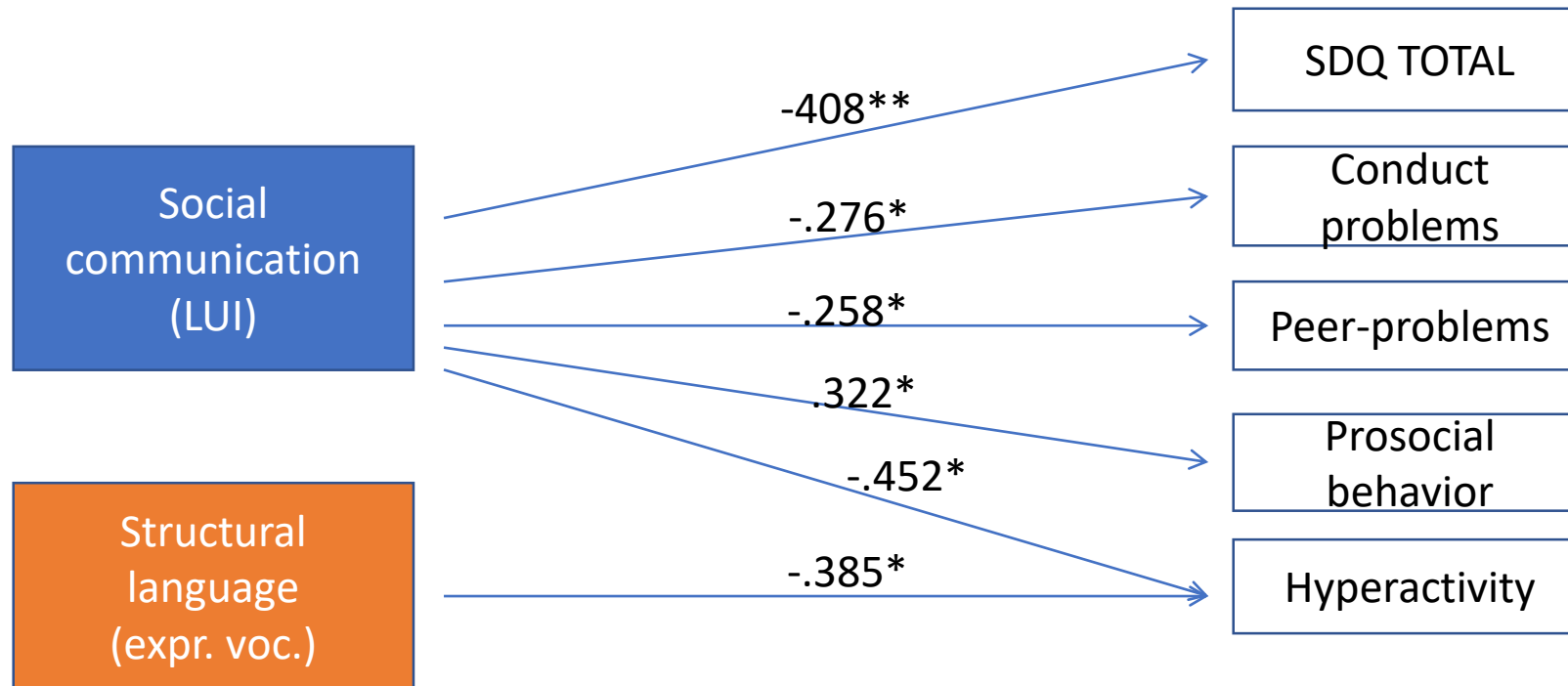
# Results at 27 months



# Results at 36 months



# Correlations between language/social communication and mental health at 36 months of age (n=59)



# Prediction



**Social Communication**

Correlations between  $-.636$  and  $-.703$   
N=10!

**Mental Health**

# Preliminary Conclusion

- Early delays of social communication in DHH children are more expressed than their structural language skills
- The gap between language and social communication skills seems to open over time
- Significant associations between social communication and mental health at age 3
- Indications that social communication skills at age 3 predict mental health outcomes at school entry (conduct, peer, hyperactivity)
- Surveillance of social communication skills - and mental health - in DHH children and adolescents (LUI, CCC-2, CELF-5 pragmatic checklist....)
- Focus on SC enhancement by skilled environments: family (FCEI), school, and institutional care

# Child guided communication

- Observe the child's current focus of interest
- Attitude of „inviting the child“
- Responding to the child
- Keeping your own turn short
- Respectful communication





# Facilitative Language Techniques

## Extension

Modeling the child's utterance, while adding more information.

+1

If the child says/signs daddy car, you can say "You are right! Daddy's car is blue and new"

If the child says/signs dog, you can say/sign "the dog is big but cute"

## Corrective Feedback

Providing a correct or more mature version of the child's utterance

Example

hand shapes

lexical

# Pausing - give the child enough time to answer/react



# Grasping the child's signals and transforming into language

You want your bottle?  
I can bring you your  
bottle.



# Sharing attention



# Islands of communication

- Allocated time daily for reading, playing,...
- Full attention to the child
- Turn off TV, put away phone
- No distractions
- Stress reduction



# Windows of opportunities in childhood for positive mental health

## Social communication



# SAVE THE DATE FOR FCEI 2024

The 6<sup>th</sup> International Conference on  
Family Centred Early Intervention for  
Children Who Are Deaf or Hard of Hearing

CONNECT, COMMUNICATE, COLLABORATE

15th - 17th May 2024

Bad Ischl, Austria

[www.fcei.at](http://www.fcei.at)

THANK YOU FOR YOUR ATTENTION

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