# Pragmatic language impairments

Dorothy Bishop

Wellcome Principal Research Fellow

Department of Experimental Psychology

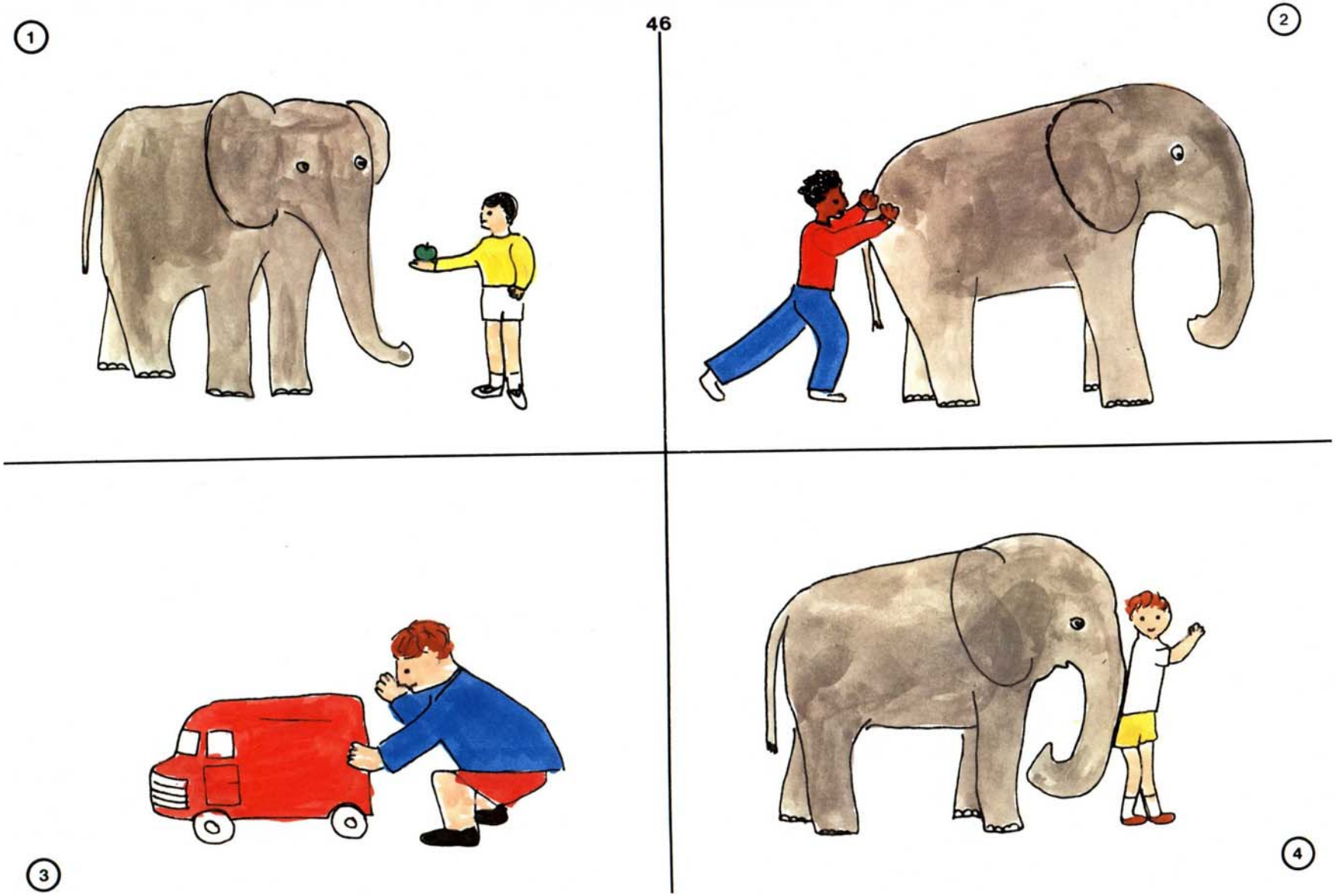
University of Oxford

# Oral communication involves:

COMPREHENSION

- decoding speech sounds
- word recognition
- remembering and interpreting word sequence

EXPRESSION
selecting appropriate message
translate idea to sentence
retrieve speech forms of words
program articulators




The boy is pushing the elephant

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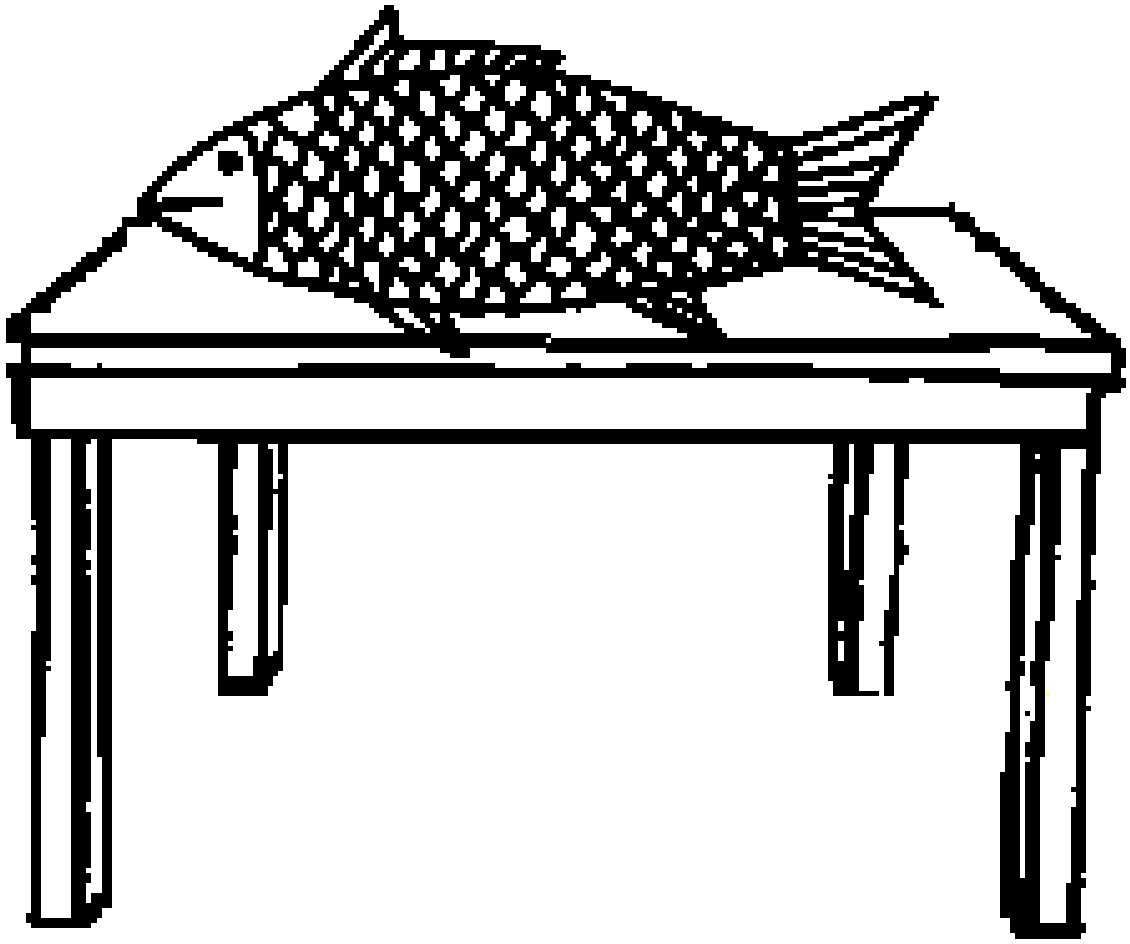
- **integrating words with context**

“The fish is on the table”



# “The fish is on the table”

- integrating words with context

cooked fish on a plate

- uncover the speaker’s intention

come and eat!

**PRAGMATICS**

*see Bishop (1997) Uncommon Understanding*

# Textbook view of specific language impairment (SLI)

- Principal problems with structural aspects of language (grammar and phonology)

- Nonverbal communication and pragmatics are an area of strength

*for overview see: Bishop, D. V. M. (2002). Speech and language difficulties. In M. Rutter & E. Taylor (Eds.), Child and Adolescent Psychiatry: Modern Approaches (pp. 664-681). Oxford: Blackwell Science.*

# “Semantic-pragmatic deficit syndrome”

- fluent, well-formed sentences
- speaks clearly
- has trouble understanding discourse
- speech: loose, tangential, or inappropriate
- train of thought : illogical, difficult to follow
- sociable

*Rapin 1982 (p. 145).*

# National survey of 242 language-impaired children

- Random sample of 7-year-olds attending language units in England
- Direct assessment supplemented by teacher report
- 10% fell in cluster corresponding to “semantic-pragmatic disorder”
- pragmatic problems not picked up on standardized tests

*Conti-Ramsden et al, 1997, J Speech, Language & Hearing Research*

# Terminology

Conti-Ramsden/Bishop prefer

"Pragmatic Language Impairment (PLI)"

because:

- 'semantic' deficit not marked
- not a 'syndrome'

N.B. not an 'official' diagnostic term;

(in current diagnostic systems, the only possible label for these cases is Pervasive Developmental Disorder not Otherwise Specified = PDDNOS)

# How to measure pragmatic impairment

1. The hard way:

Analysis of children's conversations

- ALICC: Analysis of Language Impaired Children's Conversation (Bishop et al. 2000)
- Classify children's utterances in terms of whether adequate, immature or pragmatically inappropriate

# Pragmatically inappropriate responses

**extended response that contains material that is irrelevant, repetitive or bizarre**

(child shown photo of boy examined by doctor) A: what do you think is wrong with that 'boy?

C: i think he might have fallen into the 'water, on january the 'sixth.

# Pragmatically inappropriate responses

**tangential response**

A: have 'you ever been to the doctor

C: i had a 'apple a day.

the response “no” can be inferred, but only with some difficulty.

# Pragmatically inappropriate responses

**failure to take prior conversation into account**

A: how did you ‘get to blackpool?

C: in the 'car.

A: ‘n what about when you went to 'france?

C: it was 'hot.

# How to assess pragmatic difficulties?

an easier way:

ratings by people who know the child well

Children's Communication Checklist, Bishop (1998)
now superseded by CCC-2 (Bishop, 2003)

# CCC-2 (2003)

- designed to be completed by parents (though can be used by teachers)

- standardized on 542 children aged 4 to 16 years

# CCC-2: instructions

- *This checklist contains a series of statements describing how children communicate. For each statement, you are asked to give information about the child whose name (or code number) appears below. You are asked to judge whether you have observed that behaviour:*
  - less than once a week (or never)
  - at least once a week, but not every day
  - once or twice a day
  - several times (more than twice) a day (or always)

# CCC-2: sample items
## scales A-D, language form/content

A: Speech. Simplifies words by leaving out some sounds, e.g. “crocodile” pronounced as “cockodile”, or “stranger” as “staynger”
B: Syntax. (+) Produces long and complicated sentences such as: "When we went to the park I had a go on the swings"; "I saw this man standing on the corner"
C: Semantics. Is vague in choice of words, making it unclear what s/he is talking about, e.g. saying “that thing” rather than “kettle”
D: Coherence. (+) Talks clearly about what s/he plans to do in the future (e.g. what s/he will do tomorrow, or plans for going on holiday)

# CCC-2: sample items
## scales E-H, pragmatics

E: Inappropriate initiation. Talks repetitively about things that no-one is interested in
F: Stereotyped language. Repeats back what others have just said.  For instance, if you ask, “what did you eat?” might say, “what did I eat?”
G: Use of context. Gets confused when a word is used with a different meaning from usual: e.g. might fail to understand if an unfriendly person was described as ‘cold’ (and would assume they were shivering!)
H: Nonverbal communication. Ignores conversational overtures from others (e.g. if asked, "what are you making?"  does not look up and just continues working)

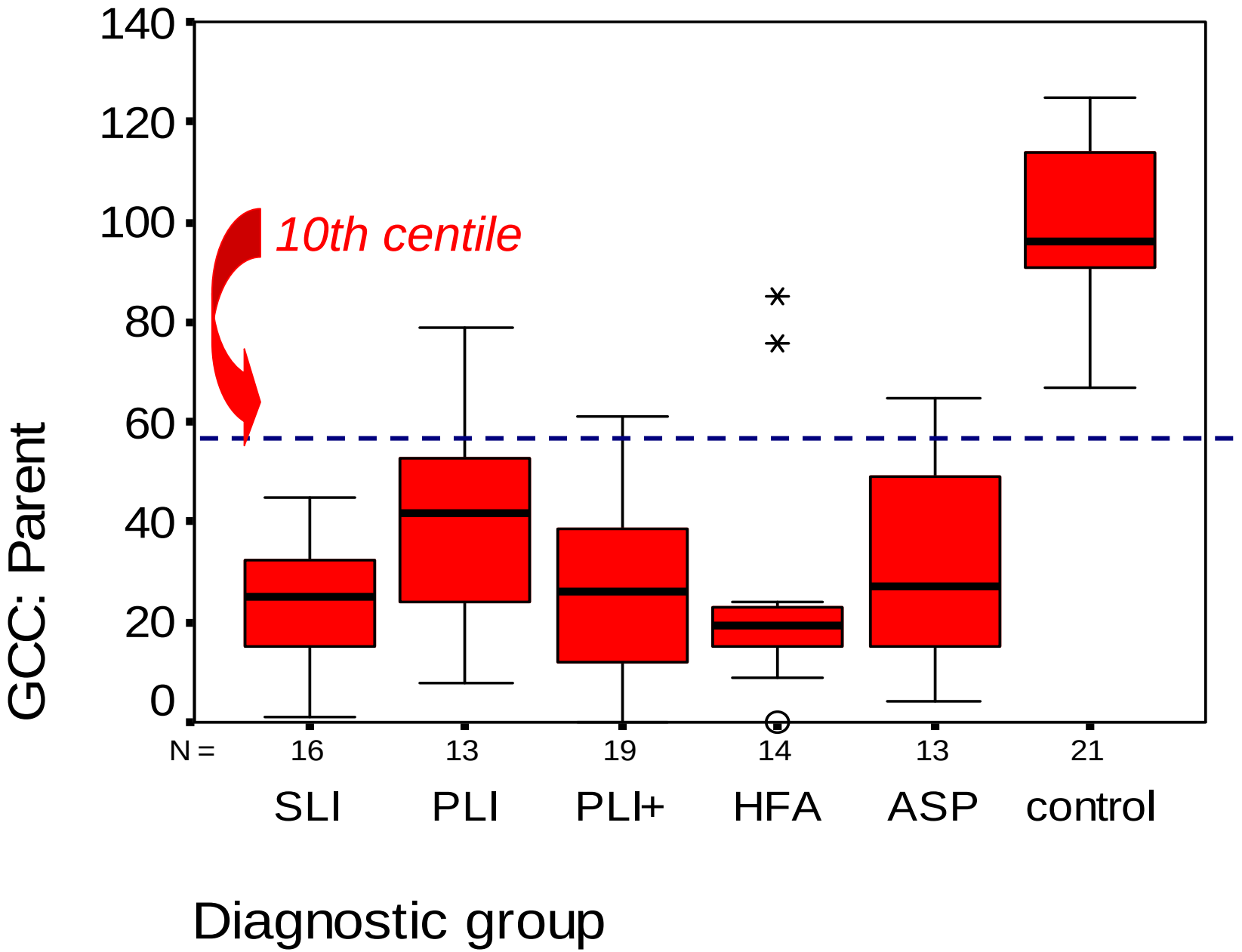
# CCC-2: sample items
## scales I-J, autistic-like features

I: Social relations. (+) Talks about his/her friends; shows interest in what they do and say

J: Interests. Shows interest in things or activities that most people would find unusual, such as traffic lights, washing machines, lamp-posts

# General communication composite (GCC)

very good discrimination between impaired and unimpaired children

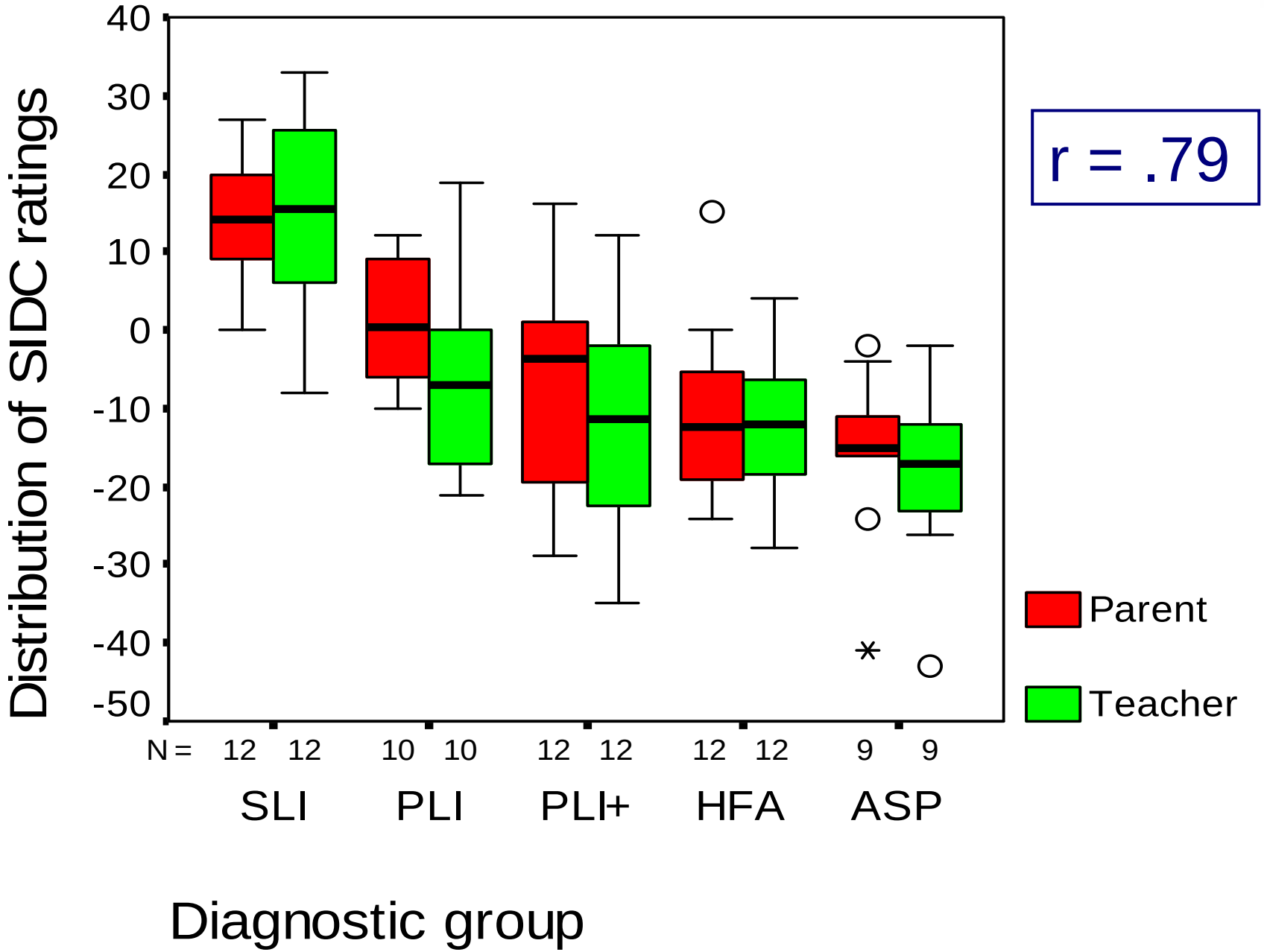

140
120
100
80
60
40
20
0
GCC: Parent
10th centile
N =
16
13
19
14
13
21
SLI
PLI
PLI+
HFA
ASP
control
Diagnostic group

# Social-Interaction Deviance Composite (SIDC)

- A: speech
- B: syntax
- C: semantics
- D: coherence

+ E: inappropriate initiation
+ H: non-verbal communication
+ I: social relations
+ J: interests

A negative score on the SIDC indicates *DISPROPORTIONATE* social and pragmatic difficulties in relation to structural language abilities


Distribution of SIDC ratings
40
30
20
10
0
-10
-20
-30
-40
-50
N = 12 12 10 10 12 12 12 12 9 9
SLI
PLI
PLI+
HFA
ASP
Diagnostic group
r = .79
Parent
Teacher

# CCC-2: overview

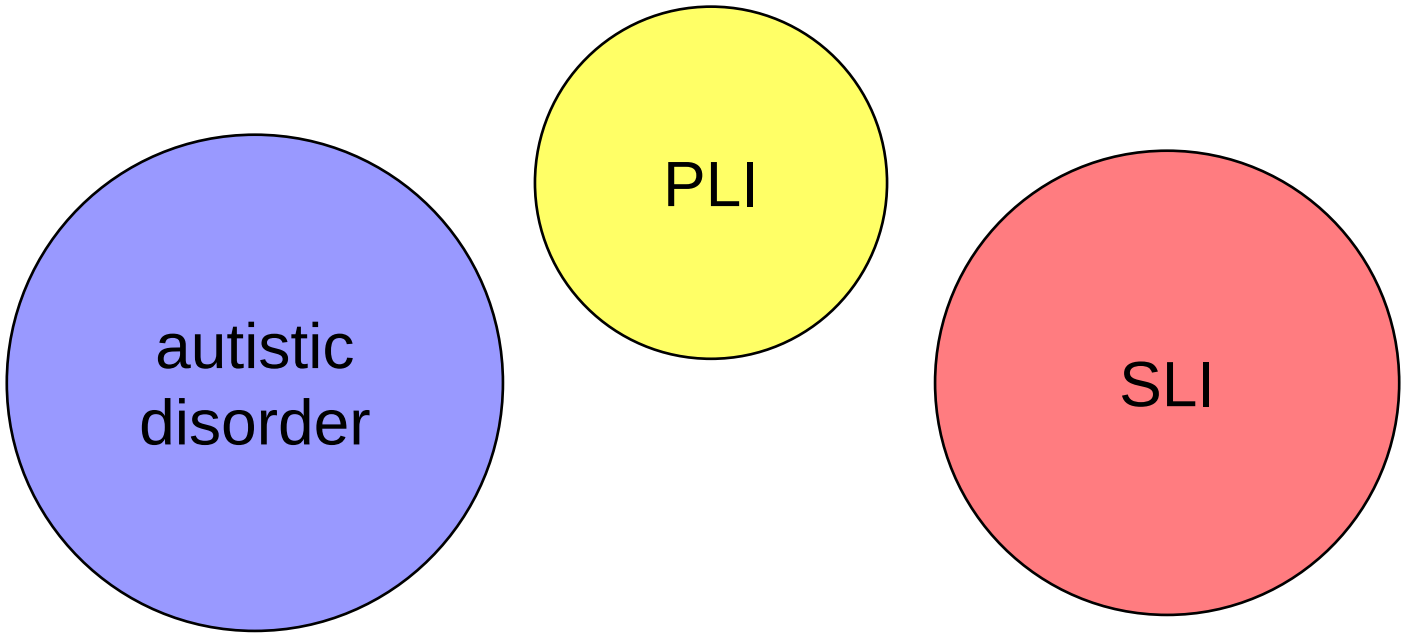
- GCC is sensitive indicator of communication difficulties in children
- Can use SIDC to identify children with disproportionate pragmatic problems
- Differentiation between SLI/PLI seems more a matter of degree than a sharp divide

# Implications for assessment

- Need to be aware that standard psychometric tests are often insensitive to pragmatic impairments
- Informal observation of a child in a relatively unstructured conversational setting may be informative
- Checklist report by teacher or parent provides valuable information

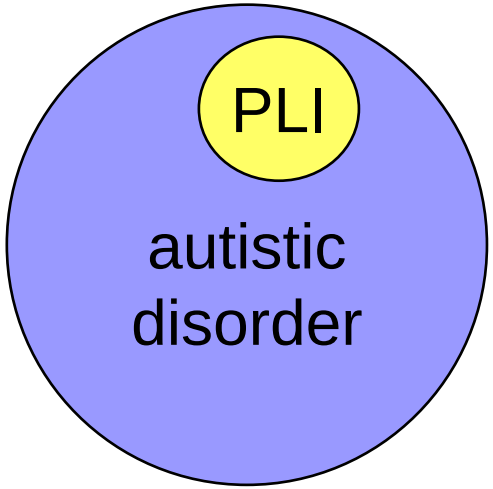
# Questions about PLI

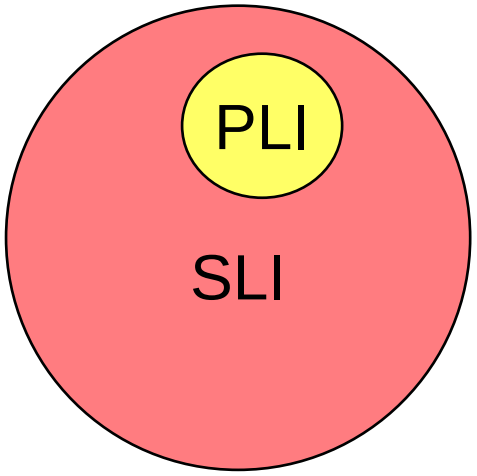
- Is it a separate subtype of communication impairment?



# Questions about PLI

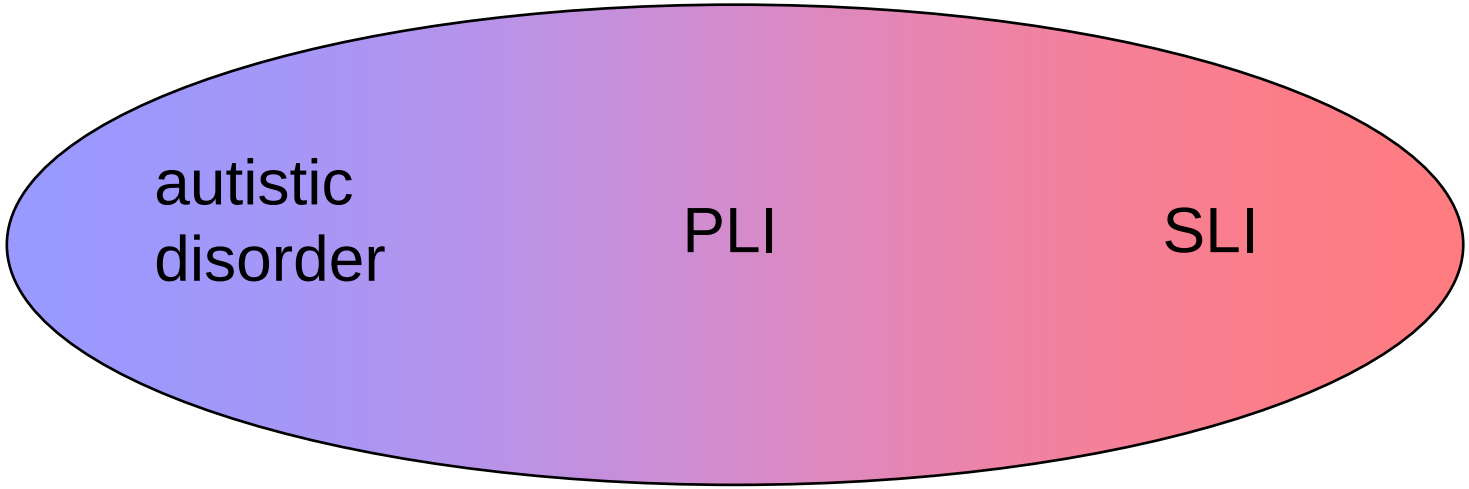
- Is it a subgroup of SLI or autistic disorder?



# Questions about PLI

- Are all these disorders on a continuum?



# Bishop & Norbury (2002)
## Standard diagnostic procedures for autistic disorder given to group with SLI or PLI

- Autism diagnostic interview (ADI-R): with parents, approx 3 hours
  - *focus on behaviour at age 4-5 years*
- Autism diagnostic observation schedule (ADOS-G): with child, 45 mins
  - *focus on current behaviour*
  - *observe child in various situations designed to elicit autistic behaviours (e.g. playing with toys, interacting with adult)*
- Social communication questionnaire (SCQ): completed by parents, 40 items (based on ADI-R)

# Bishop & Norbury: Conclusions - 1

- Heterogeneity of children with communication impairments
- Changing clinical picture with age
- Some children with clinical picture of PLI would merit diagnosis of autism or PDDNOS, but not all

# Bishop & Norbury: Conclusions - 2

- non-autistic children with PLI
  - sociable, talkative
  - use nonverbal as well as verbal communication,
  - produce stereotyped language with abnormal (often exaggerated) intonation
  - good reciprocal social interaction
  - repetitive behaviours not a feature

# Bishop & Norbury: Conclusions - 3

- current categorical diagnosis not well suited to capturing clinical variation
- i.e. no clear dividing line between PLI and other communication problems
- rather, pragmatic impairment can accompany a range of other problems

# Possibilities for intervention

- Virtually no scientific evaluation of different approaches
- Very little known about long-term outcome (though we plan to do a follow-up study). Anecdotal evidence suggests very variable outcome.
- UK experience: children with PLI can do well in specialised placement for children with communication problems OR in mainstream schools with support
- But staff need to be aware of nature of problems: danger children will be thought “mad

for references see:

epwww.psych.ox.ac.uk/oscci