Metapragmatic Awareness in children with typical and atypical pragmatic development

Anna Collins
Research Speech and Language Therapist

Dr Elaine Lockton

Dr Catherine Adams

School of Psychological Sciences
University of Manchester, UK
Anna Collins

- BSc Psychology 2002 (University of York)
- MSc Speech Language Pathology 2004 (University of Newcastle)
- Paediatric Speech and Language Therapist 2004-2011
- Researcher & Lecturer 2005-2011 (University of Manchester)
Metapragmatic Awareness Studies

• PhD Supervisors
  – Dr Catherine Adams
  – Dr Elaine Lockton

• Projects
  – Social Communication Intervention Project (SCIP)
  – Targeted Observation of Pragmatics in Children’s Conversations (TÖPICC)

• Funding
  – Nuffield Grant
  – ESRC Grant RES-000-22-2223
  – BA Small Grant
Outline

Pragmatic language impairment: definition and description

Metapragmatic ability: definition

Assessment of Metapragmatic Awareness (AMP)

MPA in children with typical language development

MPA in children with pragmatic language impairments
Pragmatic Language Impairment

- Pragmatic Language Impairment
- reasoning
- comprehending and producing narratives
- conversational skills
- awareness of the listener’s thoughts, beliefs and intentions
- over-literal comprehension and use of language
Pragmatic Language Impairment

Specific Language Impairment
- comprehending and producing narratives
- conversational skills
- structural language impairments

Autistic Spectrum Disorder
- reasoning
- comprehending and producing narratives
- conversational skills
- awareness of the listener’s thoughts, beliefs and intentions
- over-literal comprehension and use of language
Metapragmatic awareness (MPA)

- MPA is explicit awareness of the rules that govern talking
- MPA may develop separately from pragmatics (Bernicot, Laval & Chaminaud, 2007; Savich, 1983)
- Studies suggest a developmental shift in MPA around 7 years of age (Axia & Baroni, 1985; Baroni & Axia, 1989)
Assessment of Metapragmatics (AMP)

- Developed in response to a lack of formal MPA assessment in the UK
- Clinically and theoretically motivated
- Original version – piloted
- Final version – current results
AMP Testing Procedure

• 13 Videos each portraying a different pragmatic error

• Each video acted out by 2 school-aged children

• Standard set of MPA questions for each video

• Responses recorded, transcribed and scored

• AMP Composite score
Research Participants

- 40 children with typical language development (cwTLD)
- 34 children with pragmatic language impairment (cwPLI)
- Age groups: 6-11 years
## AMP Questions

<table>
<thead>
<tr>
<th>MPA Question</th>
<th>Exact question wording</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comprehension check</strong></td>
<td>What were the children talking about?</td>
</tr>
<tr>
<td><strong>Descriptive MPA</strong></td>
<td>Something went wrong in the conversation. What went wrong?</td>
</tr>
<tr>
<td><strong>Reflective MPA</strong></td>
<td>Why is that wrong?</td>
</tr>
<tr>
<td><strong>Metapragmatic rule awareness</strong></td>
<td>What could the boy have done differently?</td>
</tr>
</tbody>
</table>
# AMP scoring scheme

<table>
<thead>
<tr>
<th>Knowledge Structure</th>
<th>Awareness Level</th>
<th>AMP score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implicit knowledge only</td>
<td>Non-awareness</td>
<td>0</td>
</tr>
<tr>
<td>Primary explicitation</td>
<td>Redescription of the pragmatic event</td>
<td>1</td>
</tr>
<tr>
<td>Secondary explicitation</td>
<td>Awareness of the linguistic marker</td>
<td>2</td>
</tr>
<tr>
<td>Tertiary explicitation</td>
<td>Explicit awareness of the pragmatic rule</td>
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Based on Karmiloff-Smith (1986)
### Descriptive MPA

<table>
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<tr>
<th>No awareness</th>
<th>Redescription</th>
<th>Linguistic marker awareness</th>
<th>Pragmatic rule awareness</th>
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<tbody>
<tr>
<td>I don’t know</td>
<td>He wanted to speak about his cat</td>
<td>He was talking about his dog when he wanted to talk about his cat</td>
<td>He was interrupting He wouldn’t let him get a word in</td>
</tr>
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</table>

Speaker dominates the conversation
## Reflective MPA

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<td>I don’t know</td>
<td>He wanted to say something but he wouldn’t let him</td>
<td>He wasn’t listening</td>
<td>You’re supposed to let the other person have a turn</td>
</tr>
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Speaker dominates the conversation
## Metapragmatic rule

<table>
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<th>Pragmatic rule awareness</th>
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<td>I don’t know</td>
<td>Talked to each other</td>
<td>Not talked about his pet so much</td>
<td>Let the other boy have a turn</td>
</tr>
</tbody>
</table>

Speaker dominates the conversation
Children with TLD

- 40 cwTLD aged 6-11 years old

- Descriptive and Reflective MPA /AMP Composite

- A developmental shift in MPA at around 7 years of age

- Metapragmatic Rule awareness

- Gradual increase in awareness between 7-11 years
Results – AMP Composite Scores for cwTLD
Levels of Explicitation

- What was the locus of this change in MPA?

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Levels of Explicititation

• What was the locus of this change in MPA?

• Descriptive MPA
  – reduction in “non-awareness” responses at 7 years of age
  – increase in “tertiary awareness” responses at 7 years of age

• Reflective MPA and MP rule awareness
  – a more gradual increase in tertiary awareness responses between 7 and 11 years of age
Children with PLI

- 34 cwPLI were matched to 34 cwTLD using group means

- Matched on
  - Average age in months
  - Nonverbal IQ

- Not matched on
  - Receptive and expressive language (ACE naming and TROG)
Children with PLI

- Group comparisons
  - CwPLI had significantly lower receptive and expressive language scores than cwTLD
  - CwPLI had significantly lower AMP Composite scores than cwTLD
  - CwPLI had significantly lower Descriptive, Reflective and Metapragmatic Rule scores than cwTLD
AMP Composite and TROG for cwPLI and cwTLD by Age Group

PLI

TLD

Age group (years:months)
Children with PLI and TLD

- TLD 6-7 versus PLI 6-7
  - Significant group difference in AMP composite score: $t(25) = -6.170$, $p<0.0001$

- TLD 6-7 versus PLI 8-9
  - Significant group difference in AMP composite score: $t(21.418) = -2.775$, $p<0.05$

- TLD 6-7 versus PLI 10-11
  - No significant group difference in AMP composite score: $t(4.353) = -0.666$, ns.
Children with PLI and TLD

- Is language ability contributing to variance in metapragmatic ability?

- ANCOVA:
  - TROG raw score significantly predicts the AMP composite, $F(1, 64) = 9.057$, $p=0.004$ partial $\eta^2 = .12$.
  - When the effect of age and language ability are removed, group status continues to significantly predict AMP composite score, $F(1, 64) = 20.288$, $p=0.000$, partial $\eta^2 = .24$. 
Metapragmatic comments in cwPLI

- Speaker dominates the conversation
- cwPLI (10-11 year old)
- **Descriptive MPA**
  - That the he when he was saying something he just kept saying it
- **Reflective MPA**
  - Because let the other person speak
- **Metapragmatic rule awareness**
  - Wait and see what he wanted to say and he could say something else after
Metapragmatic comments in cwTLD

- Speaker dominates the conversation
- cwTLD (10-11 year old)
- **Descriptive MPA**
  - Erm one of the boys was trying to get fit in some words of his own but the other boy kept talking
- **Reflective MPA**
  - Because he didn’t give the other boy a chance to talk and he didn’t listen to the other boy about what he had to say
- **Metapragmatic rule awareness**
  - Just stopped and listened to what the other boy had to say and let him say something
Children with PLI

- CwPLI have impairments in
  - Metapragmatics
  - Pragmatic rule adherence

- Question: Is there a relationship between behaviour and awareness?
Preliminary data

• **Examples from own behaviour**
  “She was poking at her and she was going back and I don’t do that. It’s called being silly”
  “Then she didn’t really listen. That I sometimes do to Mrs Dalton which I admit.”

• **Examples from other’s behaviour**
  “Not allowed to walk away when someone’s talking to you. My brother does sometimes.”
  “He’s being like Spencer in our class.”
TOPICC

- Targeted Observation of Pragmatics in Children’s Conversations (TOPICC)
- Videoed conversation between child and adult
- The video was then scored for presence/absence of impairment for a number of pragmatic rule categories
- Scores for each category allow the researcher to rate the severity of the child’s pragmatic impairment, with scores ranging from 0-3.

  3 = severe, 2=moderate, 1=occasional, 0=never
TOPICC

- TOPICC Categories
  - Reciprocity / Turn taking
  - Taking account of listener knowledge
  - Verbosity
  - Topic management
  - Discourse style
  - Response problems
TOPICC AMP comparison

- TOPICC Categories were matched to AMP video items
  
e.g. TOPICC Verbosity = AMP Speaker dominates the conversation

- Both AMP and TOPICC scores were originally graded (0-3 scale)

- Scores were converted into an impaired / unimpaired dichotomy (cut off between 0-1 & 2-3)
TOPICC Preliminary Results

- Analysis: Is there a relationship between impairment in behaviour and awareness?

- Pragmatic subcategories analysed
  - Difficulties responding to questions
  - Giving too much detail
  - Giving too little detail
  - Difficulties with topic management
  - Impairments in nonverbal behaviours
TOPICC Preliminary Results

- Analysis: Is there a relationship between impairment in behaviour and awareness?

- Negative correlation between scores on AMPs and TOPICC measures

- As behavioural impairment decreased, ability to reflect increased.
TOPICC Preliminary Results

- Analysis: Is there a relationship between impairment in behaviour and awareness?

- Individual performance: some cwPLI do show a disparity between these two abilities

- Approximately 38% of cwPLI, who showed impairment in an aspect of conversational use of pragmatic rules on TOPICC, were able to demonstrate awareness of the rule in the AMP.
TOPICC Preliminary Results

- Analysis: Is there a relationship between impairment in behaviour and awareness?

- Conclusions: The link between metapragmatic awareness and pragmatic behaviour is not universal in cwPLI.

- At least some cwPLI may have knowledge of pragmatic rules but do not use this knowledge in their own conversations.

- Therapy for these children should focus on self monitoring rather than teaching pragmatic rules.
Applications for MPA assessment

- MPA provides us with an understanding of how the child perceives and understands conversational interactions
- We need to work on language as well as pragmatics
- Treatment goal (outcome)
- Therapeutic tool (intervention)
Future work

• What is the relationship between MPA and successful intervention?
  • No relationship?
  • Mediator ? investigate whether change in behaviour is achieved through change in MPA
  • Moderator ? investigate whether MPA skill predicts change in behaviour
AMP website
http://www.psych-sci.manchester.ac.uk/research/groups/neuroscienceandlanguage/chatru/

Contact email
anna.collins@manchester.ac.uk