A pilot comparison of individuals with Autistic Spectrum Disorder performance during a standard false-belief task and an adapted false-belief task.

Abigail Tee
A pilot comparison of the performance of children with autistic spectrum conditions during a standard false belief task and an adapted false belief task

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1. Exploring a theme/topic for research

2. Designing the research

3. The research in action!

4. Findings, conclusions... and implications for Educational Psychology (EP) practice (so far!)

5. Reflections on the research process (again, so far!)

6. Thoughts about future research............
Experiences and special interests prior to the course...

**KEY REFLECTION:**
ASC/ASD - Asperger's/High Functioning Identity first/person first language

A note about terms-ASC.....

DO I HAVE ONE?!

**‘Theory of Mind’ Theory?**

**KEY REFLECTION:**
ASC/ASD diagnosed according to presentation of behavioural symptoms-validity of ‘label’?
Voilà!

‘Theory of Mind’ Theory?

?
Defining Theory of Mind (ToM)

25 years of research.

Ability to take on another’s perspective; ability to attribute mental states to individuals other than oneself (Altable et al., 2009).

First developed by Premack and Woodruff (1978)

A wealth of research - children with ASC have difficulties in passing the test, in comparison to children with typical development.

For example......ToM task battery....

Impairments in ToM underlie the social, behavioral, and communicative impairments characteristic of Autism Spectrum Conditions? (ASC; e.g., Baron-Cohen, 1995; Baron-Cohen, Leslie, & Frith, 1985).

But almost exclusively on direct assessment of child performance....
Multifaceted ToM?!

Umbrella term....

A broad and multifaceted construct that is often used interchangeably with the terms "perspective-taking," "metacognition," "folk psychology," and "social cognition" (Astington & Baird, 2005).
Why the ToM interest?!

Firstly, are there any important consequences of ToM you can think of?

Important consequences for children's social communication, interactions, and behaviour......

............................and of course, the way we support.. e.g. delayed/deviant?

(Moogenhaut & Malcolm-Smith, 2014).

Making guesses, predicting threat, pre-empting responses

Conversations negotiations, friendships- interpersonal sensitivity
Empathy = emotional awareness of others' feelings. An emotional reaction that is appropriate to another person's mental state.

ToM = a more complex cognitive ability - involves grasping another person's perspective.

In other news...

Ed Miliband hid his "touchy feely" side for fear of appearing weak, advisor says

Simon Baron-Cohen, the cousin of Ali G actor Sacha Baron-Cohen, gave Mr Miliband advice on how to use empathy to connect with voters.
Defining ToM

IN A NUTSHELL......

ToM typically develops around age 4.

The ability to understand someone else’s point of view.

The ability to make inferences about what others believe to be the case in a given situation.

This allows us to predict what others will do.

Baron-Cohen argues that this core feature is lacking with individuals who have ASC.
ToM Assessment

False Belief (FB) Tasks

A ‘task, which requires that another person's mental state must be read/understood.

‘The Sally-Anne Test’- Baron-Cohen et al. (1985)

‘The ‘Smarties’ Test’
The Smarties Test

What do you think is in the box?
“Smarties!”

Why don’t you open the box and see?
Oh, it’s pencils.

Let’s close the box. What do you think your friend Jenny would say is in the box if she saw it?
Pencils!
FB Task Demonstration
Findings from Baron-Cohen et al. 1985

- 23 of the 27 of ps with ‘neurotypical’ development (85%)
- 12 of the 14 of ps with ‘Down’s syndrome’ children (86%)
- 4 of the 20 of ps with ‘autism’ (20%)
Baron-Cohen’s rationale.....

Children with ASC do poorly on FB tasks because of their poor cognitive capacity to represent internal beliefs, feelings & thoughts of others......

Supported by numerous studies!
2 main criticisms/reflections of FB tasks

Reason 1: There are CYP with ASC who pass FB tasks

Reason 2: There is more to passing the false belief task than theory of mind

Reason 3: There is more to theory of mind than passing the false belief task

E.G....Bloom & German (2000)
So what else is required to perform well at the FB task?
To be mindful of ‘Theory of Mind’?

Research- amendments to task:
Social-communication (e.g. Southgate et al., 2007).
Language (e.g. Pellicano, 2010; Paynter & Peterson, 2010; Tager-Flusberg, 2000; Van Buijsen et al (2011).

Executive functioning skills (e.g. Apperly et al., 2007; de Villers, 2000; Russell, 1999).

WHAT IS COMMON HERE?
Teach ToM?

Maintenance and generalization are limited (Fletcher-Watson et al., 2014).
Key characteristics associated with ASC

SOCIAL-COMMUNICATION AND INTERACTION!

“Many of us also endured stressful pregnancies, with bleeding, stress, or other worrisome events in our first months in utero. Yet, the most stressful situation we face is social interaction. It requires being open to unpredictable sensory input and being able to respond dynamically, with clear verbal and non verbal communication, maintaining affect that allows inclusion without derision. The need to share experiences is so different from ours puts stress on all of our systems. And then we are expected to transition smoothly from one such experience to another, as if it were a simple adjustment to make.”

Conclusions from Previous Research?

Children and young people with ASC can demonstrate that they ToM?!

BUT.........

Have difficulty applying performance?!(without support)

Might these tasks be masking their (and others) abilities?!
Situational Factors
Motivation and engagement to do task
e.g. Kristen, Vuori & Sodian (2015)

ToM skills across three different contexts:
- a narrative context (using a picture sequencing)
- motivating context (technical toy)
- and a elicited interactive context (picture book task)
Applications to ‘real’ life?

Anecdotal answers from young people......

Begeer, Malle, Nieuwland and Keysar (2010) developed a communication game task

Meaningful?
The development of the theory...

More current research...

N.B. Non-verbal still requires some verbal!
In Summary...

The nature of social-communication (e.g. social-emotional reciprocity, nonverbal communicative behaviors used for social interaction ad developing, maintaining, and understanding relationships) and behavioural (e.g. restricted, repetitive patterns of behavior, interests, or activities) needs among CYP with ASC varies widely and individual differences may moderate the effects of ToM.
A gap in previous research...

• Results, which are primarily quantitative in data (from closed questions)

• Group data- between samples-homogenous
.....but heterogenous nature?

• Scores/standardized measures-how relevant to real-life practice/classroom?

• Traditional positivist approaches....Practice based vs. research based evidence
Young people as part researchers...

Research from social constructivist theories has established the importance of treating CYP as active social agents and experts in their own lives.

‘Insider experience’=important

Young people with additional needs may be best engaged in research by including them as participants to best explore their constructions of what is being studied.

Task adaptations improve accessibility?
My Research Question

Do individuals with ASC perform better at a false belief task that has been adapted to their unique strengths, interests and areas of support compared to a standard false belief task?
Research Methodology

Pragmatic Approach

Concerned with differences that a theory makes for practice

Ontology

What is useful in particular context

Epistemology

Thinking/Doing, which leads to pragmatic solutions

Research Design

Quantitative methods, which were informed by qualitative information collected in the real context of the participants
Research Design

• A pupil template (completed by parent/TA)

• A within samples design

• Pupils took part in two different tasks (standard false belief task and adapted false belief task)

• Counterbalanced
Participants

Primary school pupils with a diagnosis of ‘ASD’ (no other diagnosis)

English as first language

Mainstream primary schools/specialist base attached

19 pupils (17 males, 2 Females) between 6 and 10 years old (mean age= 8.47 years, SD=1.12 years)

8 schools (5 in England, 3 in Wales)
Procedure

1. Consents-Templates

2. Visit to school

3. Rapport-engagement activities

4. Standard/adapted tasks

5. Record answers
Adapted Task Examples
FINDINGS 1: DESCRIPTIVE

Percentage of pupils who passed standard and adapted false belief tasks

- Standard Task: 47.36%
- Adapted task: 88.23%
FINDINGS 2: DESCRIPTIVE

Number of pupils who passed each type of task (standard and adapted)

- Passed standard task: 9
- Passed adapted task: 17
- Passed adapted and failed standard: 8
- Passed standard and failed adapted: 0
- Failed standard and failed adapted: 2
FINDINGS 3: STATISTICAL ANALYSIS

An exact McNemar's test determined that........

........there was a statistically significant difference in the proportion of correct answers between standardized and adapted tasks, $p = .008$. 
Key Conclusions and Implications for EPs

Re-thinking theory of mind?!

Individual level-ASC assessment-individual strengths and interests....and assessment in general.

Systemic level-Strengths based.
Whole school/service/LA...training...policy and practice

A focus on the unique strengths and possibilities for young people with ASC, as opposed to their challenges, deficits and ‘labels’ (e.g. Verhoff’s (2013) and Silberman (2015)).
Strengths and **areas for development** of present research

- Positive impact of taking into account strengths, interests and areas for development of CYP
- Novel, creative, solution focused-in line with practice and assessment-pragmatic approach
- Implications for all children young people and educational assessment in general
- Small sample-pilot study
- Standardization issues-coaching differences for each pupil
- Statistical analysis challenges
- Primarily quantitative-more qualitative needed an exploration into why CYP give particular responses.
- Sample bias-Inclusion criteria-perhaps only representative of a minority of CYP with ASC-nevertheless perhaps a useful approach? e.g. age range
Key Recommendations for Future Research

Larger samples - including those with more complex needs?

A greater variety and number of FB/ToM tasks?

Alternative ways of selecting information to include in the task - may affect engagement?
Complex needs, need complex and individualized approaches..........  
..Adapt the tools not the person!
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Question Time

Any questions?

Please feel free to contact me:

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