COGNITIVE APPROACH

Baron-Cohen et al - 1997

Aim of study:
• To provide support for a cognitive explanation of autism especially in autistic adults which lack theory of mind. • To investigate whether females would be better on this test of theory of mind ToM than males.

Participants:
• **GROUP 1** - **16** ppts (13 males/3 females) - **4 autistic**/ **12** had **Asperger's syndrome**. -Normal IQ - mean = 105 -Recruited from a variety of clinical courses, as well an advert. (Sampling method) • **GROUP 2** - **50 NORMAL**, age-matched adults - (25 males/25 females). -IQ above 85. -All drawn from general population of Cambridge. Sampling method- Random selected from subject panel. • **GROUP 3** - **10** patients with **Tourette's** syndrome. (8 men/2 women) -Age-matched with group 1 + 2. -Mean IQ = 103. -All attending a referral centre in London. (Sampling method)

Method and Design:
• QUASI EXPERIMENT - I.V. occurs naturally without the need for manipulation by experimenter. • Repeated measures in different order to overcome order effect.

Conditions:
• Autistic/Asperger's • Normal • Tourette's

I.V./D.V.
• **I.V.** - Type of people   -Gender in the normal group • **D.V.** - Able to correctly identify emotion.

Procedure:

Each was presented in random order to overcome order affect. Ppts tested individually in a quiet room in their house, lab at uni or researcher's clinic.

- **1. Eyes Task** - Photos of the eye region of 25 different faces.
  - Standardised - Photos were all the same size, black and white, same eye region. (CONTROL)
  - Each photo shown for 3 seconds, then ppts had to choose from 2 mental state terms. They were either "basic", like: 'happy, sad' or "complex", like: arrogant, scheming.
  - Interrater reliability - Decision if answer was 'correct' was decided by 4 judges and 8 independent raters.
- **2. Happe's Strange Stories Task** - Group 1 and 3 tested to demonstrate validity of the Eyes task as test of ToM. If valid, then performance of Eyes Task should correlate with Strange Stories Task. (Example of concurrent validity).
- **3. Control Tasks** - Group 1 given 2 controls to check if difficulties with Eye Task were due to other problems.
  - 1. ~~Gender Recognition of Eyes Task~~ - Indentify gender of eyes. Such judgement doesn't involve mindreading, but involves face perception. Therefore, this controls difficulties in that area.
  - 2. ~~Basic Emotion Recognition Task~~ (Emotion Task) - Judging photos of whole faces displaying 6 basic emotions: anger, disgust, fear, joy, sadness and surprise. This was to check whether poor performance on Eyes Task could be linked to a problem recognising basic expression rather than lack of ToM.

Controls:

- Standardised photos - Same size, eye region, and all black and white.
- 2 Control tasks - To check if poor performance of Eyes Task in Group 1 was due to other factors.

Results:

- Normal groups, females performed better significantly better than males.
- Normal and Tourette's performed identically on Eyes Task.
- Normal males performed significantly better than Autistic/Asperger's group.
- If ppt gave random answers without looking at eyes, Cohen et al calculated they should score:
  15/25 = by chance results
  Only 8/16 Asperger's/Autistic scored above chance
  10/10 Tourette's syndrome scored above chance

50/50 normal scored above chance
- Ceiling affect as some in Tourette's and normal's group scored full marks; they could've performed better if it was possible.
- On Strange Stories Task no Tourette's ppt made mistakes.
- Asperger's/Autism made mistakes on Strange Stories Task.
- On control tasks Group 1 performed normally.

Conclusion:

- Adults with Asperger's/Autism were impaired in the Theory of Mind test.
- As only Asperger's/Autism made errors on both the Eyes Task and Strange Stories, this validates the Eyes Task.
- Normal females are better than normal males on ToM test.
- Intelligence not linked with performance. (Some autistics had uni degrees.

Evaluation:

- **Research Method -** Quasi exp = **Ad.** - I.V. occurs naturally. (types of people/ gender in normal group) **Dis.** - Not "true experiment".
  - Repeated measures in different order to overcome order effect.
- **Individual Differences -** Autism/ Asperger's Syndrome/ Tourettes/ Normal

  |_____ Types of people _____|
- **Ecological Validity -** Low because ppts could only see eyes and irl, most people are used to see the whole face. Just eyes = not very real-like situation.
- **Sample -** All adults - Autistic/ Asperger's -16 ppts (13m/3f) - Mean IQ 105
  - Normal   - 50 ppts (25/25) - IQ ≥ 85
  - Tourette's   - 10 ppts (8m/2f) - Mean IQ 103.5
- **Type of Data -** Quantitative = **Ad.** - Easier to analyse. **Dis.** - Loss of rich data.
- **Applications -** Useful/ helpful for people educating and interacting with Autistic people. Help the Autistic.
- **One Change -** Sample - Same number of ppts in each sample group.
  - Use variety of people with different cultures and socio background + other countries.