



UNIVERSITY  
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QUEENSLAND  
AUSTRALIA

# Empathy Measurement in Autism

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# The Empathy Controversy

“while we [autistic people] are lumbered with the idea that we lack empathy, a lot of autistic people see allistics as lacking empathy towards us. The pathologising of autism dictates that this mismatch its usually only seen and written about in one direction [against autistic people]” – Yenn Purkis.

***“Our understandings of empathy in autism are limited by the measures we use”  
- Jess***

## Why is this important?

- Empathy deficit assumptions affect every autistic individual
- Countless empathy interventions for autistic individuals

## Quotes from Autistic Adults

“Pre-diagnosis, my disability advisor encouraged me to pursue psychology. Post-diagnosis she told me I wouldn’t even finish undergrad because I cannot understand other people. I suddenly didn’t have empathy” – Anonymous

“The widespread belief that autistics don’t experience &/or express empathy delayed our [Mum + 3 children] diagnoses by 20 years. That’s a lot of years of unnecessary trauma & life challenges based on misinformation” - Anonymous

# Non-literal Language in Empathy Measures

- Empathy Quotient (EQ) item:
  - *“People often tell me that I went too far in driving my point home in a discussion”*
- Such language - not difficult for all autistic individuals but important to consider
- Known-groups validity
- Distributive justice: *“fair distribution of the benefits and burdens of research”* (NHMRC, 2018)

# Research Aims

- Evaluate the quality of empathy self-reports
- Evaluate the evidentiary support for an empathy deficit in autism
- Highlight non-literal language as a potential issue

# Methodology

## Systematic Literature Review (SLR)

- Collates all relevant studies on a topic
- Allows researchers to evaluate the body of evidence
- Strict methodology to prevent bias

## This SLR

- Collate and evaluate all relevant studies on empathy self-reports

# Methodology

- Developed protocol (method) and registered on PROSPERO
- Conducted searches in 8 relevant databases
  - Broad search strategy
  - Aimed to capture all English empathy self-reports
  - Aimed to capture all avail. info about their quality with autistic & NT samples

# Methodology

## Excluded Articles:

- Other clinical groups (e.g. schizophrenia)
- Only one component of empathy (e.g. theory of mind)
- Not a self-report
- No info on measure quality

COSMIN Methodology – to evaluate evidence of measure quality



# Preliminary Results

- **23** articles excluded - did not evaluate the measure
- 33 articles included, with 6 self-reports identified
- Non-literal language; **EQ**  $\approx$  **40%**, **IRI**  $\approx$  **42%**
- **0** evaluated bias or interpretability for autistic samples

# Preliminary Results

| References         | Group                                   | Country    | Structural Validity |          |                        | Internal Consistency |           |              | Cross-cultural validity/Measurement Error |         |              | Reliability |          |            | Measurement Error |         |        | Criterion Validity |           |             | Hypothesis Testing |         |        | Responsiveness |         |        |
|--------------------|---|------------|---------------------|----------|------------------------|----------------------|-----------|--------------|---|---------|--------------|-------------|----------|------------|-------------------|---------|--------|--------------------|-----------|-------------|--------------------|---------|--------|----------------|---------|--------|
|                    |   |            | N                   | Method.  | Qualit Result (rating) | N                    | Method.   | Result (+/-) | N   | Method. | Result (+/-) | N           | Method.  | Result     | N                 | Method. | Result | N                  | Method.   | Result      | N                  | Method. | Result | N              | Method. | Result |
| Baron-Cohen & W... | Study 1 Autist                          | UK         |                     |          |                        | 90                   | Very Good | (?) Cronba   |   |         |              | 90          | Doubtful | Test retes |                   |         |        | 90                 | Inadequa  | (?) No hyp  |                    |         |        |                |         |        |
|                    | Study 1 Contr                           | UK         |                     |          |                        | 90                   | Very Good | (?) Cronba   |   |         |              | 90          | Doubtful | Test retes |                   |         |        | 90                 | Inadequa  | (?) No hyp  |                    |         |        |                |         |        |
|                    | Study 2 Male                            | UK         |                     |          |                        | 71                   | Very Good | (?) Cronba   |   |         |              |             |          |            |                   |         |        | 71                 | Adequate  | (?) No hyp  |                    |         |        |                |         |        |
|                    | Study 2 Fema                            | UK         |                     |          |                        | 126                  | Very Good | (?) Cronba   |   |         |              |             |          |            |                   |         |        | 126                | Adequate  | (?) No hyp  |                    |         |        |                |         |        |
| Baron-Cohen et al. | Study 1 - Publ                          | UK, Canada |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        | 103                | Doubtful  | (?) No hyp  |                    |         |        |                |         |        |
|                    | Study 1 - Unde                          | UK         |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        | 174                | Doubtful  | (?) No hyp  |                    |         |        |                |         |        |
|                    | Study 2 - AS/H                          | UK         |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        | 47                 | Doubtful  | (?) No hyp  |                    |         |        |                |         |        |
| Baron-Cohen, 2015  | Study 2 - Cont                          | UK         |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        | 47                 | Doubtful  | (?) No hyp  |                    |         |        |                |         |        |
|                    | Group 1 - Autistic                      |            |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        | 395                | Inadequa  | (?) No hyp  |                    |         |        |                |         |        |
| Byrd-Craven        | Group 2 - Control                       |            |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        | 320                | Inadequa  | (?) No hyp  |                    |         |        |                |         |        |
|                    | Uni students                            |            |                     |          |                        | 233                  | Very Good | (?) Cronba   |   |         |              |             |          |            |                   |         |        | 233                | Doubtful  | (?) No hyp  |                    |         |        |                |         |        |
| Calvi              | Uni students                            |            |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        | 224                | Very Good | (?) Cronba  |                    |         |        |                |         |        |
| Cunningham et al.  | Uni students                            |            |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        | 224                | Very Good | (-) Correla |                    |         |        |                |         |        |
| Cunningham et al.  | ASD - 2 treatment groups                |            |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        | 38                 | Very Good | (Null hyp)  |                    |         |        |                |         |        |
|                    | ASD - 2 treatment groups                |            |                     |          |                        | 38                   | Very Good | (?) Cronba   |   |         |              |             |          |            |                   |         |        | 38                 | Very Good | (Null hyp)  |                    |         |        |                |         |        |
| Levin              | Group 1 - ASD                           |            |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        | 15                 | Inadequa  | (?) No hyp  |                    |         |        |                |         |        |
|                    | Group 2 - Control                       |            |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        | ?                  | Inadequa  | (?) No hyp  |                    |         |        |                |         |        |
| Lyons              | Community                               |            |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        | 226                | Doubtful  | (-) EQ Cog  |                    |         |        |                |         |        |
| Mansour            | Aspergers adult                         |            |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        | 226                | Doubtful  | (-) EQ Cog  |                    |         |        |                |         |        |
|                    | Adults who know Asperger's participants |            |                     |          |                        | 32                   | Very Good | (?) Cronba   |   |         |              |             |          |            |                   |         |        | 32                 | Doubtful  | (-) Only 3: |                    |         |        |                |         |        |
| Mathersul          | HFA                                     |            |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        | 32                 | Doubtful  | (-) Only 3: |                    |         |        |                |         |        |
|                    | Control                                 |            |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        | 40                 | Adequate  | (+) Result: |                    |         |        |                |         |        |
| Sucksmith          | Parents of ASD                          |            |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        | 37                 | Adequate  | (+) Result: |                    |         |        |                |         |        |
|                    | ASD                                     |            |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        | 310                | Doubtful  | (?) No hyp  |                    |         |        |                |         |        |
|                    | Control                                 |            |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        | 329                | Doubtful  | (?) No hyp  |                    |         |        |                |         |        |
| Swickert           | College students                        |            |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        | 187                | Doubtful  | (?) No hyp  |                    |         |        |                |         |        |
|                    | Retirement community                    |            |                     |          |                        | 94                   | Very Good | (?) Cronba   |   |         |              |             |          |            |                   |         |        |                    | 62        | Very Good   | (?) Cronba         |         |        |                |         |        |
| Webb               | Uni students                            |            |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        | 347                | Very Good | (?) Cronba  |                    |         |        |                |         |        |
| Wheelwright, 2006  | Uni students                            |            | 1761                | Doubtful | (?) - not all infor    |                      |           |              |   |         |              |             |          |            |                   |         |        |                    | 1761      | Doubtful    | (?) No hyp         |         |        |                |         |        |
|                    | ASD Adults                              |            | 125                 | Doubtful | (?) - not all infor    |                      |           |              |   |         |              |             |          |            |                   |         |        |                    | 125       | Doubtful    | (?) No hyp         |         |        |                |         |        |
| Williams           | Study 1                                 |            |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        |                    | 278       | Adequate    | (?) No hyp         |         |        |                |         |        |
|                    | Study 2                                 |            |                     |          |                        |                      |           |              |   |         |              |             |          |            |                   |         |        |                    | 20        | Adequate    | (?) No hyp         |         |        |                |         |        |

*Measurement quality/this  
research:*

*Not just empathy.  
Not just autism.*

## Final Points

- Measurement quality – an issue for **all** research and practice
- Ethically obliged to use measures with demonstrated:
  - Reliability and validity **in your population**
  - Demonstrated fairness (unbiased) and interpretability **in your population**
- Understand the impact of measurement issues on your conclusions
  - Especially when researching vulnerable, pathologised populations
  - Especially when the conclusion could affect them negatively



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