



The University of Vermont

# Me reporting on myself: Further evidence in support of the validity of the Theory of Mind Inventory-Self Report when completed by autistic adults

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## BACKGROUND AND OBJECTIVE

- Although self-report is being more widely used to assess a variety of characteristics in autism (e.g., anxiety, depression), self-assessment of social cognition remains woefully understudied.
- The **Theory of Mind Inventory: Self-Report-Adult (ToMI-SR-Adult)** was recently developed for this purpose [1]. It consists of 60 statements tapping advanced aspects of social cognition (e.g., metalinguistics, humor, deception) as applied in real world behavior.
- Initial examination of the ToMI-SR-Adult showed that it reliably distinguished autistic adults with subtle symptomology from neurotypical adults matched on age, gender, and socioeconomic status.
- Our objective was to further evaluate the psychometric properties of the ToMI-SR-Adult in a pilot sample of autistic adults who were capable language users but who were more diverse in their autism, language, and intellectual profiles.**



9. A 'double bluff' is a type of deception where someone tries to deceive another person by actually telling the truth. I understand what double bluff is and why people use it.

Definitely Not      Probably Not      Undecided      Probably      Definitely

44. I understand the kinds of situations that would make a person feel two different emotions at the same time (e.g., being mad and sad at the same time or being happy and excited at the same time).

Definitely Not      Probably Not      Undecided      Probably      Definitely

## METHODS

### Participants

- 13 autistic adults ages 22-64 years ( $M = 41$ ; 7 male, 6 female) ranging in level of autistic traits, language, and intellectual abilities

### Procedure

- Participants completed the ToMI-SR-Adult at two time points (retest interval ~4 weeks)
- At time 1, they also completed assessments of empathy (Empathy Quotient, EQ-10-Adult [2]), levels of autistic traits (Autism Quotient, AQ [3]; Social Responsiveness Scale, SRS-2 [4]), and psychological conditions (Achenbach System of Empirically Based Assessment, ASEBA-Adult-Self-Report [5]).

### Statistical Analyses

- Pearson's correlations to assess test-retest reliability and convergent/discriminant validity
- Alpha of .10 to guard against type II errors in this pilot study

## RESULTS

- The ToMI-SR-Adult demonstrated good test-retest reliability ( $r = .89, p < .01$ )

### CONVERGENT VALIDITY

As expected, **higher scores on the ToMI-SR-Adult (i.e., greater ToM abilities)** were associated with:

- Higher empathy** (higher EQ10 scores)
- Lower levels of autistic traits** (lower AQ scores)
- Reduced social impairments** (lower SRS scores, including in Social Awareness and Cognition)
- Lower levels of thought disturbances** (ASEBA)
- Higher ToMI-SR-Adult scores (i.e., greater ToM)** were associated with **lower restrictive and repetitive behaviors** (SRS RRB)

Measure	Correlations with ToMI-SR-Adult
EQ10	$r = .76, p < .01 *$
AQ	$r = -.51, p = .07 *$
SRS Composite	$r = -.58, p < .05 *$
SRS Social Awareness	$r = -.56, p < .05 *$
SRS Social Cognition	$r = -.58, p < .05 *$
SRS RRB	$r = -.66, p < .05 *$
SRS Social Mot.	$r = -.32, p = .28$
SRS social Comm.	$r = -.41, p = .16$
ASEBA thought disturbances	$r = -.52, p = .07 *$
ASEBA withdrawn	$r = -.28, p = .36$
ASEBA anxiety	$r = -.28, p = .36$

### DISCRIMINANT VALIDITY

As expected, **scores on the ToMI-SR-Adult** were *not* associated with:

**Social Motivation (SRS)**  
**Psychological conditions** like withdrawal and anxiety (ASEBA)

Surprisingly, **ToMI-SR-Adult scores** were *not* associated with **social communication skills (SRS)**, although this may be an artifact of insufficient power

### REFERENCES

- [1] Hutchins, T. L., Lewis, L., Prelock, P. A., & Brien, A. (2021). The Development and Preliminary Psychometric Evaluation of the Theory of Mind Inventory: Self Report—Adult (ToMI: SR-Adult). *Journal of Autism and Developmental Disorders*, 51(6), 1839-1851.
- [2] Wakabayashi, A., Baron-Cohen, S., Wheelwright, S., Goldenfeld, N., Delaney, J., Fine, D., ... & Weil, L. (2006). Development of short forms of the Empathy Quotient (EQ-Short) and the Systemizing Quotient (SQ-Short). *Personality and Individual Differences*, 41(5), 929-940.
- [3] Baron-Cohen, S., Wheelwright, S., Skinner, R., Martin, J., & Clubley, E. (2001). The autism-spectrum quotient (AQ): Evidence from asperger syndrome/high-functioning autism, males and females, scientists and mathematicians. *Journal of Autism and Developmental Disorders*, 31(1), 5-17.
- [4] Constantino, J. N., & Gruber, C. P. (2012). *Social responsiveness scale: SRS-2*. Torrance, CA: Western psychological services.
- [5] Achenbach TM, Rescorla LA (2003) Manual for the ASEBA adult forms and profiles. University of Vermont, Research Center for Children, Youth, & Families., Burlington, VT

## CONCLUSIONS

**We found support for the reliability and validity of the ToMI-SR-Adult when completed by autistic adults who were diverse in their language and cognitive profiles: this justifies further development and validation efforts and suggests that autism does not preclude self-awareness and that often, autistic adults are the best judges of their own subjective social-cognitive experiences.**