

# Ratings of Social Functioning and Participation in Employment and Postsecondary Education Among Adults with Autism and Schizophrenia

Elżbieta Jarzabek, Kimberly Ellison, Zachary Williams, Julie Wolf, Brianna Lewis, Max Rolison, Kathryn McNaughton, Talena Day, Adham Atyabi, Jennifer Foss-Feig, Vinod Srihari, Alan Anticevic, & James McPartland

McPartland Lab, Yale Child Study Center, New Haven, CT

## BACKGROUND

- Interpersonal skills are critical to success in meeting the demands of adulthood, including participation in continued education or employment. Social impairment is a core deficit of autism spectrum disorder (ASD) and an associated feature of schizophrenia (SZ) that may contribute to difficulties attaining successful adult outcomes.
- Adolescents with ASD tend to have more positively biased self-perception of their interpersonal self-efficacy than their typically developing peers (Furlano, Kelley, Hall, & Wilson, 2015; Jamison & Schuttler, 2015), but little is known about the self-perception of adults with ASD.
- Findings regarding self-awareness among individuals with schizophrenia indicate that awareness of the illness along with minimal internalized stigma are related to improved social functioning (Yanos, Roe, & Lysaker, 2010).
- Thus, self-perception of one's skills may be an important factor in predicting adult outcomes.

### Objectives:

- This study investigates: (1) the relationship between subjective self-perception of social functioning and clinician-rated levels of social functioning and (2) the relationship between these indicators and participation in postsecondary education and/or employment in adults with ASD, SZ, and typical controls (TD).

## METHODS

### Participant Demographics:

	N	Sex		Age* (SD)	IQ* (SD)	
		F	M		VCI	PRI
ASD	28	7	21	24.70 (4.47)	99.32 (15.36)	98.28 (13.64)
SZ	28	6	22	26.97 (7.26)	93.40 (12.73)	93.36 (12.89)
TD	11	4	7	26.10 (6.43)	102.80 (12.85)	102.80 (9.47)

\* Groups matched on age and verbal and nonverbal IQ

### Characterization:

- Cognitive ability was measured with the *Wechsler Abbreviated Scale of Intelligence – Second Edition (WASI-II)*.
- Self-perception of social functioning was assessed using the *Social Responsiveness Scale – Second Edition (SRS-2), Adult Self-Report Form*, the *Social Communication Interaction (SCI) Total T score* as well as its descriptive classifications.
- Clinician-rated level of social functioning was measured using the *Social Affect Algorithm Total score* along with its descriptive classifications of the *Autism Diagnostic Observation Schedule, Second Edition (ADOS-2), Module 4* administered by research reliable, expert clinicians.
- Information regarding school and employment status was obtained during the *ADOS-2* administration.

### Procedure:

- Data for this study was collected from 2015 to 2017 as part of a larger study conducted at the Yale Child Study Center.
- Statistical analyses were conducted using SPSS statistical software (ver. 24).

## RESULTS

### Participation in Postsecondary Education or Employment

- School or job
- No school or job

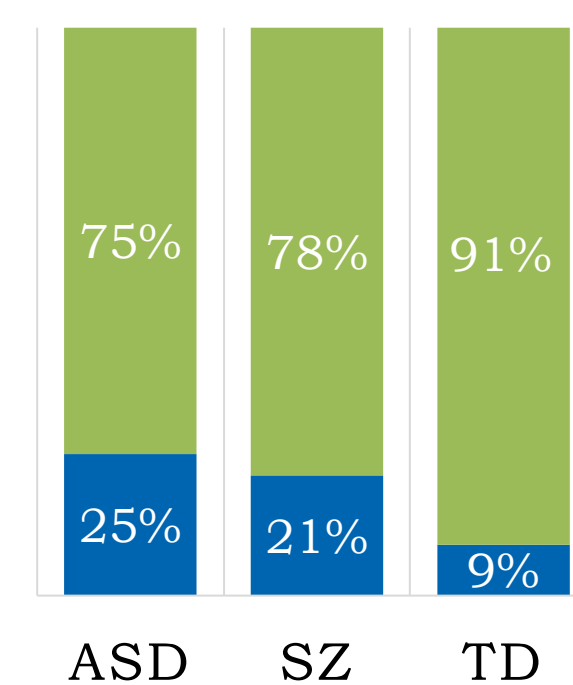


Figure 1

### Postsecondary Education Status

- Not in school
- Part-time
- Full-time

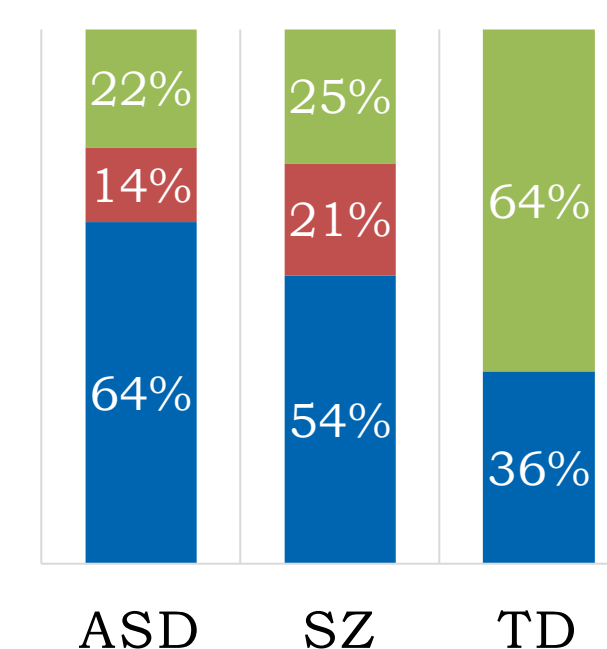


Figure 2

### Employment Status

- Unemployed
- Part-time
- Full-time

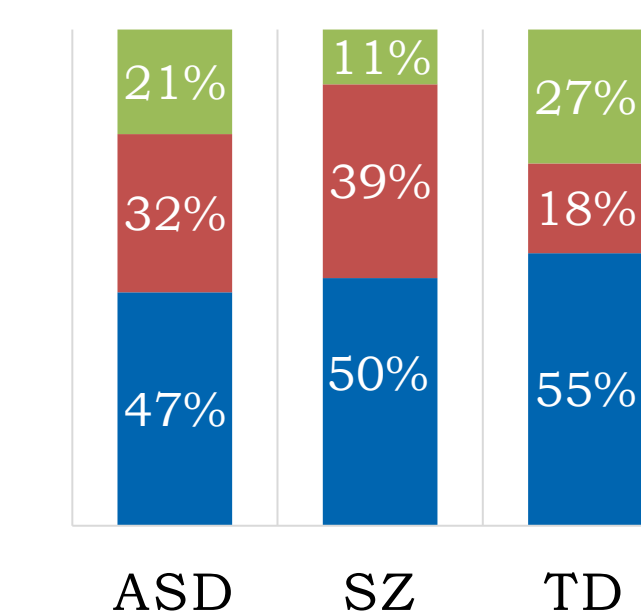


Figure 3

Figure 1. Group differences did not attain significance regarding postsecondary education/employment status.

Figure 2. Having an ASD diagnosis was associated with decreased likelihood of pursuing a postsecondary education when compared to TD participants [ $X^2(2, N=39)=6.884, p=.03$ ].

Figure 3. Group differences did not attain significance with regard to employment status.

### Between-Group Comparisons of Self-Reported Social Ability

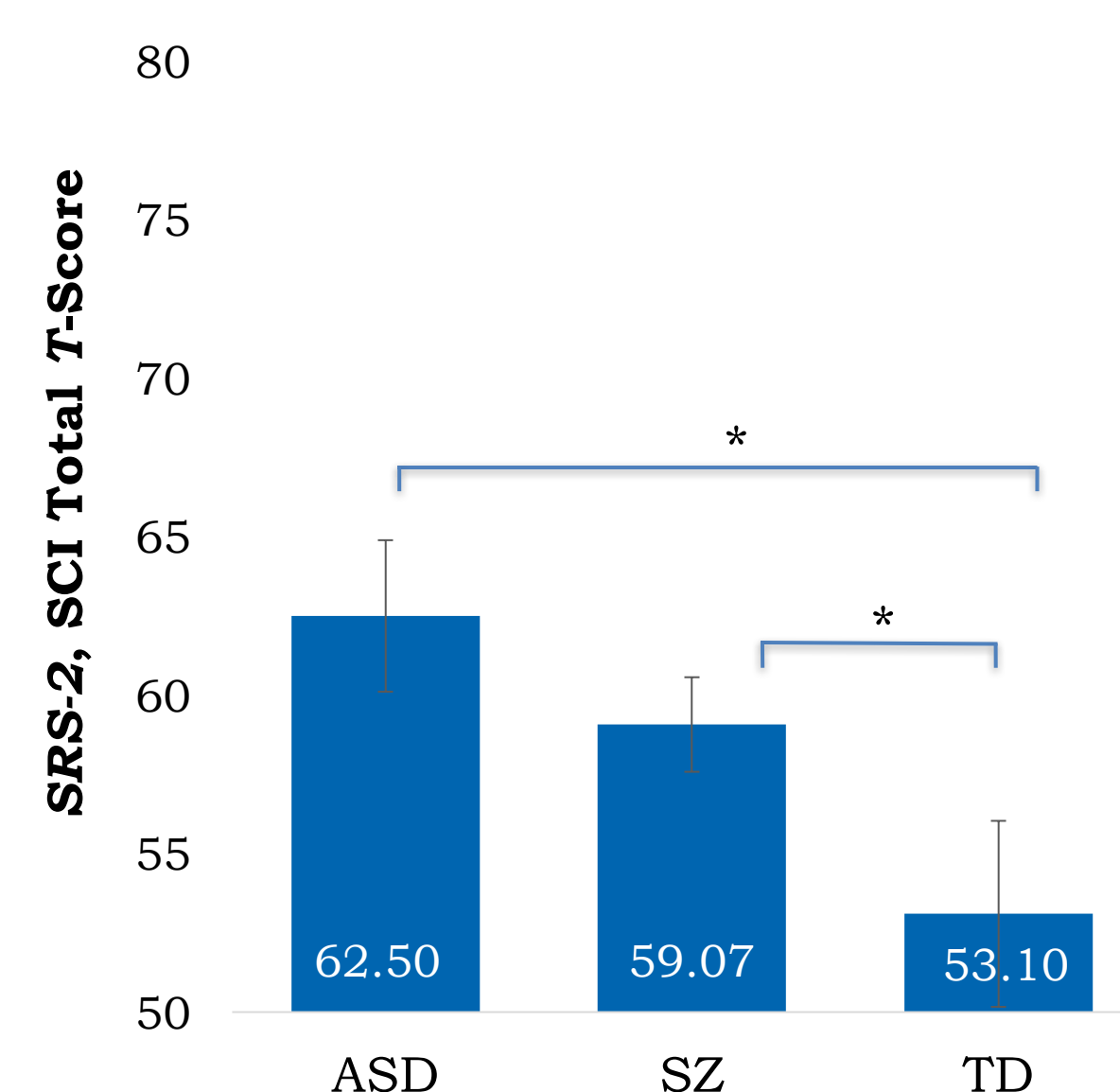


Figure 4. Both ASD [ $F(1,34)=4.83, p=.03$ ] and SZ [ $F(1,35)=3.90, p=.05$ ] groups reported greater deficits in social interaction than TD participants.

### Within the ASD Group Gender Differences in Self-Reported Social Ability

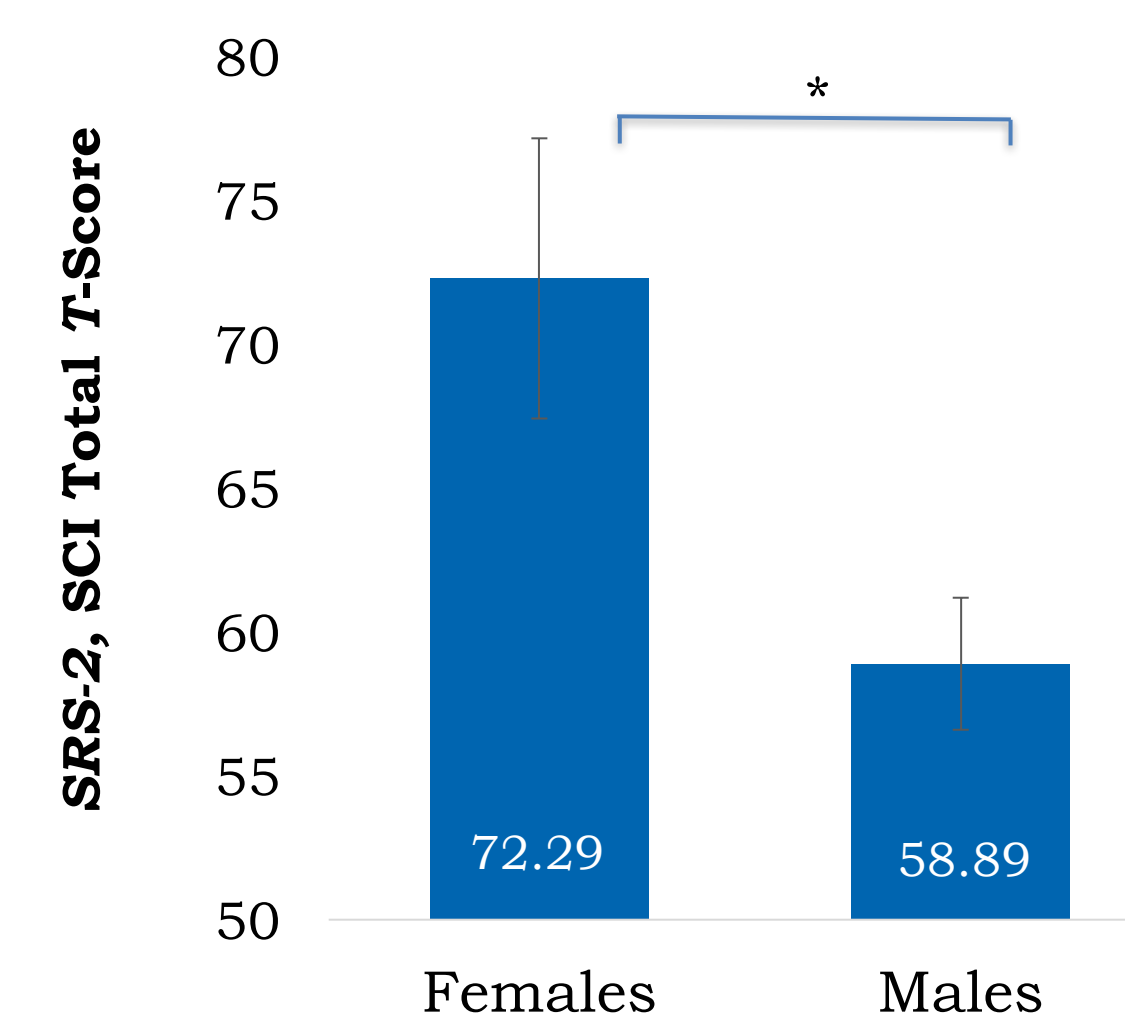


Figure 5. Significant gender differences were observed in self-reported perception of social functioning in the ASD group. Specifically, females with ASD reported higher impairment in reciprocal social behavior than males with ASD [ $F(1,25)=7.87, p=.01$ ].

## RESULTS

- A significant relationship between self-perceived severity of social impairment and participation in school/employment was found for the SZ group [ $X^2(1, N=27)=11.813, p<.01$ ], such that greater self-perceived social impairment was associated with decreased school/employment participation.
- No significant relationship between self and clinician ratings of social functioning was observed in ASD and SZ groups.
- Clinician reported social ability and school/employment outcomes were not associated for either of the groups.

## CONCLUSIONS

- Adults with ASD and schizophrenia report greater deficits in reciprocal social behavior than neurotypical adults.
- Females with ASD report significantly higher social interaction impairment than males with ASD, which may suggest that they have greater insight into their social weaknesses.
- While self-reported social impairment appears to be related to school/employment outcomes in individuals with schizophrenia, no relationship was found for the ASD group. This suggests that individuals with schizophrenia are more likely to be influenced by their self-perception in pursuing postsecondary education or employment than adults with ASD. This could be related to a relatively sudden onset of symptoms and decline in functioning among individuals with schizophrenia.
- As a group, adults with ASD appear to be less likely to pursue postsecondary education than their typical counterparts.

## FUTURE DIRECTIONS

- Further analyses are needed, with larger data sets to investigate self-perception and its impact on behavioral, emotional, and daily functioning of adults with ASD and schizophrenia.
- In addition, within-group differences (e.g., gender and racial differences) in self-perception and functioning outcomes should be further explored.

### References

- Furlano, R., Kelley, E. A., Hall, L. and Wilson, D. E. (2015). Self-perception of competencies in adolescents with autism spectrum disorders. *Autism Research*, 8, 761–770. doi:10.1002/aur.1491
- Jamison, T. R., & Schuttler, J. O. (2015). Examining social competence, self-perception, quality of life, and internalizing and externalizing symptoms in adolescent females with and without autism spectrum disorder: a quantitative design including between-groups and correlational analyses. *Molecular Autism*, 6, 53. http://doi.org/10.1186/s13229-015-0044-x
- Yanos, P. T., Roe, D., & Lysaker, P. H. (2010). The Impact of Illness Identity on Recovery from Severe Mental Illness. *American Journal of Psychiatric Rehabilitation*, 13(2), 73–93. http://doi.org/10.1080/15487761003756860

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McPartland Lab: Email: [mcp.lab@yale.edu](mailto:mcp.lab@yale.edu)

Website: <http://medicine.yale.edu/lab/mcpartland/>