Observed Relations between Intra-Individual and Real-World Outcomes in a Sample of Autistic and Non-Autistic Youth

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BACKGROUND

- Research has begun to characterize the **relations between intra-individual and "real world" outcomes** for autistic and non-autistic adults (Morrison et al., 2020).
- However, very little research has **directly linked these levels of analysis** for autistic youth.
- An understanding of these relations is crucial for the development of precise and ecologically valid social intervention programs for autistic youth.

OBJECTIVE

To examine the relations between emotion recognition, mental state understanding, and ecologically valid measures of social behavior in a sample of autistic and non-autistic youth.

	Autistic		Non-Autistic		p
	(*n* = 86)		(*n* = 81)		
Sex (Male *n*, %)	69	80.0%	51	63.0%	.01
Race (White *n*, %)	71	82.6%	73	90.1%	.16
Ethnicity (Hispanic *n*, %)	6	6.98%	10	12.3%	.24
Chronological Age in Years (*M, SD*)	14.3	2.04	13.6	1.80	.02
KBIT-2 Composite Score (*M, SD*)	100	16.8	107	14	.004
ADOS-2 CS (*M, SD*)	7.78	2.06	3.31	2.62	<.001
FER Number of Errors (*M, SD*)	12.3	5.34	11.6	5.51	.42
VER Number of Errors (*M, SD*)	15.2	5.34	12.5	5.10	.001
ToM Behavioral Accuracy (*M, SD*)	84.1%	18.2%	92.7%	7.69%	<.001
Peer Sociometric Ratings (*M, SD*)					
Reciprocated Friendships	.150	.225	.243	.225	.22
Peer Interaction Behaviors (*M, SD*)					
Positive	15.8	8.22	18.1	8.29	.10
Negative	.152	.588	.061	.324	.25
Low-level	11.6	5.62	11.9	5.34	.79

METHOD

- **Autism feature levels** were assessed using the Autism Diagnostic Observation Schedule (ADOS-2; Lord et al., 2012) Comparison Score (CS; Gotham et al., 2009; Hus & Lord, 2014).
- **Facial emotion recognition (FER)** and **vocal emotion recognition (VER)** were measured using the Diagnostic Analysis of Nonverbal Accuracy, volume 2 (DANVA-2; Nowicki, 2008).
- **Theory of Mind (ToM)** was assessed using the SELWeb measure of social cognition (Russo-Ponsaran et al., 2019).
- Proportion of **reciprocated friendships** was measured using peer-rated sociometric procedures (Coie et al., 1982) administered by primary teachers in a classroom setting.
- **Positive, negative, and low-level peer interaction behaviors** were measured by trained coders following a peer interaction assessment (McNair et al., 2023).

RESULTS

Figure 1. **Correlations between intra-individual variables** (emotion recognition, ToM) **and social outcomes** (autism feature level, peer interaction behaviors, sociometric-ratings) **for Autistic Youth**

Figure 2. **Correlations between intra-individual variables** (emotion recognition, ToM) **and social outcomes** (autism feature level, peer interaction behaviors, sociometric-ratings) **for Non-Autistic Youth**
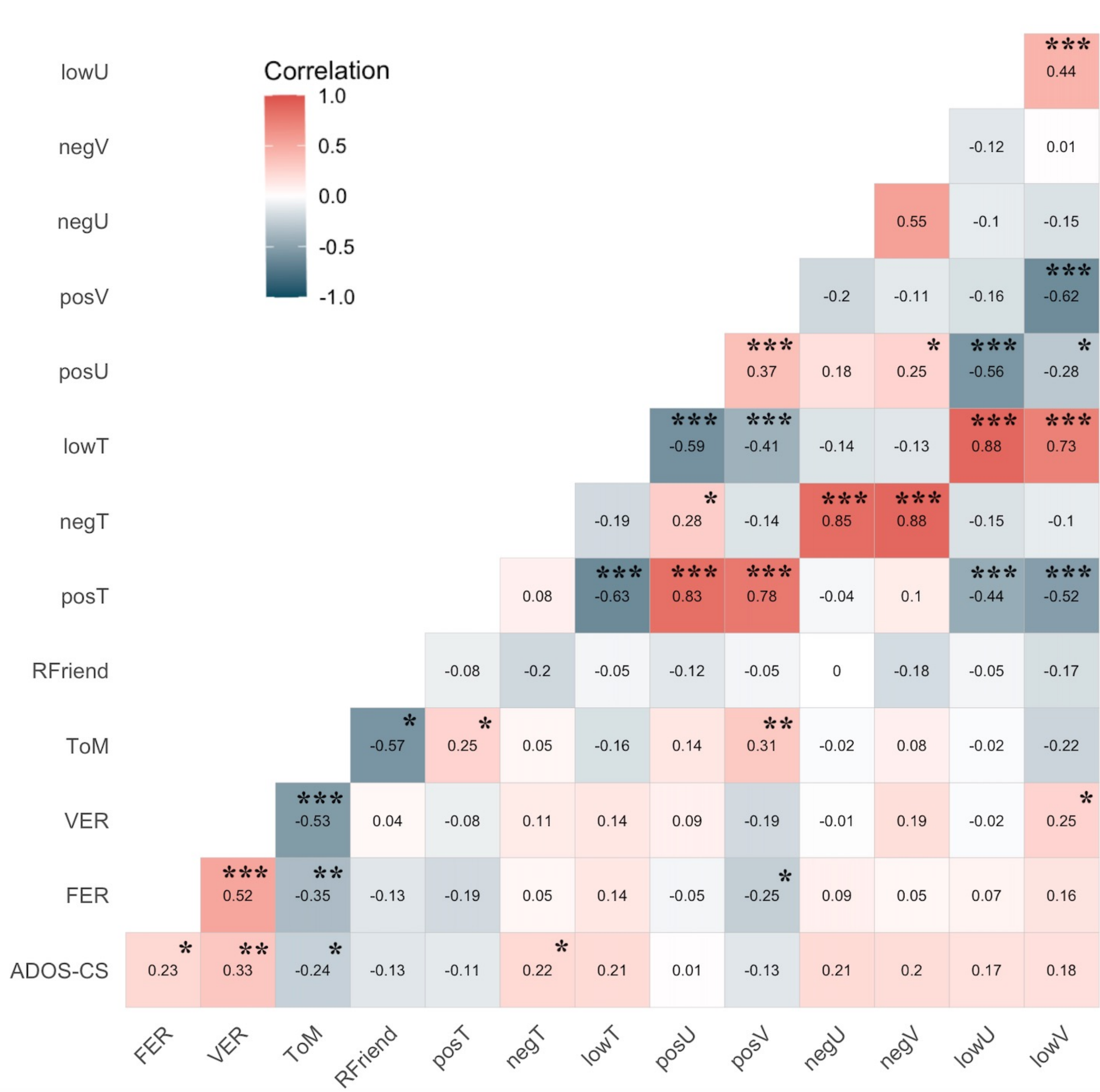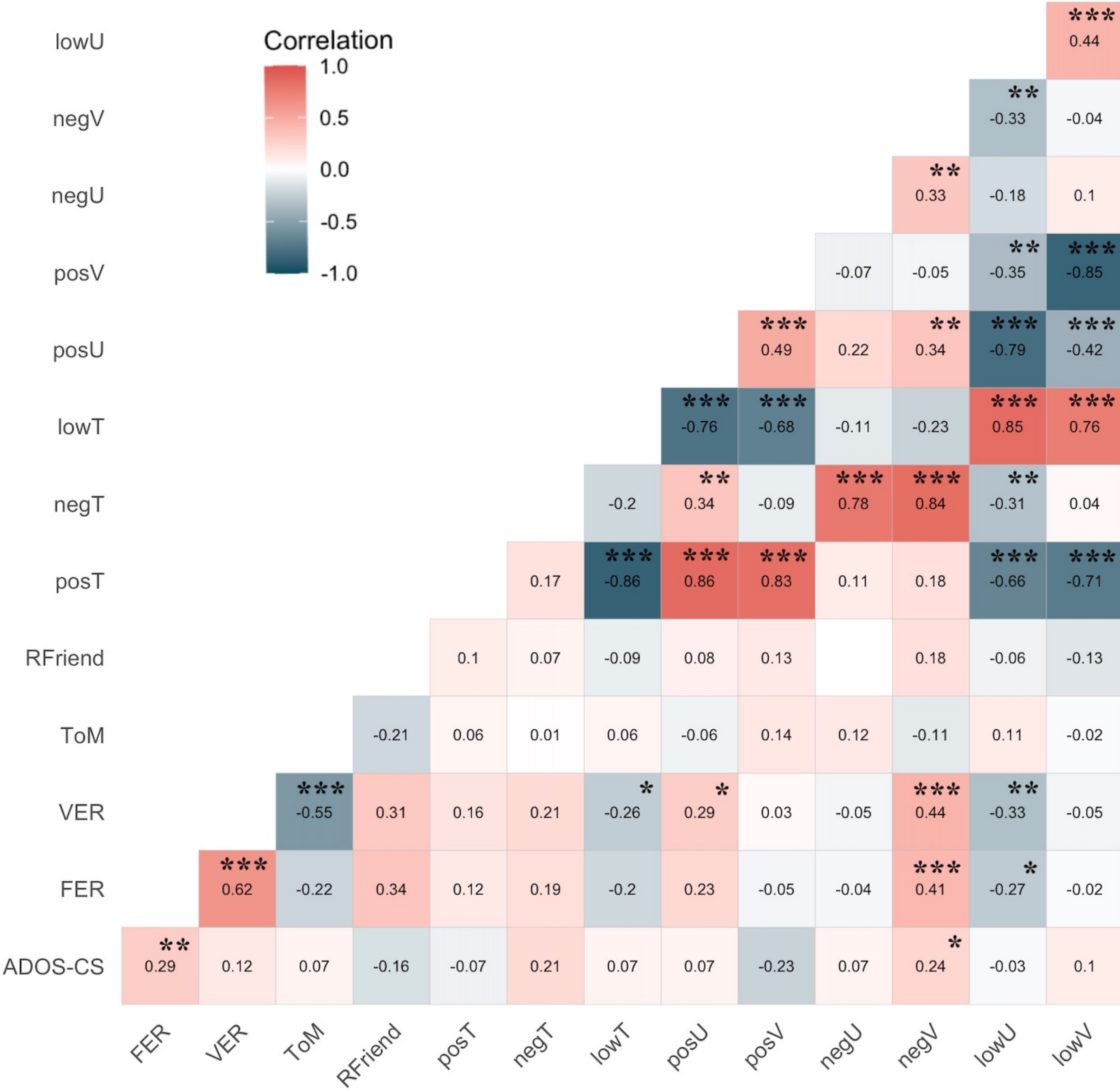

Note. FER = facial emotion recognition; VER = vocal emotion recognition; ToM = Theory of Mind; Rfriend = reciprocated friendships; post = total positive behaviors; negT = total negative behaviors; lowT = total low-level behaviors; poU = positive behaviors during an unstructured activity; posV = positive behaviors during a minimally-structured verbal activity; negU = negative behaviors during an unstructured activity; negV = negative behaviors during a minimally-structured verbal activity; lowU = low-level behaviors during an unstructured activity; lowV = low-level behaviors during a minimally-structured verbal activity. * *p* < .05; ** *p* < .01; *** *p* < .001

CONCLUSIONS

- Results suggest a more **complex and subtle relationship between emotion recognition, mental state understanding, and social outcomes** than has been previously reported, and **which *differs* between autistic and non-autistic youth**.
- While **emotion recognition** (particularly vocal) correlated with social outcomes more strongly for some outcome measures, the overall pattern of effects suggest that **ToM** (mental state understanding) **was more consistently related to outcomes across measures in the autistic sample**, albeit not always in a positive direction.
- **Present findings** not only better elucidate the relation between intra-individual variables and "real world" social outcomes for autistic youth, but also **identify promising targets for the development of individualized social intervention programs.**

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