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Smooth Sailing and Beyond: Recent Findings and New Directions

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- **What have we learned about early emotion regulation in young children with ASD?**

Stability of Emotion Regulation in Young Children with ASD

Without targeted treatment, emotion regulation for young children (age 4-7) with ASD is highly stable across two ratings, 10 months apart

	Year 1 scores M(SD)	Year 2 scores M(SD)	Paired t-tests (Year 1–2)	Correlations (Year 1–2)
Emotion regulation (ERC-ER)	23.8 (4.1)	24.3 (3.8)	$p > .05$	0.78***
Lability/negativity (ERC-LN)	33.3 (6.3)	33.1 (6.8)	$p > .05$	0.71***
Emotion dysregulation (CBCL-EDI)	0.54 (0.36)	0.53 (0.37)	$p > .05$	0.61***

***$p < .001$

Berkovits, L.D., Eisenhower, A.S., and Blacher, J. (in press).

Emotion Regulation in Young Children

*Emotion regulation in children (ages 4-7) with ASD predicted social/behavioral functioning 10 months later, after controlling for earlier levels of social/behavioral functioning (i.e., **change**)*

	Social Skills *(SSIS, Year 2)*	Externalizing Behaviors *(CBCL, Year 2)*	Internalizing Behaviors *(CBCL, Year 2)*
Block 1: SSIS or CBCL, Year 1 (plus IQ and covariates)	R^2 = .46	R^2 = .61	R^2 = .40
Block 2: Emotion Regulation, Year 1	R^2 = .51	R^2 = .63	R^2 = .43
	ΔR^2 = .05 **	**ΔR^2 = .02 ***	**ΔR^2 = .03 ***

***p*<.01, **p*<.05

Berkovits, L.D., Eisenhower, A.S., & Blacher, J. (in press).

- **What kinds of literacy-related behaviors do mothers demonstrate in semi-naturalistic settings?**

Shared Book Reading: The Parent's Role

Pattern matrix based on an exploratory factor analysis with oblique rotation for 12 items of the Shared Literacy Task (N = 111).

	Factor			
	1	2	3	4
Questions	1.01			
Function/Attribute				
Praise/Confirmation	.48			
Directions		.98		
Reading/Conversation		.47		
Criticism/Correction		.33		
Repetition Basic			.80	.36
Repetition with Expansion			.62	
Questions Simple What			.37	
Questions Open Ended				.51
Questions Simple Yes/No				.46
Imitative Direction				
Labeling				.45

Clarification Techniques

Feedback Techniques

Teaching Techniques

Evocative Techniques

Note: Factor loadings < .3 are suppressed

Tipton, L. A., Blacher, J., & Eisenhower, A. (in press).

Shared Book Reading: The Parent's Role

Hierarchical linear regressions predicting Parent Techniques during Shared Literacy Task

Block	**Clarification**	***B***	***SE B***	***β***	**R^2**	***Block***	**Feedback**	***B***	***SE B***	***β***	**R^2**
1	Parent's Education	.18	.08	.22*	.05	***1***	Child IQ	-.02	.01	-.29**	.08
2	Parent's Education	.19	.08	.24*	.10	***2***	Child IQ	-.01	.01	-.24	.08
	CCC-2 Social Int.	.02	.01	.22*			CASL: Prag. Judg.	-.01	.01	-.08	

*Note: *p<05, **p<.01*

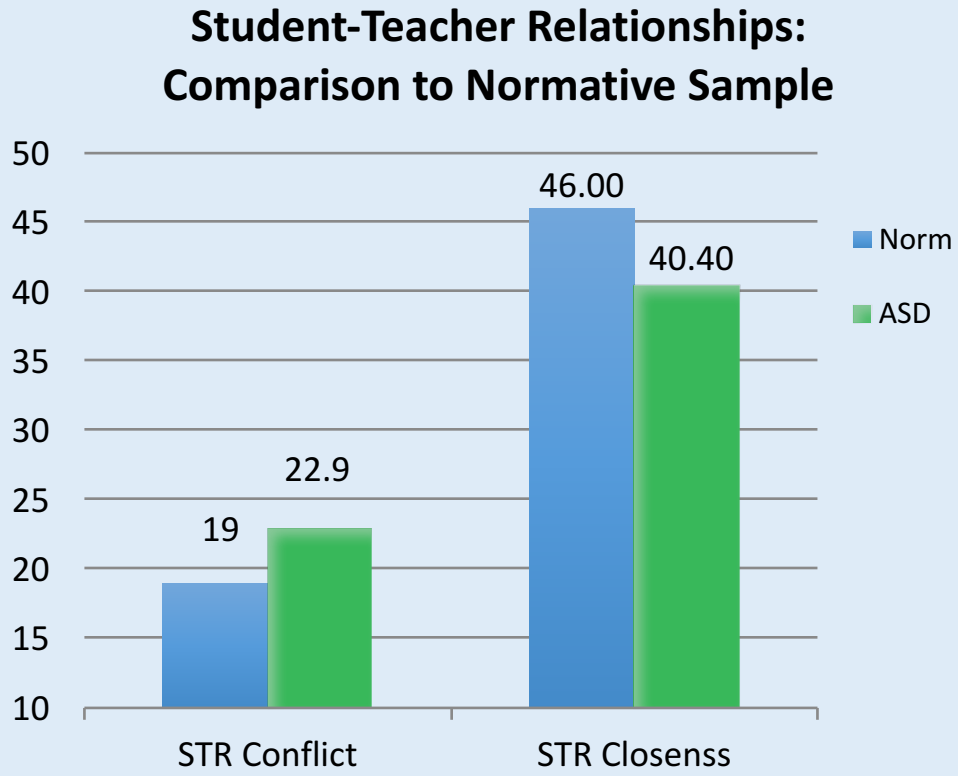
Tipton, L. A., Blacher, J., & Eisenhower, A. (in press).

- **What do we know about risk or protective factors for student-teacher-relationships?**

Student–Teacher Relationships for Young Children with ASD: Risk and Protective Factors

Table 2. Descriptive statistics of STRS scores at Time 1 and Time 2

STRS Scores	*Mean (SD)*	*Percentile*
Time 1 (*n*=146)		
Conflict	22.9 (8.0)	62
Closeness	40.4 (7.5)	25
Dependency	10.1 (3.3)	50
Total	109.5 (12.8)	34
Time 2 (*n*=137)		
Conflict	22.7 (8.3)	62
Closeness	40.3 (8.1)	25
Dependency	10.1 (3.6)	50
Total	108.6 (14.4)	32



*Norm represents values at the 50th percentile of the normative sample.

Caplan, B., Feldman, M., Eisenhower, A. & Blacher J. (in press).

Student–Teacher Relationships for Young Children with ASD: Risk and Protective Factors

Table 6. Risk and Protective Factors Predicting Change in STR Quality Over One Year (*N*=162)

	Conflict			Closeness		
	β	*B*	SE (*B*)	*β*	*B*	SE (*B*)
Model 1: Risk Factors						
Time 1 STR (Conflict/Closeness)	.51***	.53***	.09	.51***	.54***	.08
ADHD	-.16	-.14	.07	.08	.08	.40
ODD	.31**	.34**	.10	-.04	-.04	.72
Anxiety	.11	.11	.07	-.05	-.05	.55
ADOS Total Score	.13*	.22*	.10	-.16	-.25	.13
Model 2: Protective Factors						
Time 1 STR (Conflict/Closeness)	.64***	.67***	.07	.44***	.47***	.09
Social Skills	-.05	-.06	.05	.22*	.11*	.05
IQ	-.11	-.03	.04	.20*	.10*	.05
Spoken Language	.00	.00	.03	-.10	-.04	.03
Teacher experience (years)	.01	.01	.06	-.08	-.07	.07
Teacher degree[a]	.13*	2.36*	1.16	.06	1.08	1.26

*p<.05, **p<.01, ***p<.001. *β* = Standardized Beta. *B* = Unstandardized Beta.

Caplan, B., Feldman, M., Eisenhower, A. & Blacher J. (in press).

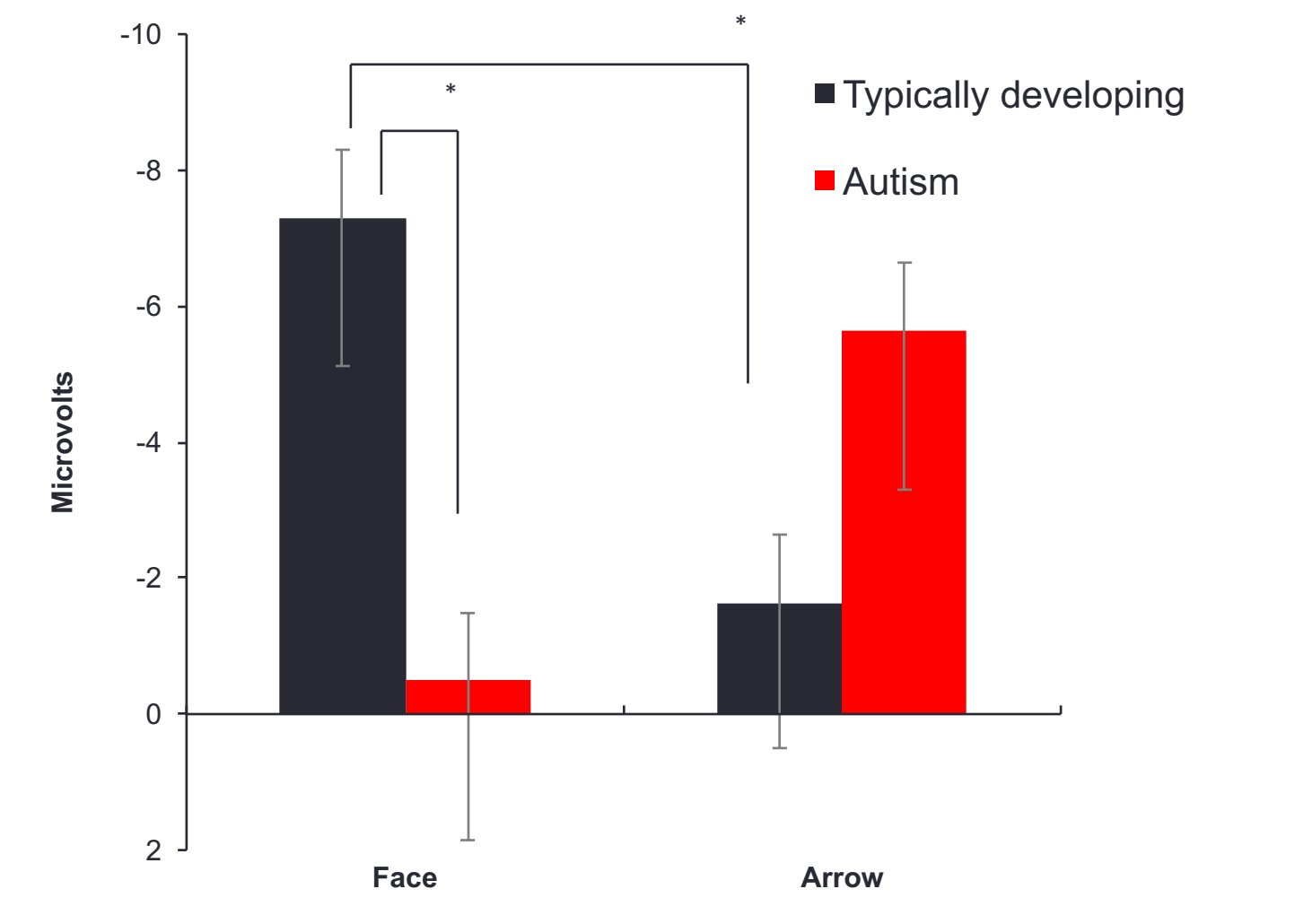
- **Switching gears: What do we know about potential ”biomarkers” for ASD?**

Exploring the reward system in children with ASD

Group	WASI (Full Scale)	Age	Gender
ASD (n = 20)	107.35 (SE = 3.54)	8.28 (SE = .23)	19 Male 1 Female
TD (n = 23)	111.60 (SE = 3.30)	7.47 (SE = .21)	22 Male 1 Female

Stavropoulos & Carver, 2014 *Journal of Child Psychology and Psychiatry*

Evidence from Electrophysiology: Reward system differences in ASD



TD vs. ASD difference for face stimuli, $p = .036$

Faces vs. Arrows difference for TD group $p = .048$

Stavropoulos & Carver, 2014
Journal of Child Psychology and Psychiatry

- **Bringing it all together: combining neuroscience and special education research to improve outcomes**

Predicting behavioral outcomes using neuroscience

- Predicting quality of STR based on neuroscience measures of social motivation

- Predicting who will benefit from behavioral interventions (e.g. PEERS) based on neuroscience profiles of anxiety and social motivation

Smooth Sailing Study:
Successful Transition in the Early School Years for Children with Autism

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Funded by

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