

Heterogenous

in autism have

previous

longitudinal

studies.

Correlates and Turning Points of Adaptive Functioning Trajectories & Longitudinal Associations with Autism Symptoms from Early Childhood to Adolescence

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Background

VABS Trajectory Studies Szatmari 2015* (VABS-2 composite)—3 subgroups Quadratic Meyer 2018 (VABS-1 composite or Vineland Social Maturity Scale [1953]) Franchini 2018 (VABS-2 composite and four sub-domains) Linear adaptive outcomes been observed in Gentles et al. (2023). Trajectory research in children with an autism diagnosis: A scoping review. Autism

Evidence Gaps

Associated factors/ outcomes beyond baseline (e.g., autism symptoms)

Turning points of adaptive functioning trajectories to inform opportunities for change

Family characteristics as covariates of trajectories (e.g., SES, immigrant status)

Global vs. domain-level analysis Domain-level sources of variance were often ignored

Data waves vs. chronological ages as time metrics Between-person age differences and thin-person change were conflated

Research Questions

- What is the **best-fitting shape** of the latent trajectories of VABS subdomains? Are there **turning points** at certain ages?
- How many **VABS trajectory subgroups** can be identified? Is the subgroup membership associated with **child and family** characteristics?
- Do these VABS trajectory subgroups differ by **the changes of autism symptoms** from early to late childhood?

Methods

Participants

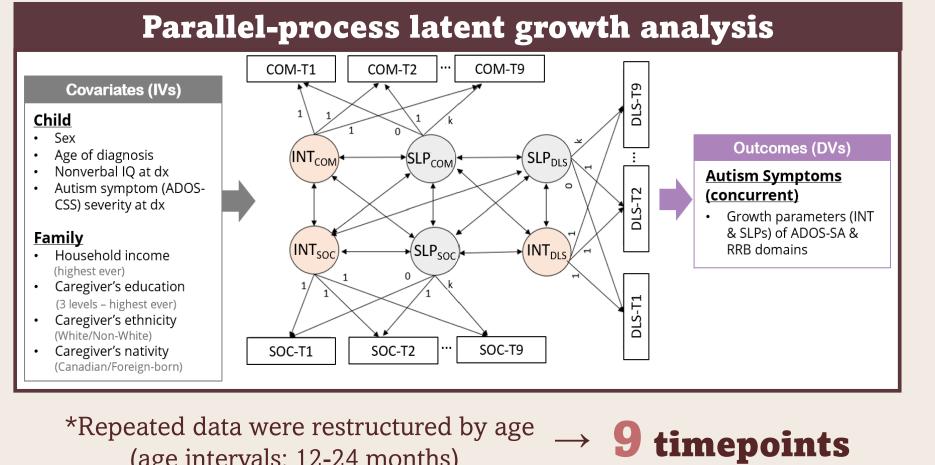


pathways

406 children diagnosed with autism at ages 2-5

 ≥ 15 years of follow-up (2005-current)

Analysis



(age intervals: 12-24 months)

Latent growth curve modeling Determine best-fitting functional form (linear, quadric, or piecewise) (VABS, ADOS) Latent class growth analysis Identify trajectory subgroups

Key Findings

4 VABS trajectory subgroups with varying level and change rate of functioning were parsed among 406 autistic children from ages 2 to 15.



Class 1 (n=87, 21%)

- Overall low functioning Early decline + late
- catch-up after entering school age
- Lower NVIQ at dx More elevated autism symptom at dx
- Lower family SES

Class 2 (n=113, 28%)

- Between low and adequate range
- Overall stable trajectories & autism symptoms until age Family SES similar to

Class 4 Class 3 (n=140, 35%) (n=66, 16%)

- Near adequate functioning Early improvement across domains Later diagnosed
- Autism symptom at dx & family SES didn't differ from C4

VABS change patterns



"Doing Well"

When

Above adequate

outcomes in

adolescence

(*1/3 IQ<70)

More adaptive socia

Higher NVIQ at dx

Higher family SES

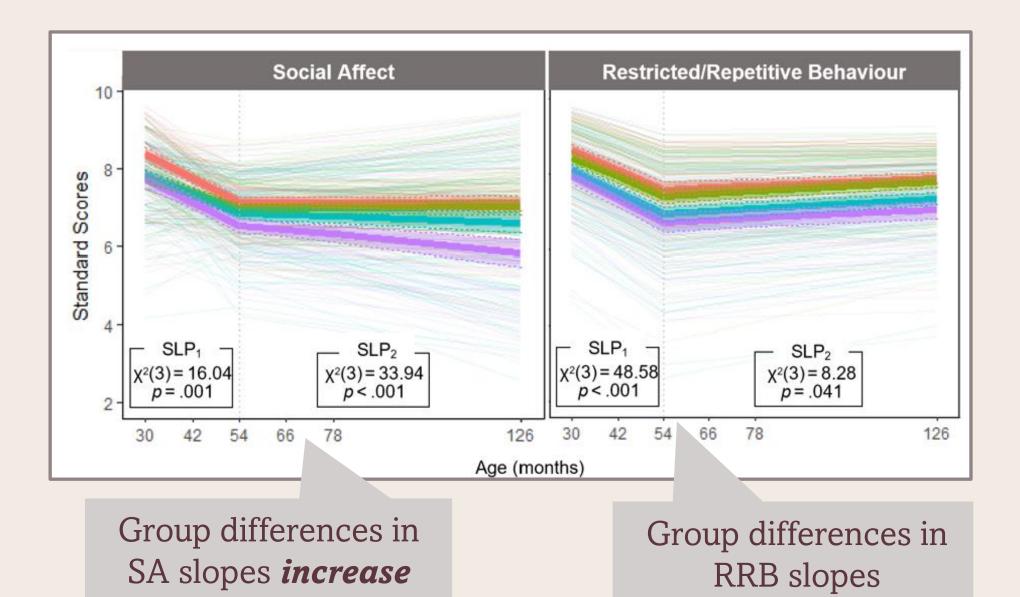
2 turning points at ages 6 and 10 (Transitions into school age and youthhood).

IQ at diagnosis & household income are key correlates of VABS trajectories.

Covariates	C1	C2	C 3	C4	Multinomial Logistic Regression
	(n=87)	(n=113)	(n=140)	(n=66)	
		Child Cl	haracteristic	s at Diagno	osis
Male	75 (86%)	92 (81%)	120 (86%)	55 (83%)	No sig. group difference
Age of	36.01	37.96	39.89	38.92	C4>C2, C3>C4
diagnosis (m)	(8.69)	(7.84)	(9.20)	(8.67)	
NVIQ	34.85	52.36	65.49	82.54	C2>C1, C3>C1, C4>C1, C3>C2
(Merrill-Palmer-R cog.)	(15.20)	(16.84)	(20.65)	(25.78)	C4>C2, C4>C3
ADOS-total	8.49	7.30	7.38	7.21	C1>C2, C1>C3, C1>C4
CSS	(1.51)	(1.67)	(1.67)	(1.70)	
		Fa	mily Charac	teristics	
Household	8.45	8.56	9.44	10.49	C3>C1, C4>C1, C3>C2, C4>C2,
Income	(2.72)	(2.78)	(2.41)	(1.27)	C4>C3
Caregiver's	30	42	75	38	C3>C1, C4>C1, C3>C2 , C4>C2
Education	(34%)	(37%)	(54%)	(58%)	
(Bachelor's Degree+)					
White	51	68	111	51	C3>C1, C3>C2, C4>C2
	(59%)	(60%)	(79%)	(77%)	
Immigrant	30	39	27	12	C3>C1, C4>C1, C3>C2, C4>C2
	(34%)	(35%)	(19%)	(18%)	

Bolded beta coefficient values represent significant effects (p < .05) in the adjusted model

Differential associations with ADOS were observed across time.



Intervention targets may vary across developmental stages for better supporting autistic children's functioning.

decrease over time

Measures & Timeline

Outcome 10 waves of data collection VABS-II ADOS Study Sequential Design **Domain-level Standardized Scores** 7.5-8 8-9.5 9.5-10 10-12 2-5 2.5- 3-6 5.5 X (12-17)

Implications

(SOC=)



~16% of our autistic participants showed good social adaptive outcomes by adolescence.

~21% were in the low-functioning range and more likely from a low-SES family.

Support for **early** access to services Entering school age is associated with additional challenge or opportunities for improvement.

Person-Environment Fit?

over time

Later childhood to adolescence was associated with overall **declines** in adaptive functioning *despite* stable or decreasing social symptoms.

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