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## Background

- Though intended as a diagnostic tool, the ADOS is increasingly used as an outcome measure.
- Gotham et al. (2009) developed a severity metric\* for longitudinal cross-module comparisons of symptom severity over time.
- The severity metric has not been used to measure intervention outcomes.

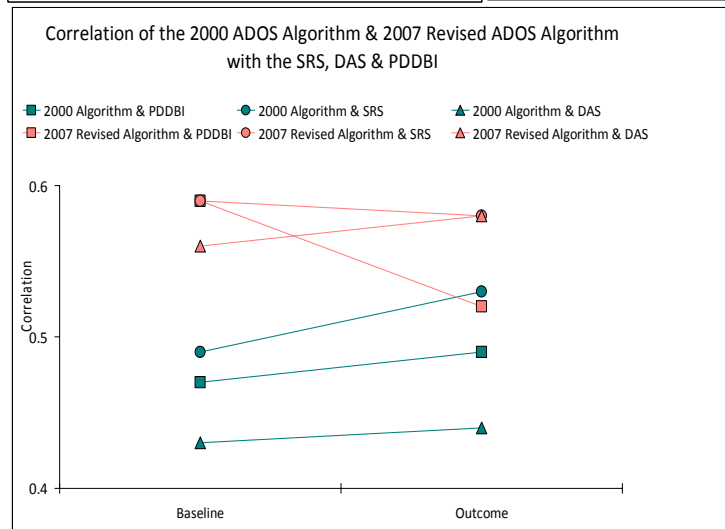
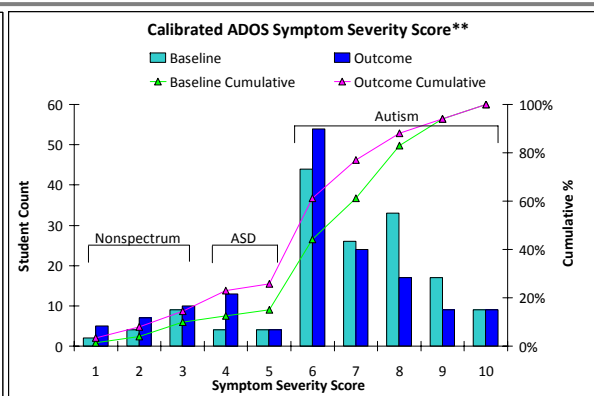
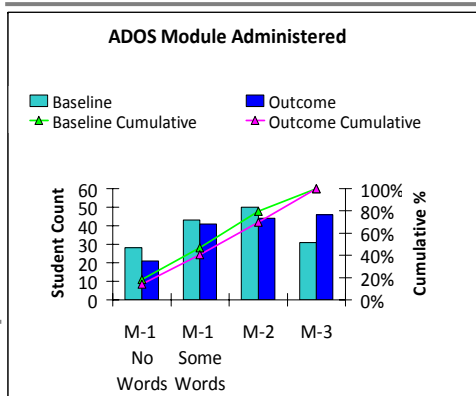
## Objectives

- To examine the utility of the ADOS severity metric as an outcome measure in a 9-month behavioral intervention study.
- To determine how scores on the 2000 ADOS algorithm\*\*\*\* and 2007 revised ADOS algorithm\*\*\* correlate with outcome measures.

## Methods

- 152 children were assessed as part of an intervention study in the School District of Philadelphia.
- Students were administered the ADOS and DAS at the beginning and end of the school year to measure changes over time in communication, socialization and cognitive functioning.
- Teachers completed the SRS and PDDBI at the beginning and end of the school year to measure social impairment and behaviors associated with autism.

## Results



Calibrated ADOS Symptom Severity Score (1-10)**	Baseline	Outcome	Significance
Module ↑ (n=25) 16.45%	M=6.41 SD=1.63	M=6.64 SD=1.89	p=0.32
Module ↔ (n=126) 82.89%	M=6.83 SD=2.03	M=5.95 SD=2.19	p=0.00059
2007 Revised ADOS Algorithm***			
Module ↑	M=15.24 SD=4.47	M=13.24 SD=4.6	p=0.063
Module ↔	M=16.04 SD=6.1	M=14.1 SD=6.19	p=0.0063
2000 ADOS Algorithm****			
Module ↑	M=13.08 SD=4.43	M=11.48 SD=4.44	p=0.1
Module ↔	M=13.62 SD=4.67	M=11.85 SD=4.77	p=0.0016
SRS Score			
Module ↑	M=76.87 SD=32.51	M=74.15 SD=29.02	p=0.39
Module ↔	M=94.1 SD=34.71	M=90.84 SD=36.97	p=0.26
DAS GCA Score			
Module ↑	M=69.32 SD=9.58	M=76.71 SD=10.27	p=0.0076
Module ↔	M=56.58 SD=19.68	M=65.14 SD=21.17	p=0.00093
PDDBI Score			
Module ↑	M=46.48 SD=9.77	M=44.23 SD=10.91	p=0.24
Module ↔	M=52.33 SD=13.32	M=50.79 SD=13.75	p=0.21

\***Severity Metric**= Maps the 2007 revised ADOS algorithm raw totals onto calibrated severity scores based on age & ADOS module  
 \*\***Calibrated ADOS Symptom Severity Score**= 1-10 score calculated using the severity metric  
 \*\*\***2007 Revised ADOS Algorithm**= Social Affect (Communication + Reciprocal Social Interaction) + Restricted & Repetitive Behaviors  
 \*\*\*\***2000 ADOS Algorithm**= Communication + Reciprocal Social Interaction

- Results indicate that the 2007 revised ADOS algorithm is more highly correlated with the DAS, SRS, and PDDBI than the 2000 ADOS algorithm.
- Including the Restricted & Repetitive Behaviors score in the raw total as the revised algorithm does, leads to higher correlation with outcome measures.
- 16.5% of the students moved up a module between baseline and outcome, which appears to inflate symptom severity scores.

## Discussion

- The severity metric appears promising as an outcome measure in a behavioral intervention study.
- The severity metric needs to be more sensitive to module change as a measure of symptom severity change over time.

❖  $p < 0.05$  for all correlations  
 ❖ DAS scores are reverse scored