

Does One Size Fit All? Reading Achievement Growth for Students With and Without Disabilities

Ann C. Schulte

Arizona State University

Joseph J. Stevens

University of Oregon

Presented at annual meeting of NCME, April 2015

Investigating Reading Gaps and Growth for SWD

- Reading achievement gaps for SWD are sizable and do not close across grades, but almost all studies are cross sectional—do the same findings hold for a longitudinal sample?
- NCLB treats SWD as a unitary subgroup, but specific disabilities are likely to have different reading trajectories—how different are the exceptionality groups in terms of intercept, growth, and gaps?

Study Design

- Vertically linked state achievement tests provide opportunity to examine achievement growth across grades for much larger samples of students than is available in most other studies, particularly for SWD
- Followed entire cohort in one state across grades 3-7, single edition of state reading test
- Exceptionality based on classification at grade 3
- Students who entered system after grade 3 not included in sample

Analytic Sample

- Original cohort 2003-2007, N = 101,885
- Exclusions (not mutually exclusive)
 - Off sequence cases, primarily retention (N = 5,533)
 - Missing data on demographic variables (N = 28) or exceptionality (N = 17)
 - Exceptionalities w/ N < 100 (Deaf-Blind, Multiple Disabilities, Traumatic Brain Injury, Visual Impairment, Total N=287)
 - Never participated in large scale assessment (N = 1,528)
- Final analytic sample N = 94,650, 81% of students had reading scores in all 5 grades
- N's for exceptionality groups ranged from 137 for hearing impairment to 5,078 for specific learning disability

Demographic Characteristics of Analytic Sample

	SWoD	SWD
% SWD	--	12.3
% Female	51.9	33.3
% Minority	41.1	40.6
% Free/Red Lunch	35.0	46.7
% Limited English Proficiency	4.9	3.5

North Carolina End of Grade (EOG) Reading Comprehension Test

- Based on NC Standard Course of Study in English/Language Arts
- Reading passages followed by multiple-choice items testing comprehension of passage content
- Administered annually, grades 3-8
- Developmental scale across grades

Two-level HLM (Time and Students)

Predictor	Intercept	Linear	Quadratic
Grand Mean	251.60 (.04)	4.98 (.03)	-.41 (.01)
Gifted-Rdg	7.27 (.07)	-.55 (.06)	.09 (.01)
Autism	-7.72 (.75)	.55† (.42)	-.07† (.10)
Intellectual disability	-15.43 (.23)	1.59 (.18)	-.30 (.05)
Emotional disturbance	-7.38 (.36)	1.00 (.23)	-.25 (.06)
Hearing impairment	-8.59 (.78)	.79† (.44)	-.16† (.11)
Other health impairment	-7.97 (.13)	.73 (.13)	-.15 (.03)
Specific learning disability	-8.86 (.12)	1.59 (.07)	-.27 (.02)
Speech-language impairment	-2.71 (.15)	.45 (.09)	-.07 (.02)

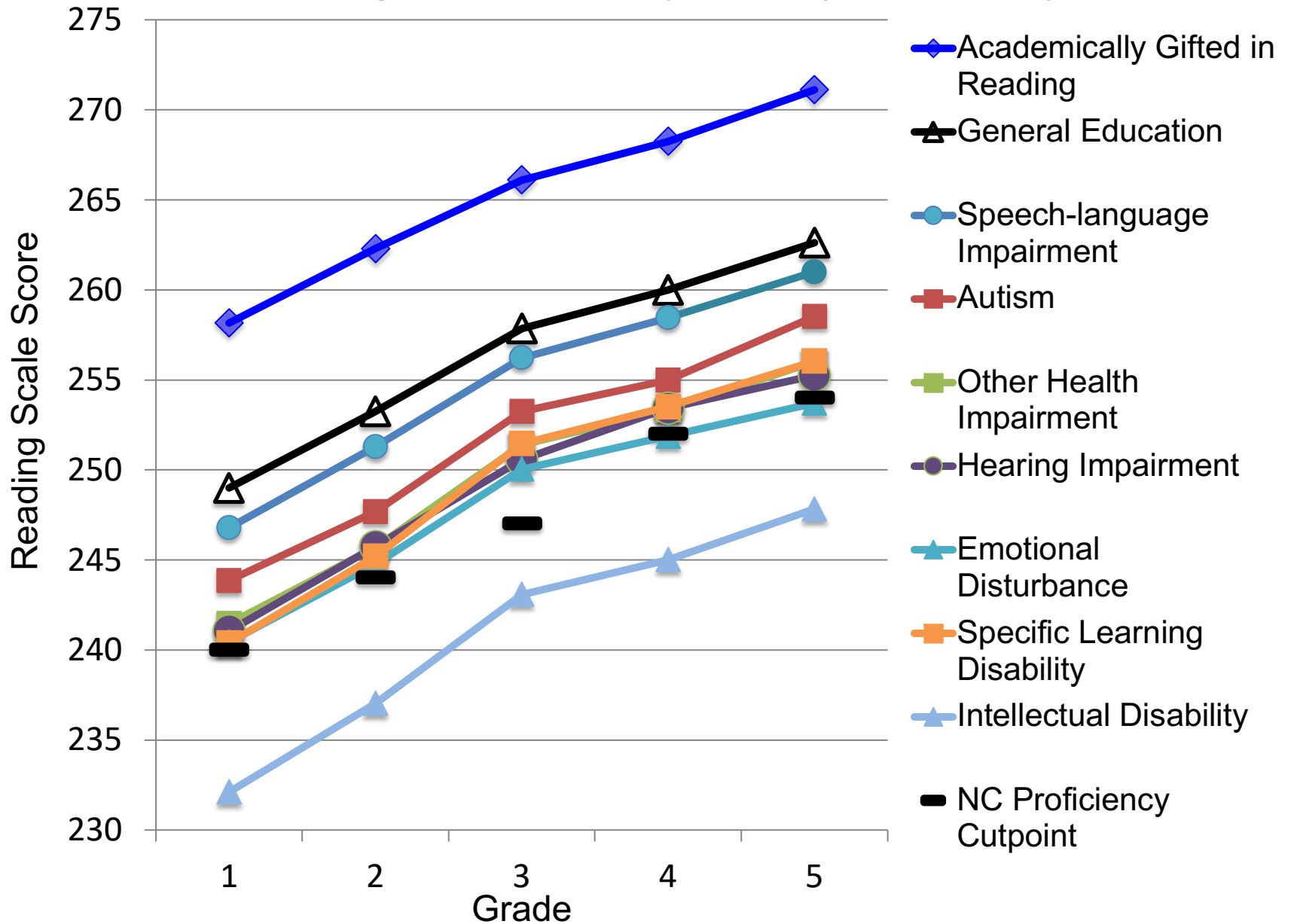
†Not significant, $p > .05$

Two-level HLM (con't.)

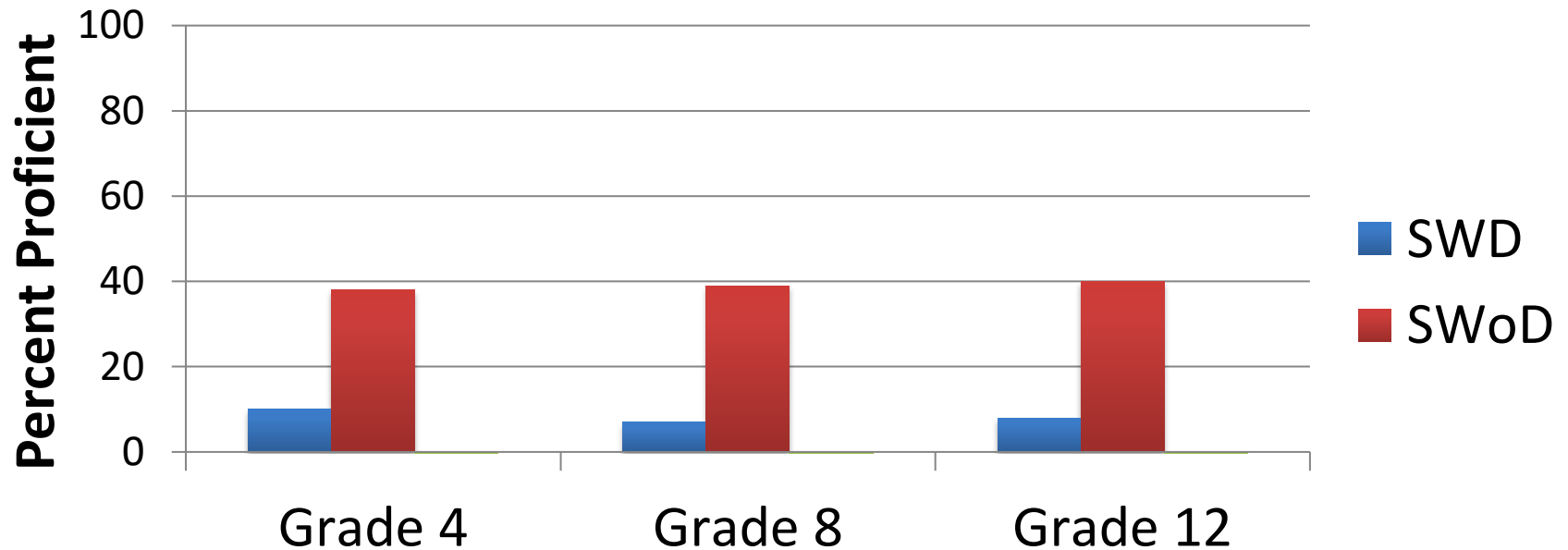
Predictor	Intercept	Linear	Quadratic
Sex	.84 (.05)	-.17 (.03)	.07 (.01)
Free/reduced lunch	-3.46 (.06)	.12 (.03)	-.05 (.01)
Limited English	-5.44 (.16)	.67 (.10)	-.05 (.02)
Asian	.27† (.17)	.21 (.10)	.05 (.02)
American Indian	-2.30 (.21)	-.68 (.14)	.13 (.03)
Black	-4.01 (.06)	.21 (.04)	-.05 (.01)
Hispanic	-1.44 (.13)	.40 (.08)	-.05 (.02)
Multiracial	-.89 (.16)	.19† (.10)	-.03† (.02)
Pseudo R ² (as %)	38.84	8.12	8.31

†Not significant, $p > .05$

Reading Growth by Exceptionality



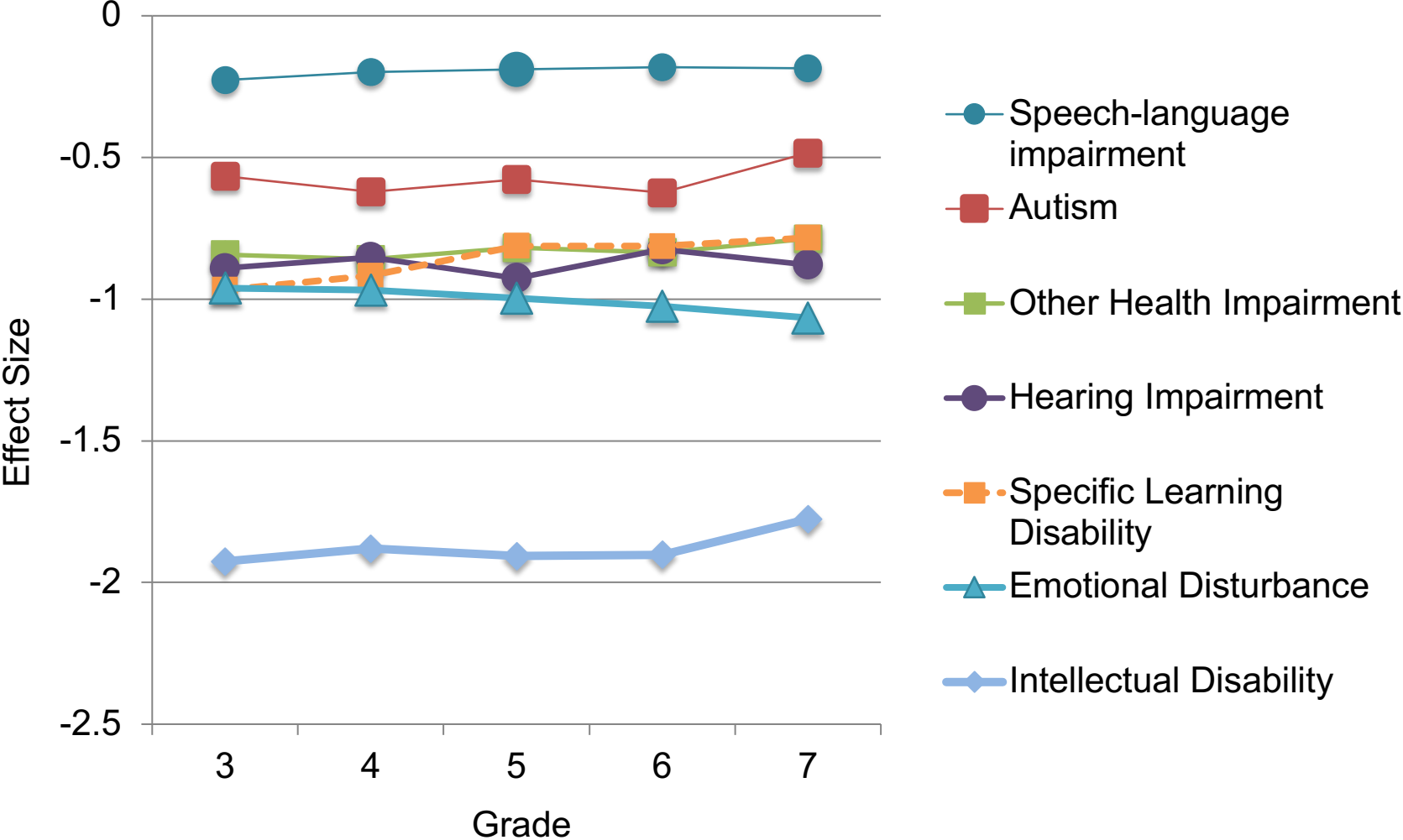
NAEP 2013 SWD Reading Achievement Gap-Two Metrics



SWD ES	-1.22	-1.26	-1.11
for Scale			
Scores			

*Where ES =
$$\frac{(\text{Mean SS for focal grp} - \text{Mean SS for comparison grp})}{\text{SD for all students}}$$

Achievement Gap ES by Grade



Limitations

- Students who consistently took alternate assessment were excluded
- Dynamics of disability classification across grades not represented with Wave 1 definition of exceptionality
- Very limited information about students' educational programs

Implications

- SWD subgroup is comprised of heterogeneous group of students, who vary greatly in reading achievement in grade 3
- Most exceptionality groups made greater growth than general education students, but growth was not sufficient to appreciably close gaps by grade 7
- “One size may fit all” for growth, but only if differing starting points for SWD are recognized. Growth-to-standard expectations require much greater growth for most SWD groups than is typically observed