



INTRODUCTION

- One of the most reliable indicators of developmental dyslexia is the early difficulties in the acquisition of word identification. This primarily stems from phonological processing deficits.
- Perfetti's Verbal Efficiency Theory states that developing readers are required to have high quality lexical representations for automatic word recognition.
- The lexical asymmetry hypothesis states that in children at-risk for or with dyslexia, weak phonological representations will lead to processing only partial information about words.
- These theories tell us that word-specific representations are added to the orthographic system without the corresponding development of sublexical orthographic-phonological representations that allow for the decoding of nonwords.
- Sublexical orthographic-phonological representation is synonymous with letter-sound correspondence.

HYPOTHESIS

- Differential nonword and word reading would develop in conjunction for children not at-risk for dyslexia.
- Nonword reading would not be the leading indicator of growth in word reading in children at-risk for dyslexia who have deficits in establishing sublexical orthographic-phonological representations.

METHOD

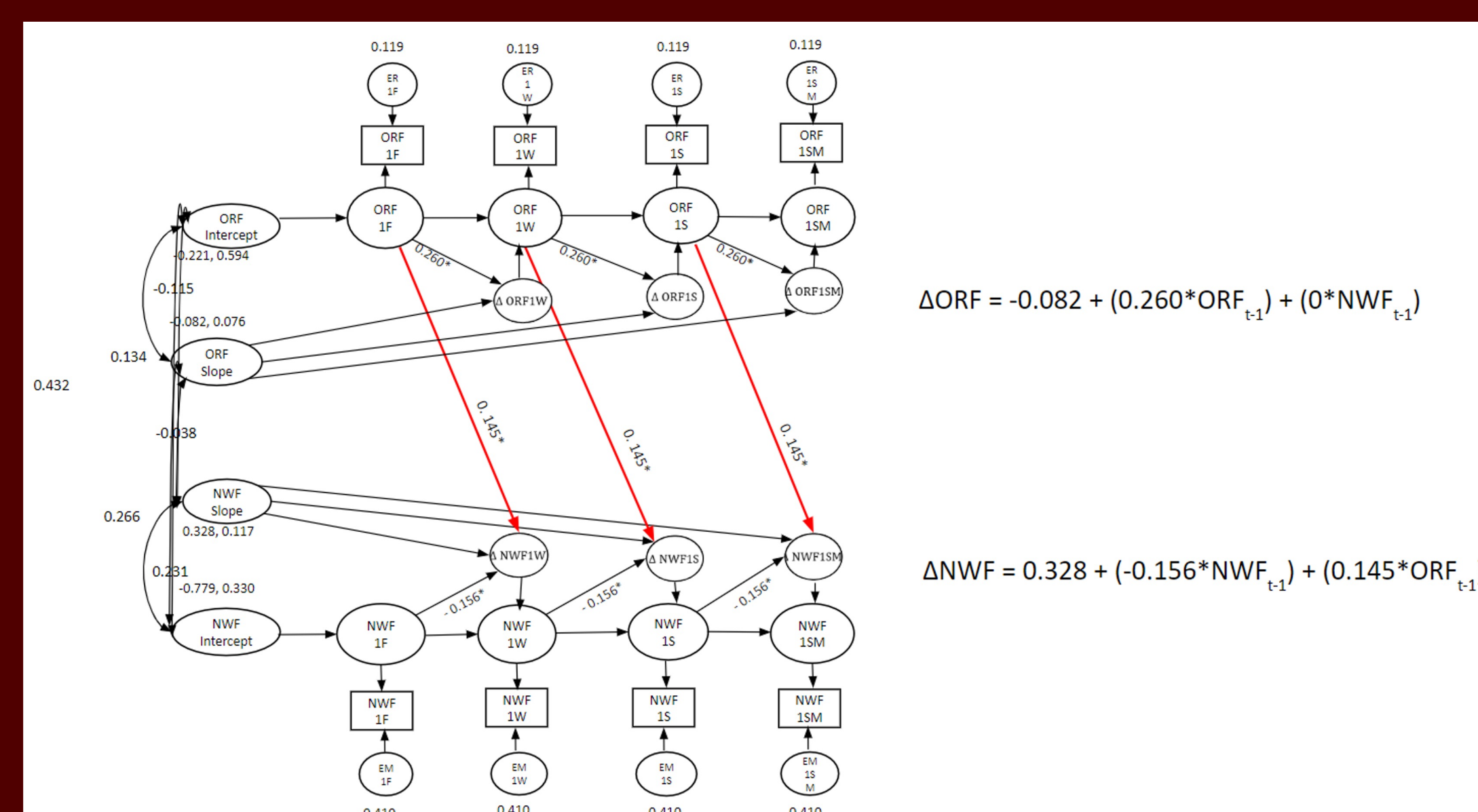
- 31,339 1st grade students from the Florida Reading First project.
- 48% female, 75% participated in the free and reduced lunch program, 60% were from minoritized racial/ethnic groups.
- Two samples - Readers who are at-risk for dyslexia and not at-risk for dyslexia.
- At-risk for dyslexia – operationalized as unexpected underachievement on phoneme segmentation fluency relative to the SAT-10. An arbitrary cutpoint of -2SD below the mean was used.
- DIBELS Nonsense Word Fluency (NWF) and Oral Reading Fluency (ORF) administered four times

RESULTS

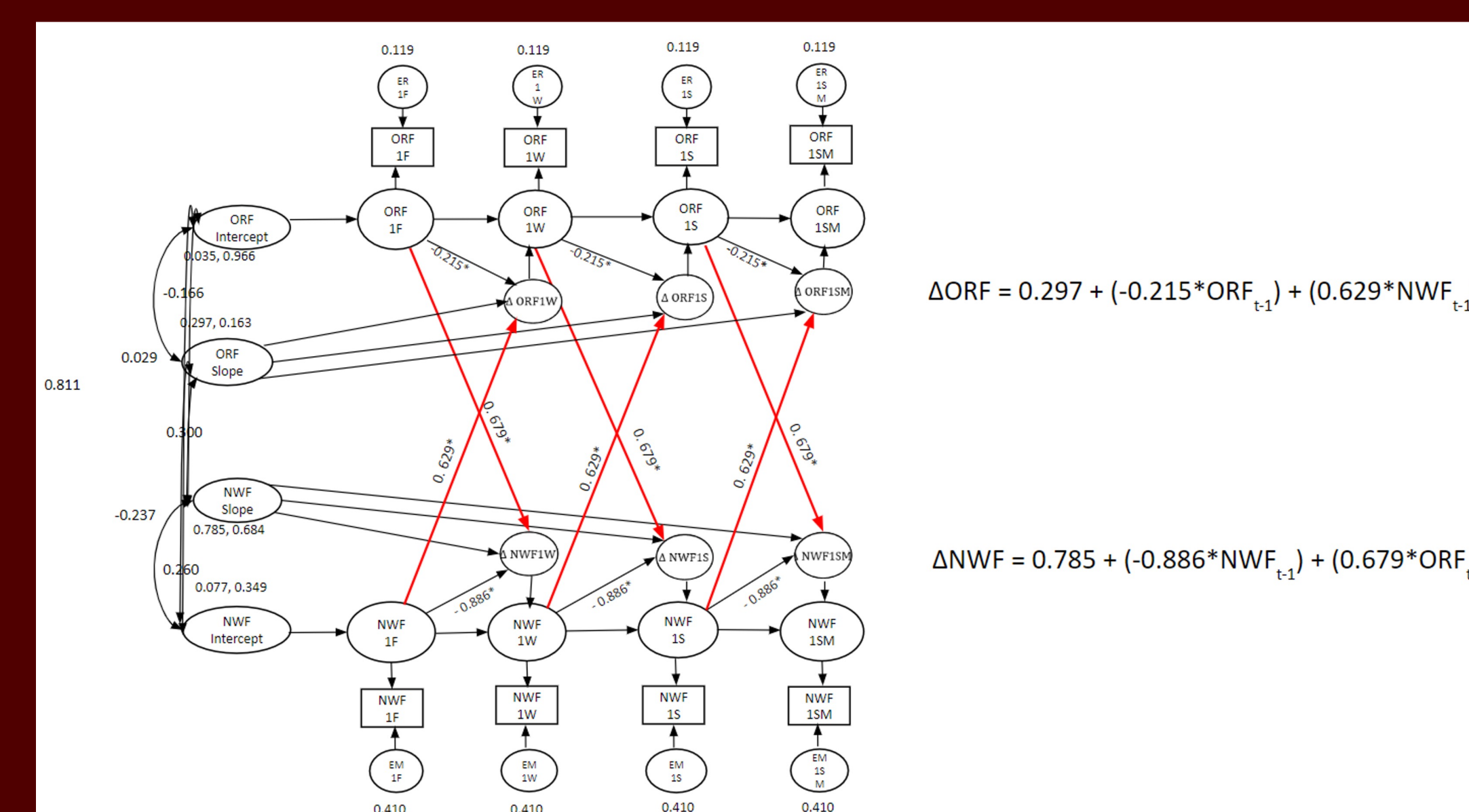
Descriptive Statistics

Variable	Not At-Risk for Dyslexia			At-Risk for Dyslexia		
	n	M	SD	n	M	SD
ORF Grade 1 Fall	27120	0.03	1.01	990	-0.34	0.79
ORF Grade 1 Winter	27124	0.39	1.19	992	-0.11	1.02
ORF Grade 1 Spring	26978	1.13	1.47	968	0.38	1.33
ORF Grade 1 Summer	27059	1.95	1.70	987	0.96	1.73
NWF Grade 1 Fall	27123	0.05	0.99	990	-0.78	0.77
NWF Grade 1 Winter	27126	0.81	1.12	992	-0.31	1.04
NWF Grade 1 Spring	27978	1.14	1.29	968	0.06	1.21
NWF Grade 1 Summer	27060	1.64	1.49	987	0.42	1.34

At-Risk for Dyslexia



Not at-risk for Dyslexia



A bivariate bidirectional latent change score model had the best fit..

DISCUSSION

- There were direct, instrumental relations between nonword and word decoding for children not at-risk for dyslexia.
- Results indicated that the growth in sublexical orthographic-phonological representation did not happen for children at-risk for dyslexia.
- Children at-risk for dyslexia fail to generalize word decoding to reading novel nonwords and vice versa.
- Sublexical orthographic-phonological representations are needed in order for them to store high quality representations in their orthographic lexical system.

Limitations

- The variation in sampling procedure used to form groups of students who are at-risk and not at-risk for dyslexia can lead to sample-specific results that limit generalization and replication across studies
- No information about the curriculum, classroom or district level differences in instructional and intervention practices.
- We did not control for possible influences from a high proportion of participants receiving free and reduced lunch.

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