



Dyslexia, Language, and Learning to Read

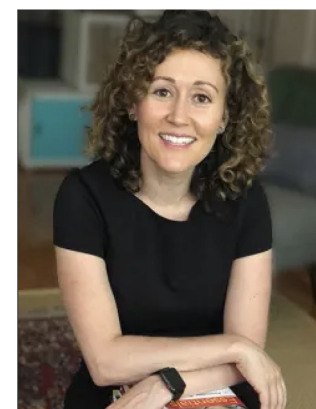
Dr. Maggie Snowling
Wednesday, October 2, 2024



The mission of AIM is to:

- *Provide* extraordinary educational opportunities to children with language-based learning disabilities such as dyslexia, dysgraphia, and dyscalculia, utilizing research-based intervention strategies and an arts-based learning environment that is college preparatory in scope and sequence.
- *Develop* a center for educational excellence and professional development to disseminate best practices to educators by providing access to the latest research-based curriculum technology, and training.





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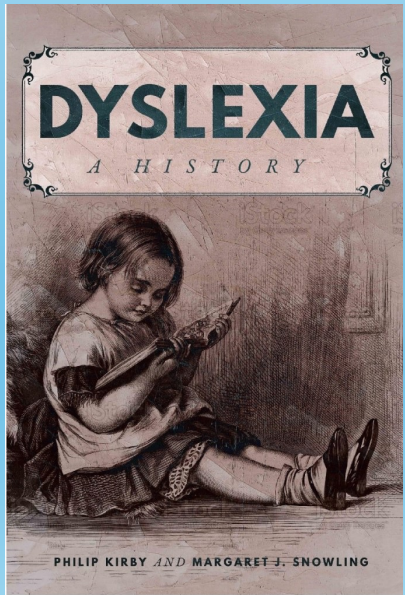
Today's Expert



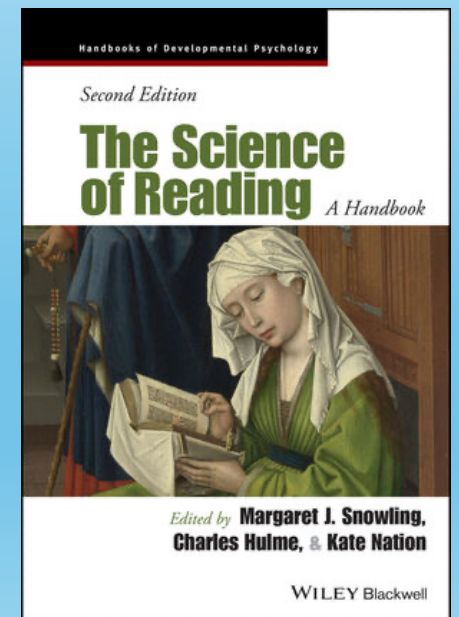
Maggie Snowling



Dyslexia, Language & Learning to Read



Maggie Snowling
University of Oxford



What is dyslexia?



Primary
School

- Poor reading and spelling

Secondary
Education

- Disengagement from school
- Poor educational achievement

Adulthood

- Limited job opportunities
- Low levels of adult productivity and well-being

Dyslexia is Debated



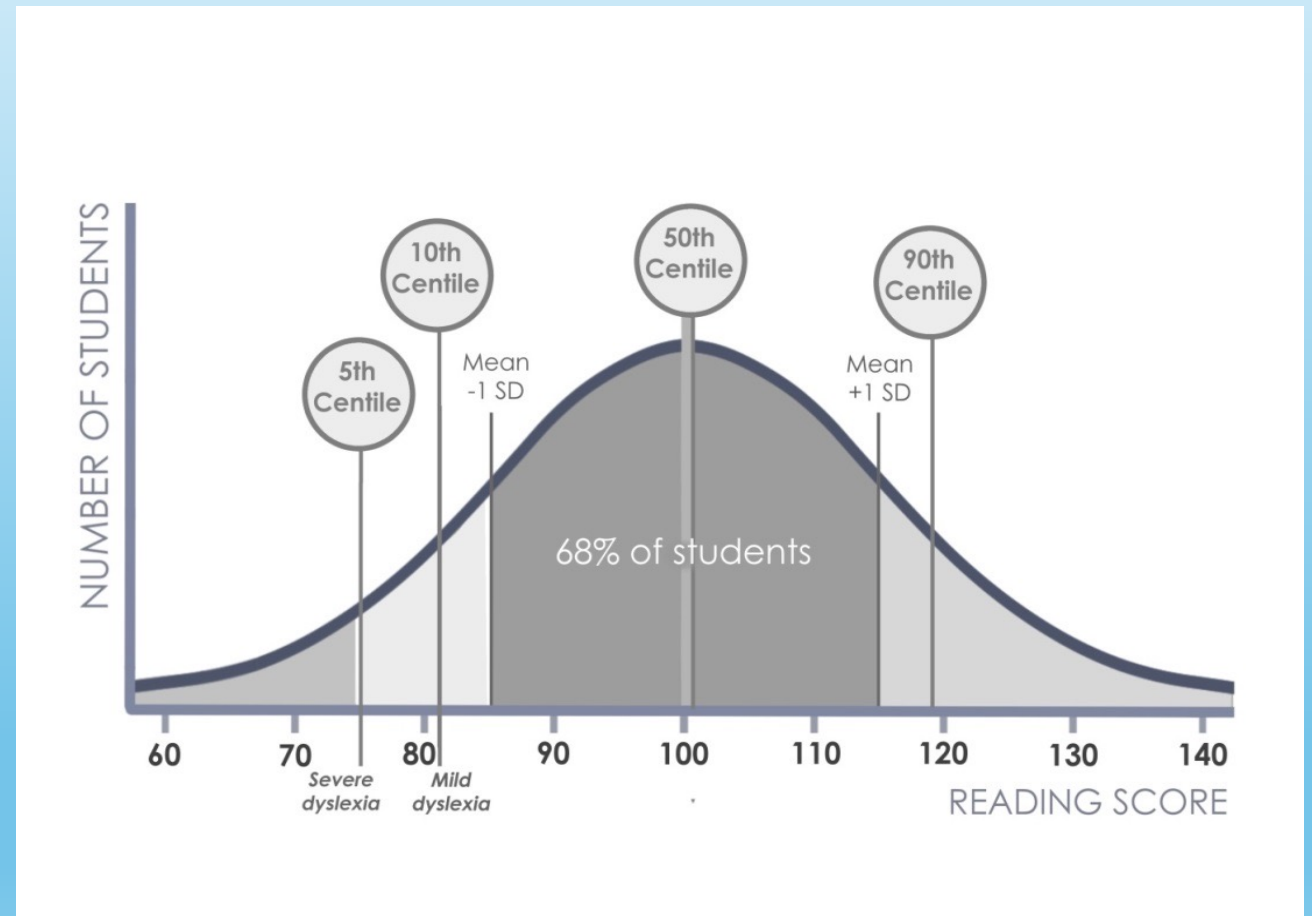
The History of Dyslexia

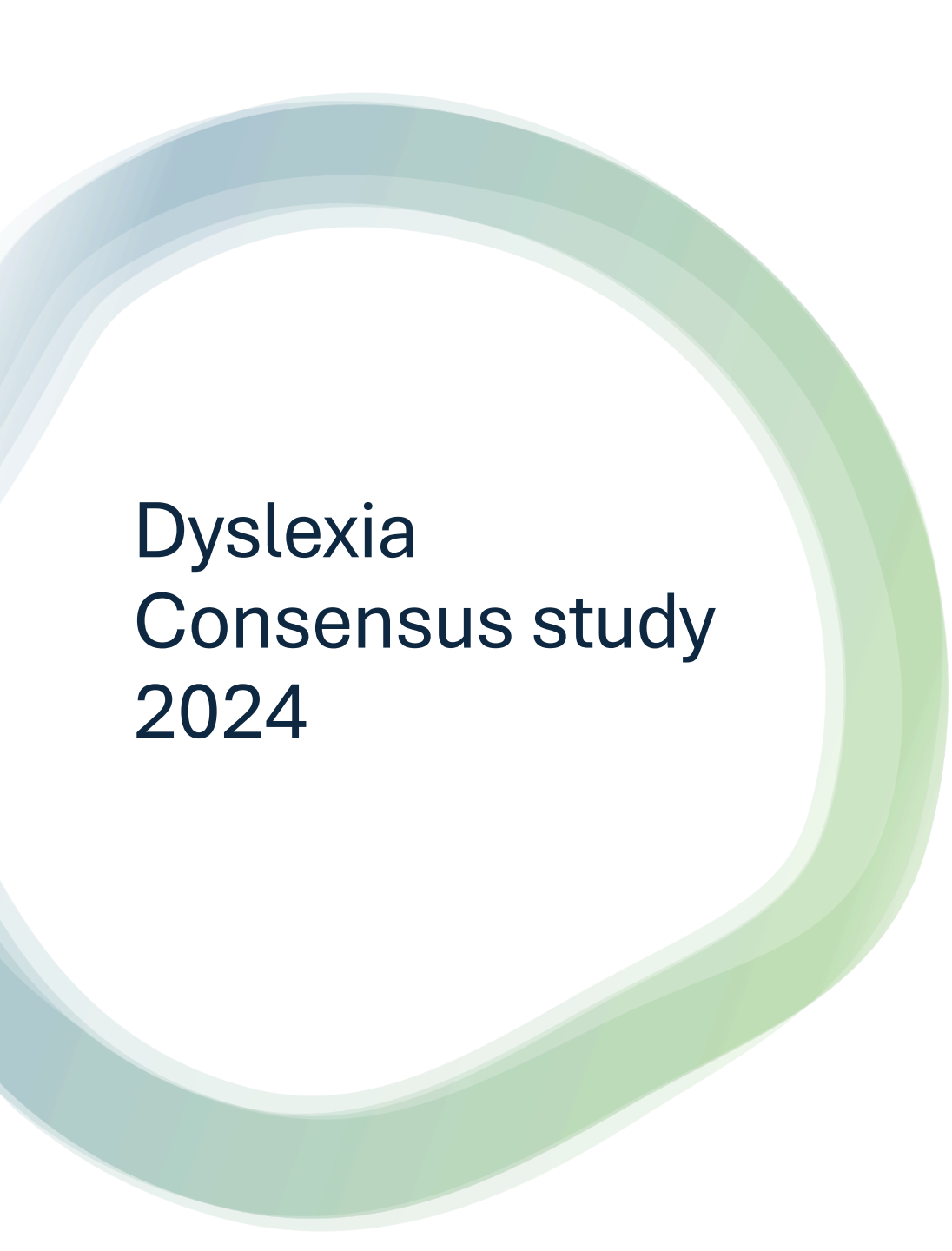
Home What is Dyslexia? UK Dyslexia Archive Timeline



Welcome

Welcome to *The History of Dyslexia*, a project tracing the origins of dyslexia in the late 19th century, to its present widespread and hard to diagnose, and the pioneers and researchers of dyslexia who got us where we are today.





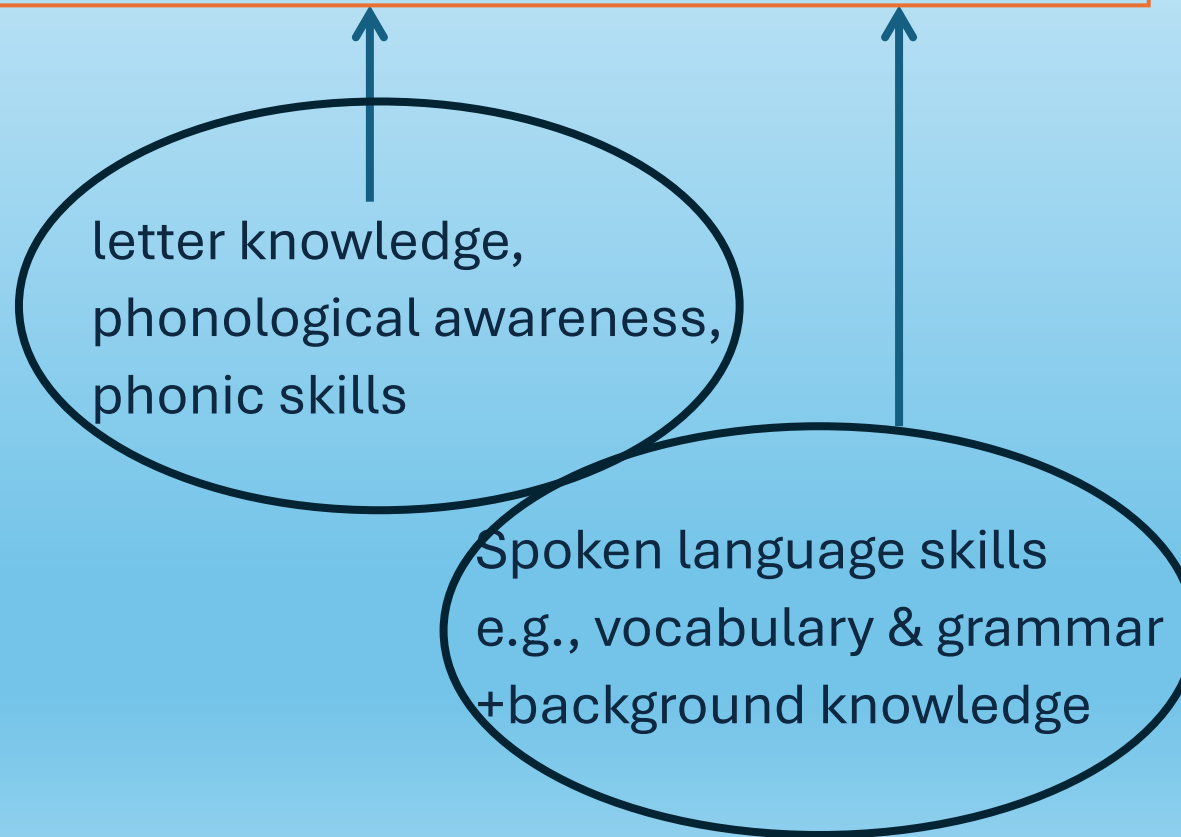
Dyslexia Consensus study 2024

- The Nature of Dyslexia
 - Dyslexia is primarily **a set of processing difficulties that affect aspects of literacy attainment**, despite the educational opportunity to learn to read and spell.
 - **Persistent and sometimes severe** difficulties in word and non-word decoding (reading accuracy) are typically observed in children with dyslexia.
 - **Secondary consequences** of dyslexia may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge.
 - Dyslexia **frequently co-occurs** with one or more other developmental difficulties, including developmental language disorder, ADHD, developmental coordination disorder, and dyscalculia.

Simple View of Reading

(Gough & Tunmer 1986)

reading comprehension = decoding × language comprehension



Simple View of Reading

(Gough & Tunmer 1986)

reading comprehension = decoding × language comprehension

letter knowledge,
phonological awareness,
phonic skills

Spoken language skills
e.g., vocabulary & grammar
+ background knowledge



Specific reading disability (dyslexia): what have we learned in the past four decades?

Frank R. Vellutino,¹ Jack M. Fletcher,² Margaret J. Snowling,³
and Donna M. Scanlon¹

¹The University at Albany, USA; ²The University of Texas Health Science Center at Houston, USA;

³The University of York, UK

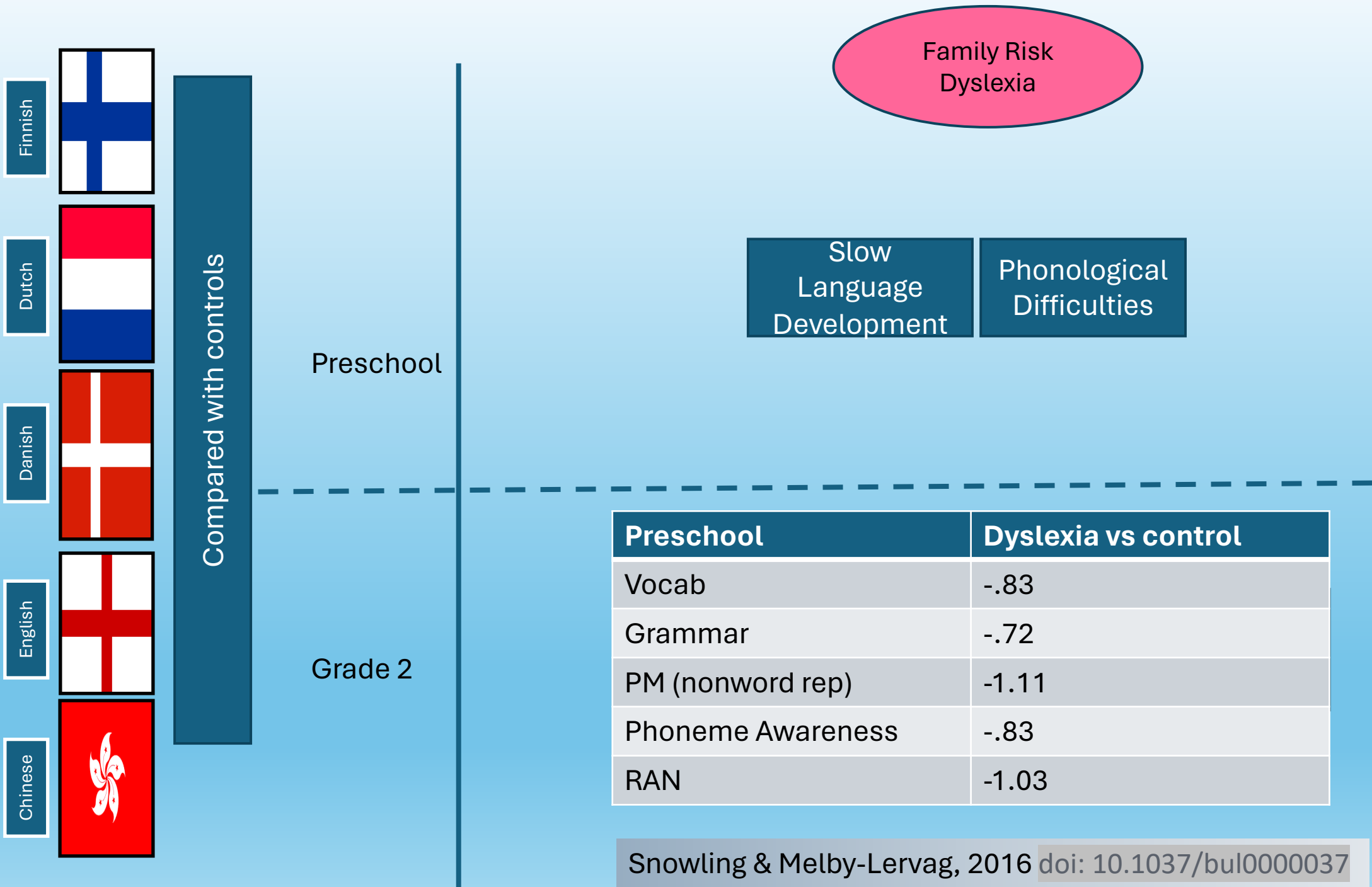
We summarize some of the most important findings from research evaluating the hypothesized causes of specific reading disability ('dyslexia') over the past four decades. After outlining components of reading ability, we discuss manifest causes of reading difficulties in terms of deficiencies in

Familial Dyslexia



If a parent has dyslexia, there is ~ 45% chance their child will also be dyslexic.

Dyslexia runs in families.



Wellcome Reading and Language Study



- Family Risk of Dyslexia
- Pre-school DLD
- Children at low-risk of RD

- Relationship between reading and language

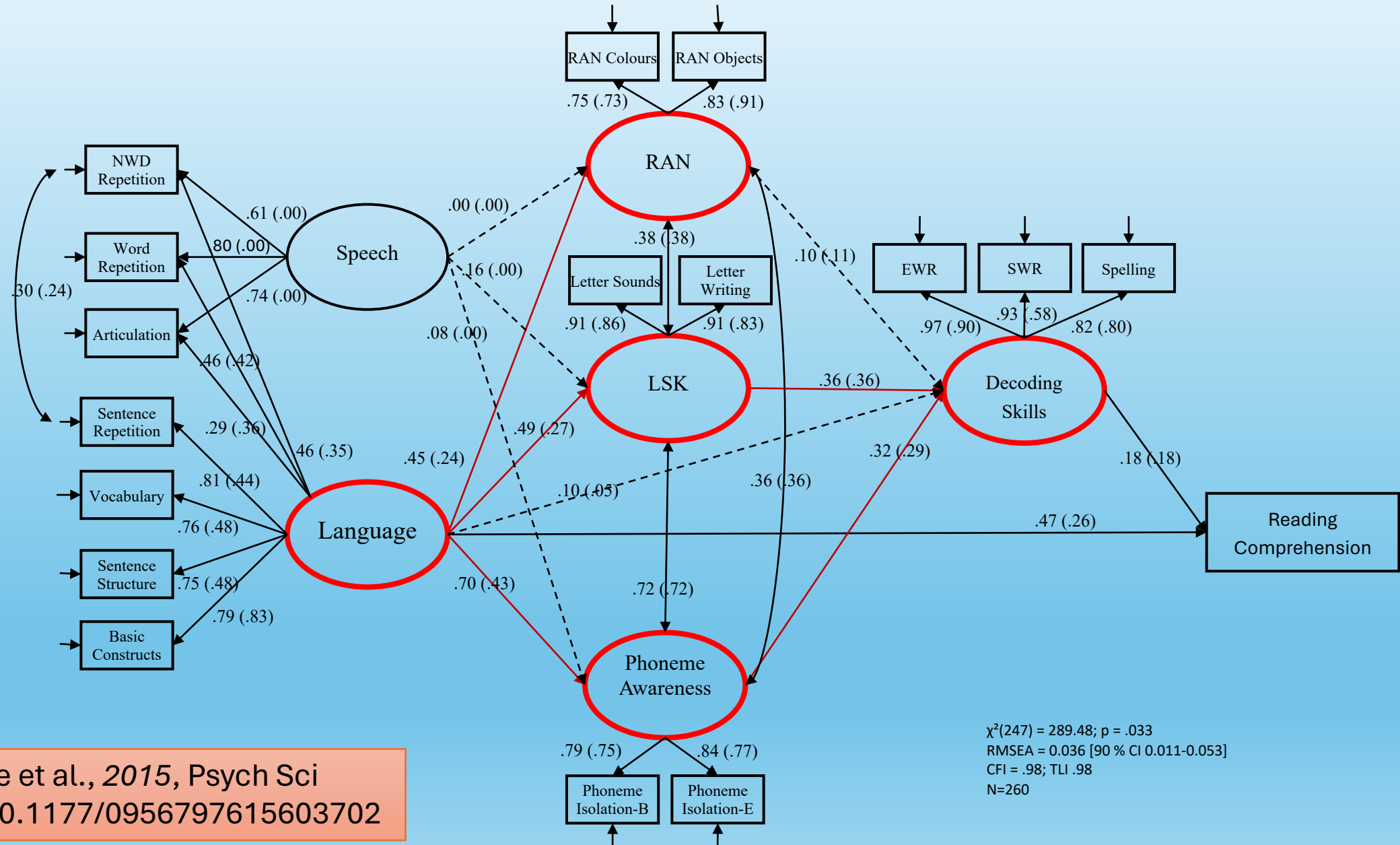


Age 3½

Age 4½

Age 5½

Age 8



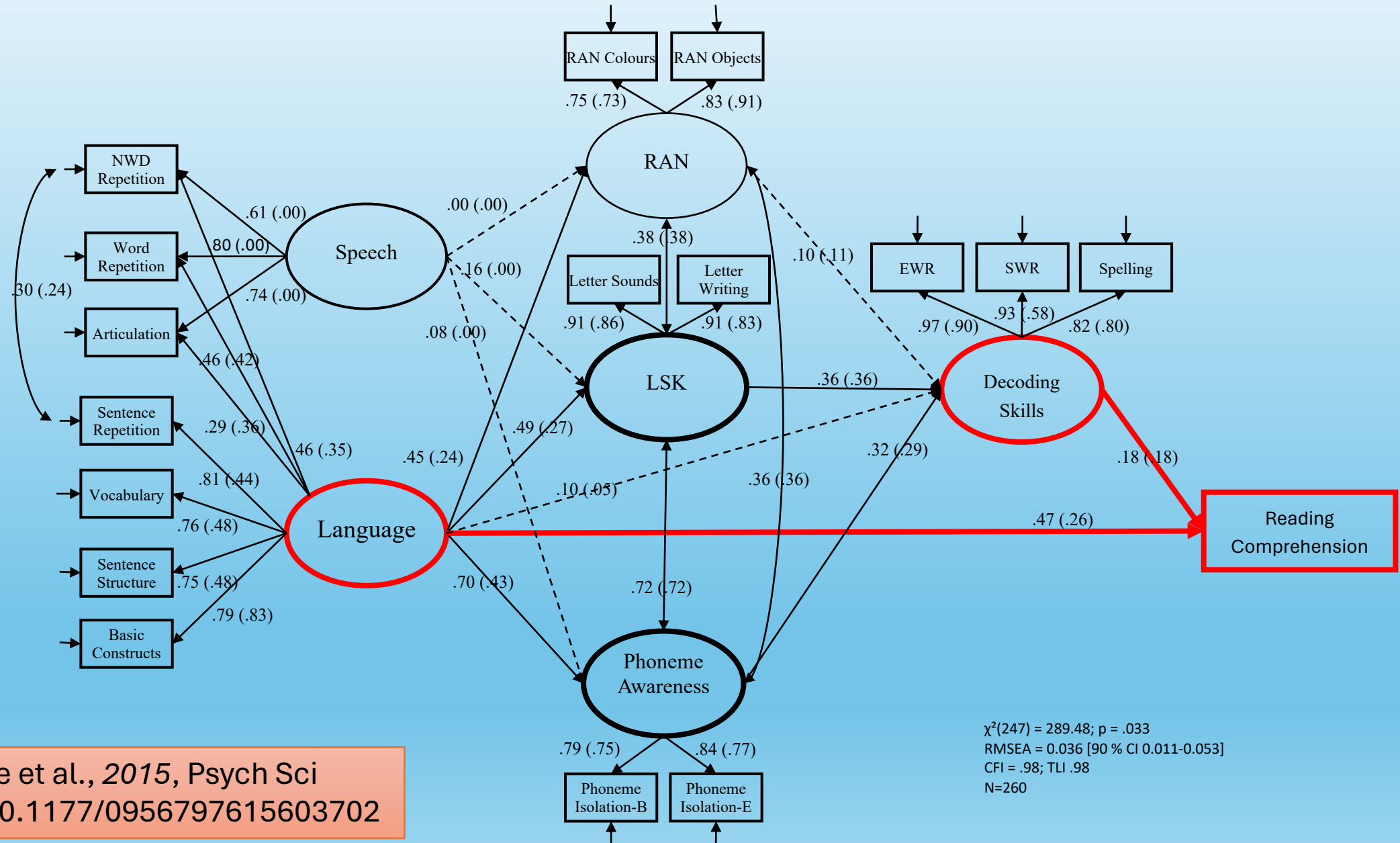
Hulme et al., 2015, Psych Sci
Doi: 10.1177/0956797615603702

Age 3½

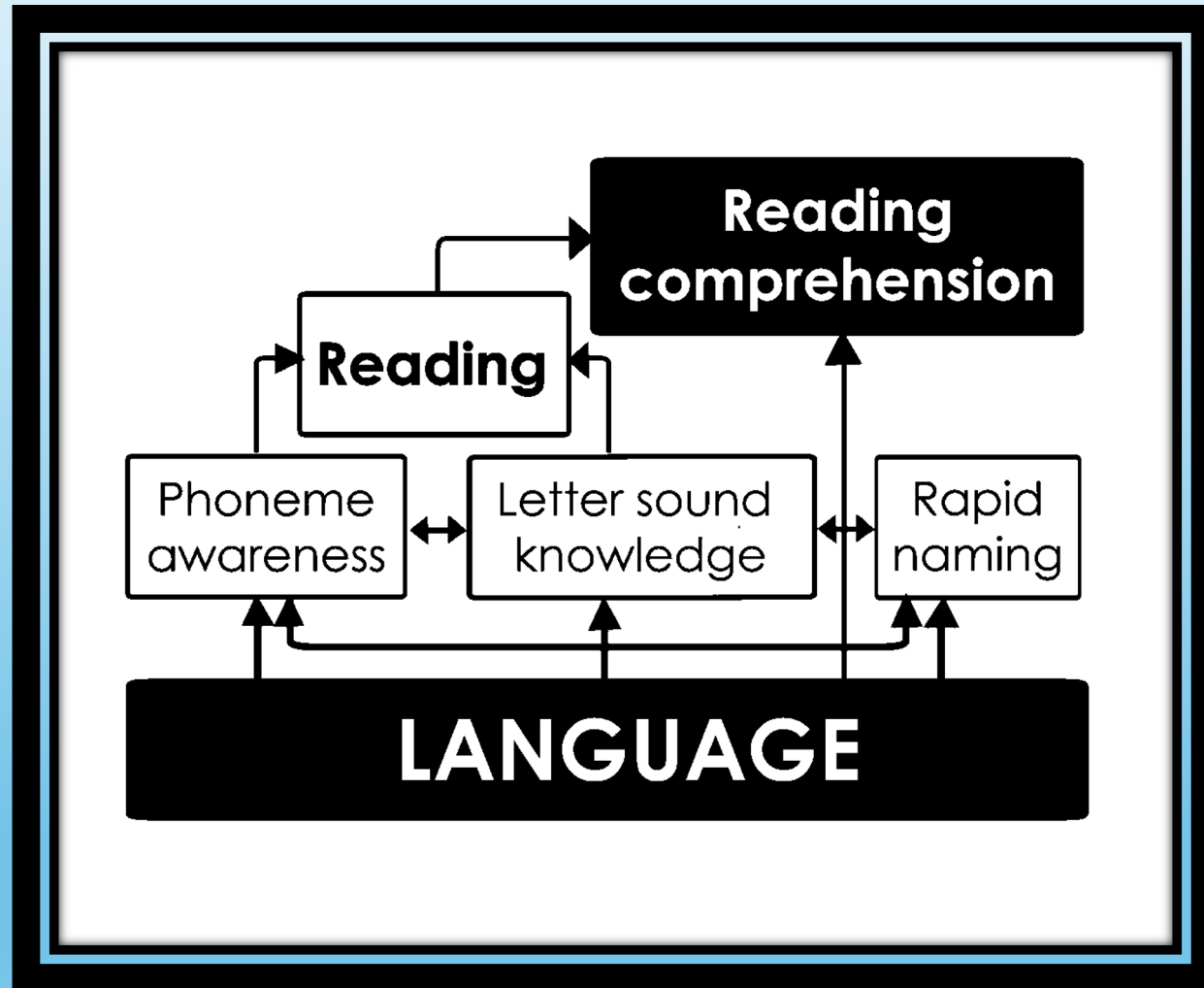
Age 4½

Age 5½

Age 8

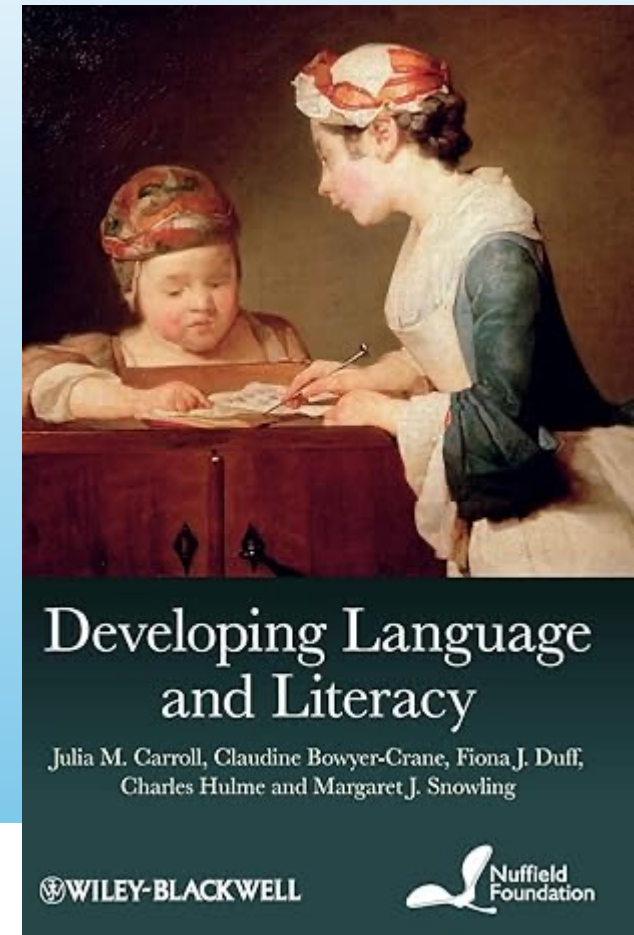


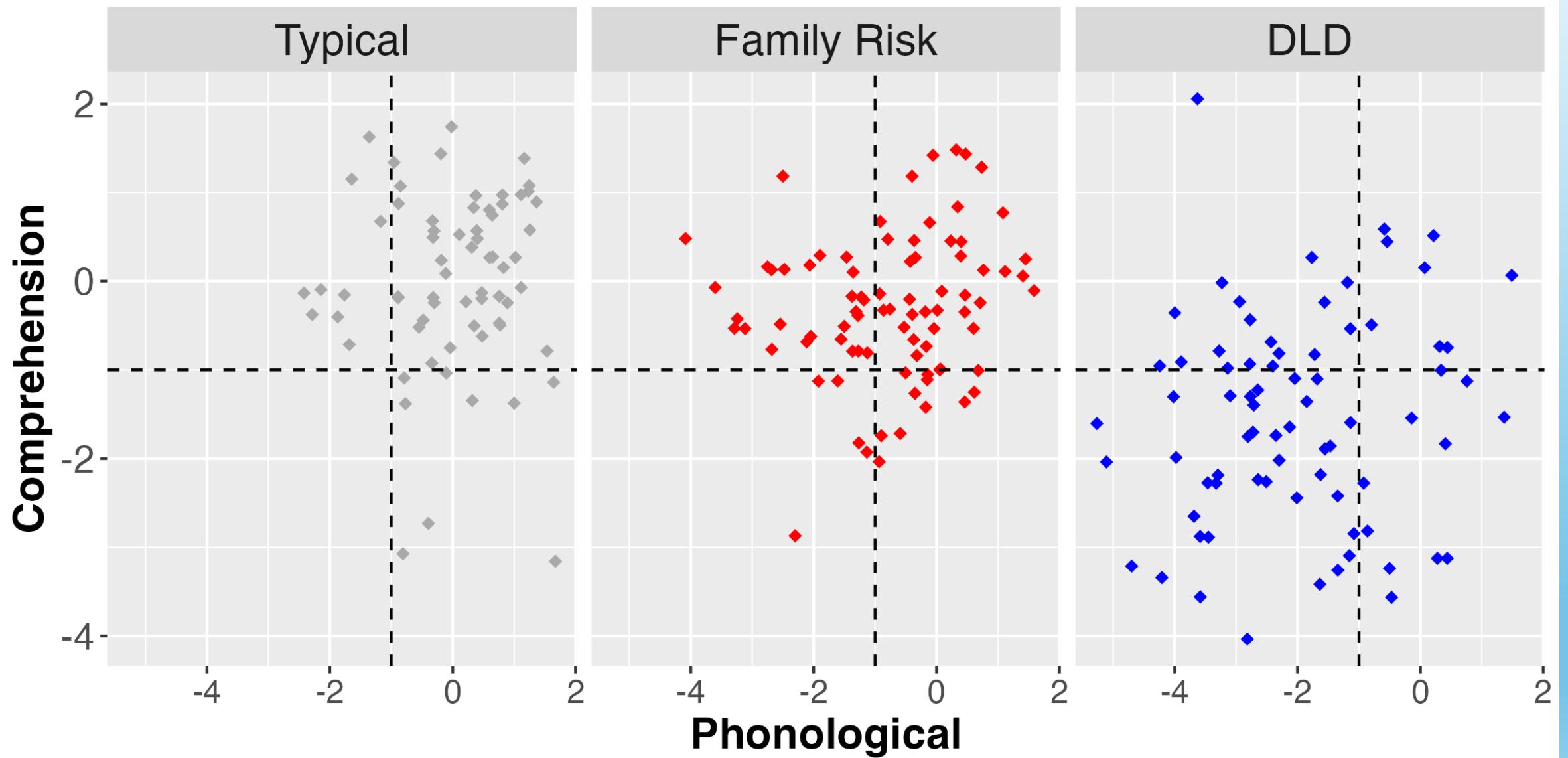
Hulme et al., 2015, Psych Sci
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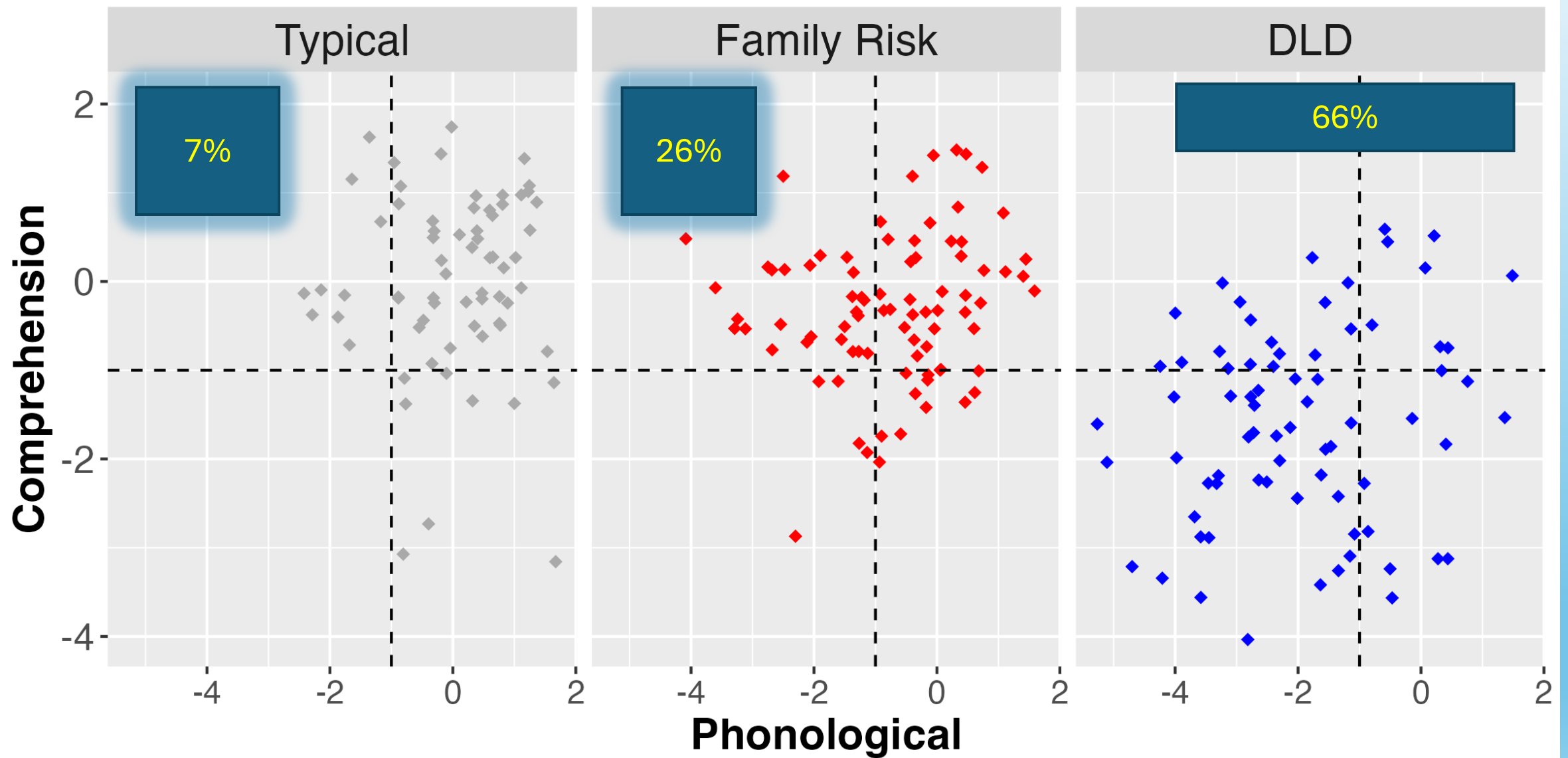


Language as a risk factor

Age 3-4 years







Predicting Individual Risk of Dyslexia

RISK FACTOR 1

Family-Risk

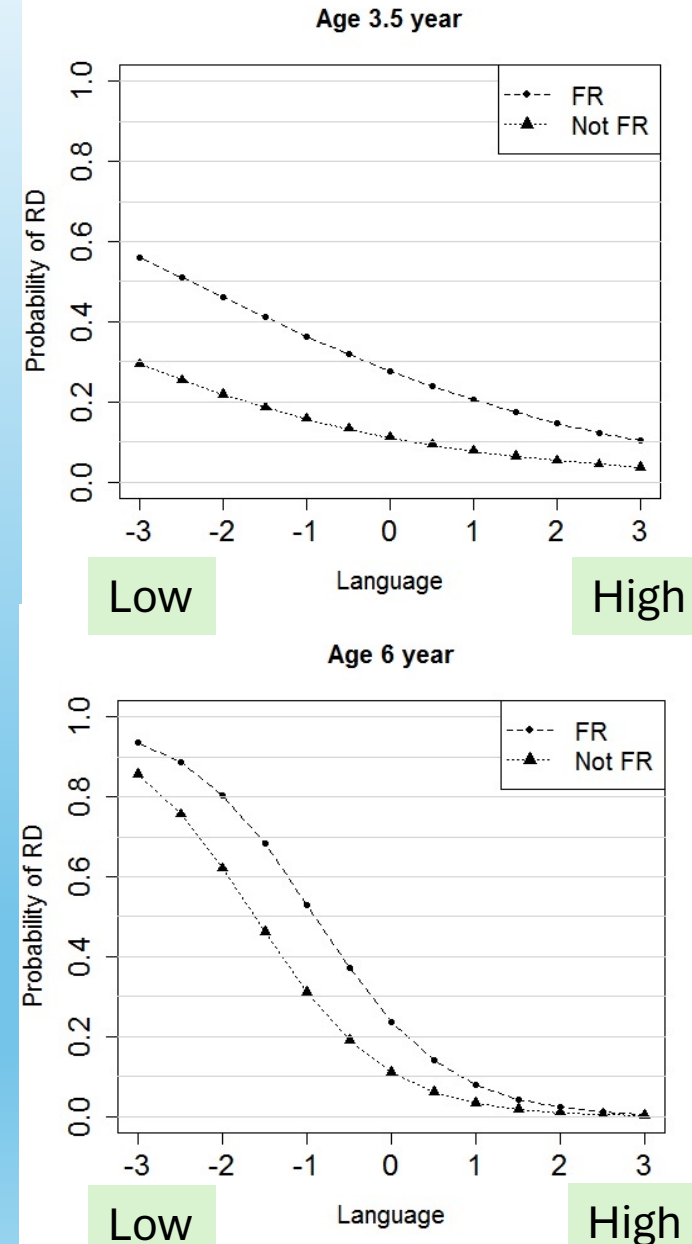
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RISK FACTOR 2

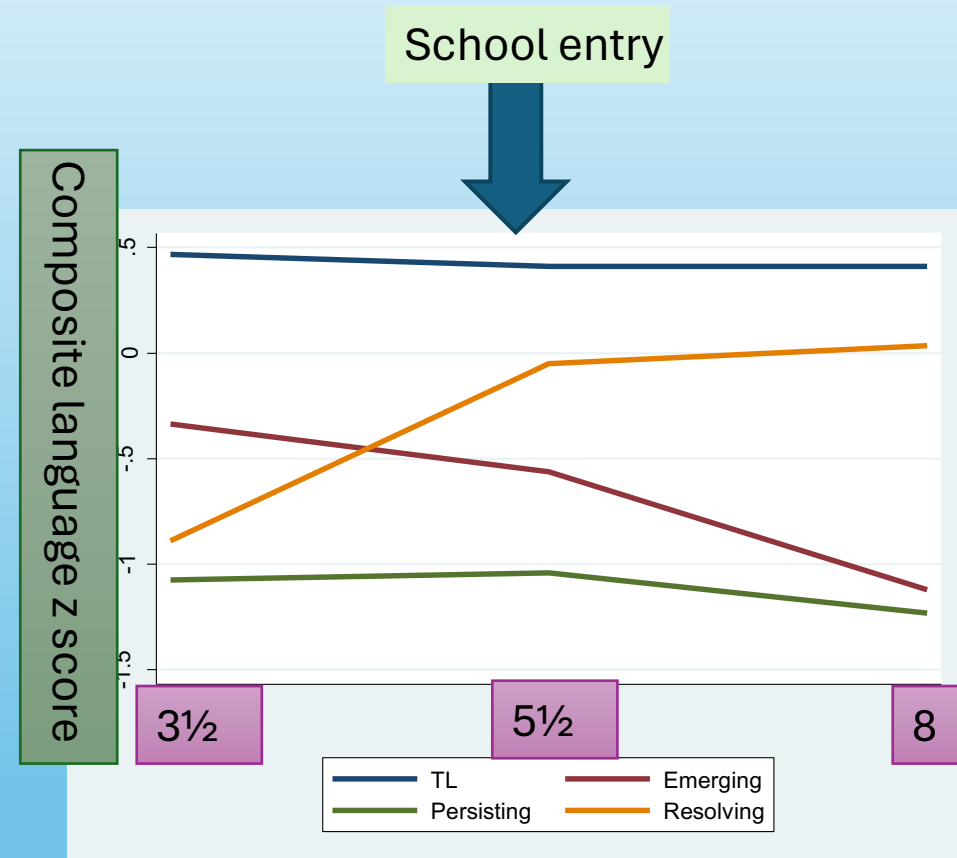
Language

P [Dyslexia]



Developmental Trajectories of Oral Language

- Ages 3½; 5½; 8 years
- Four trajectories:
 - Resolving DLD
 - Persisting DLD
 - Emerging DLD



Snowling, Duff, Nash & Hulme, 2016

<https://pubmed.ncbi.nlm.nih.gov/26681150/>

Neurodevelopmental Disorders

Common (7% child population)

Highly heritable; Dimensional

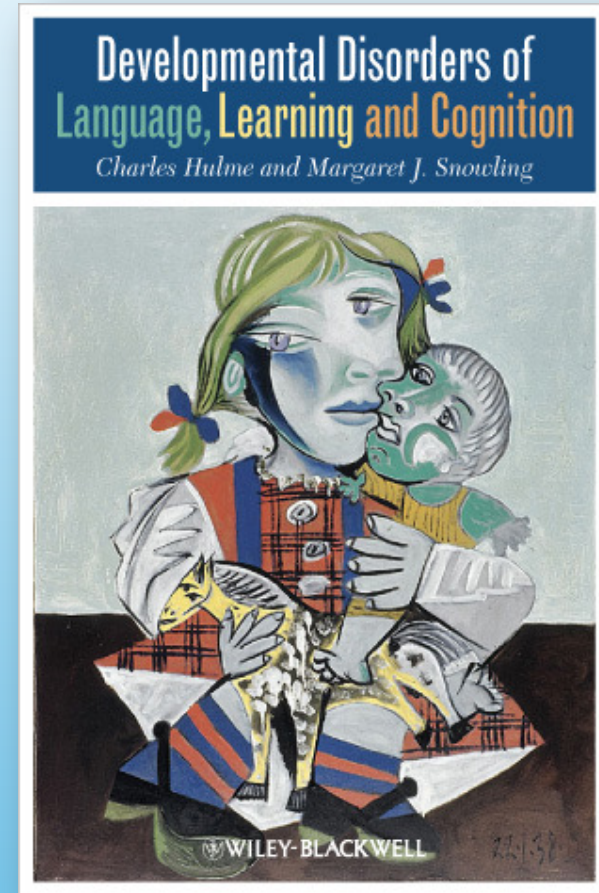
Frequently comorbid ; Heterogenous

Dyslexia

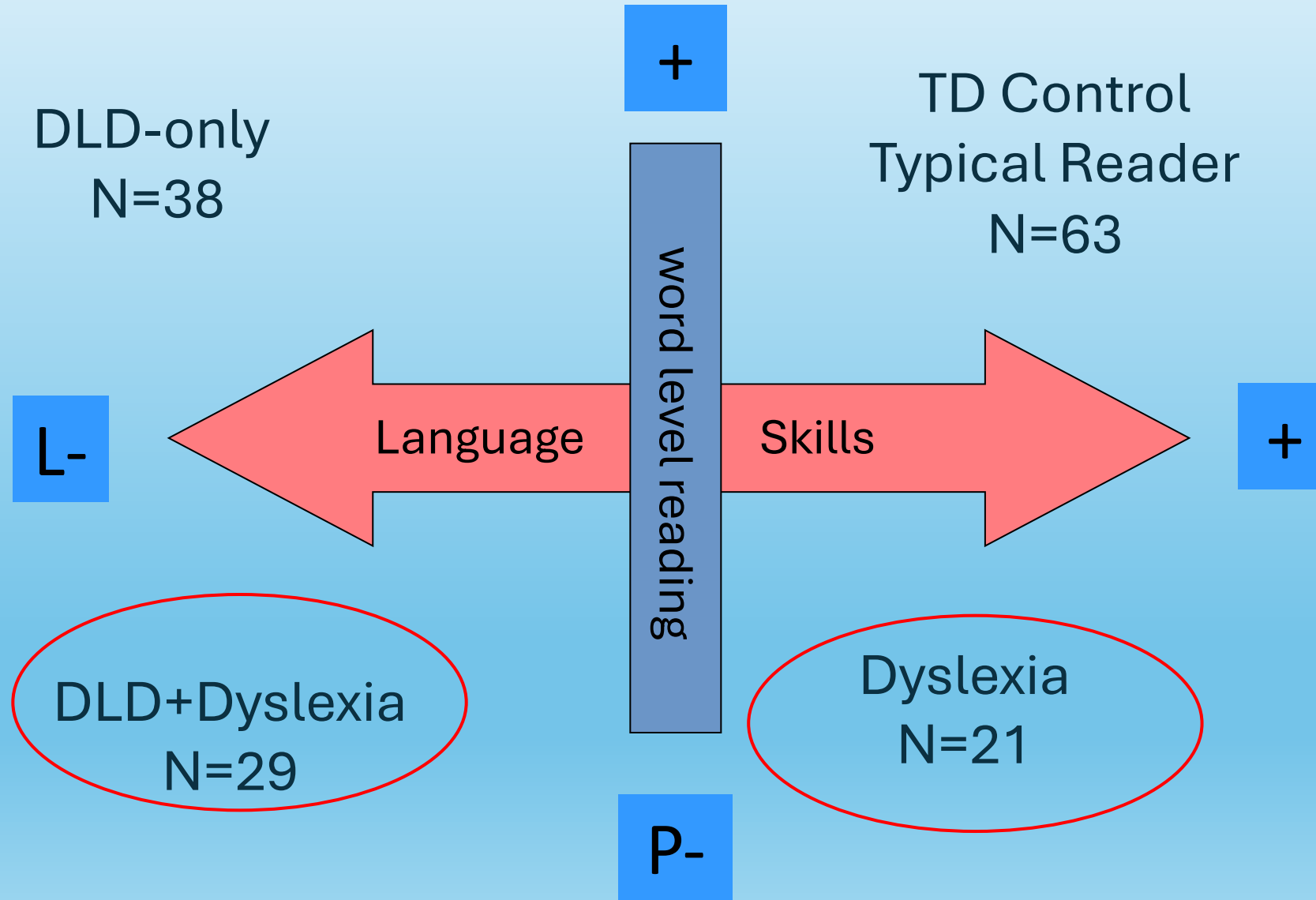
- Specific Learning Disorder
- A set of processing difficulties that affect the development of reading fluency and spelling, despite the educational opportunity to learn to read and spell.
- Persistent (and sometimes severe) difficulties in word and non-word **decoding** (reading accuracy)

Language Disorder (DLD)

- Communication Disorder
- Persistent deficits receptive and/or expressive language
- Interferes with learning
- Affects literacy attainment, particularly reading comprehension

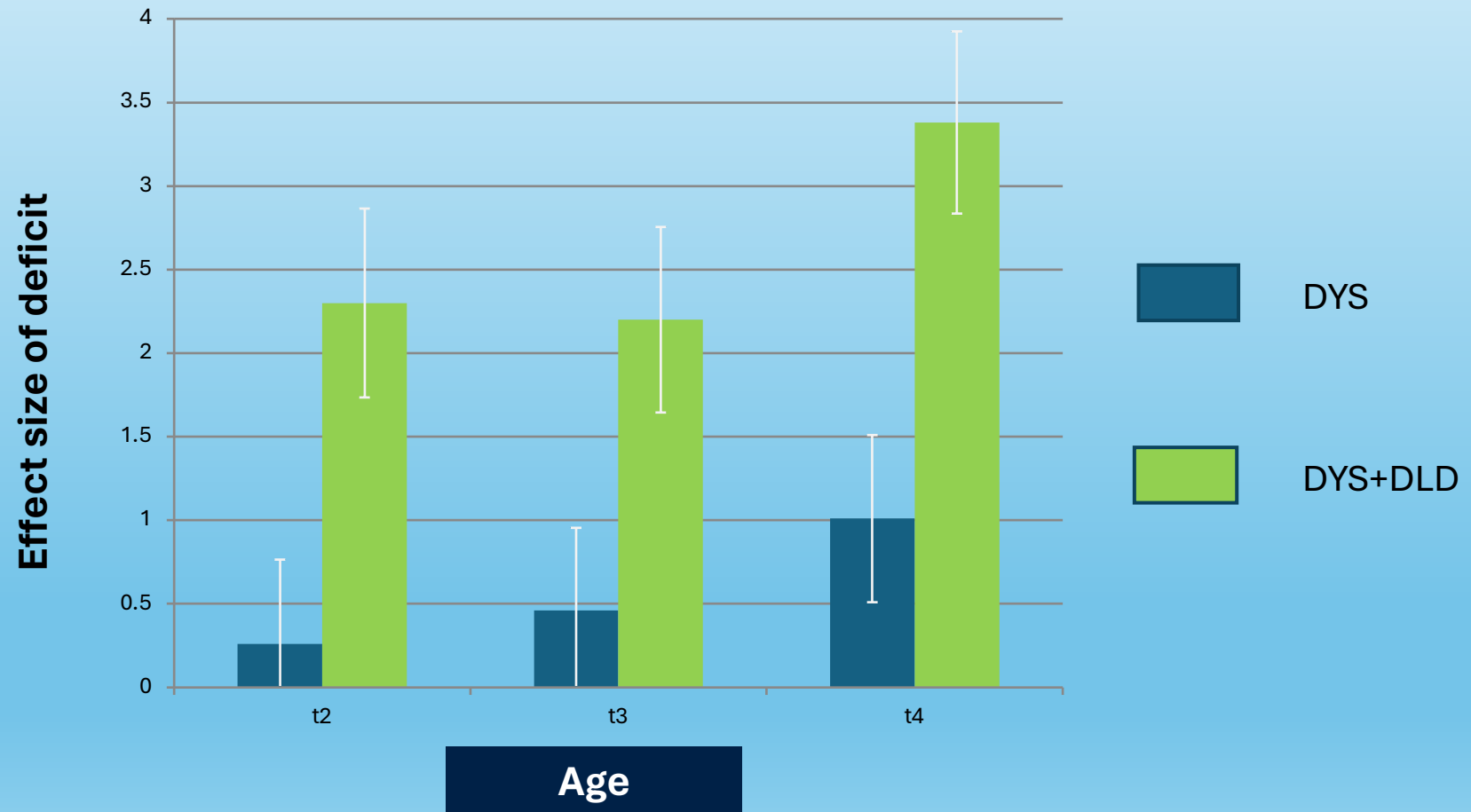


Precursors of dyslexia with and without language impairment

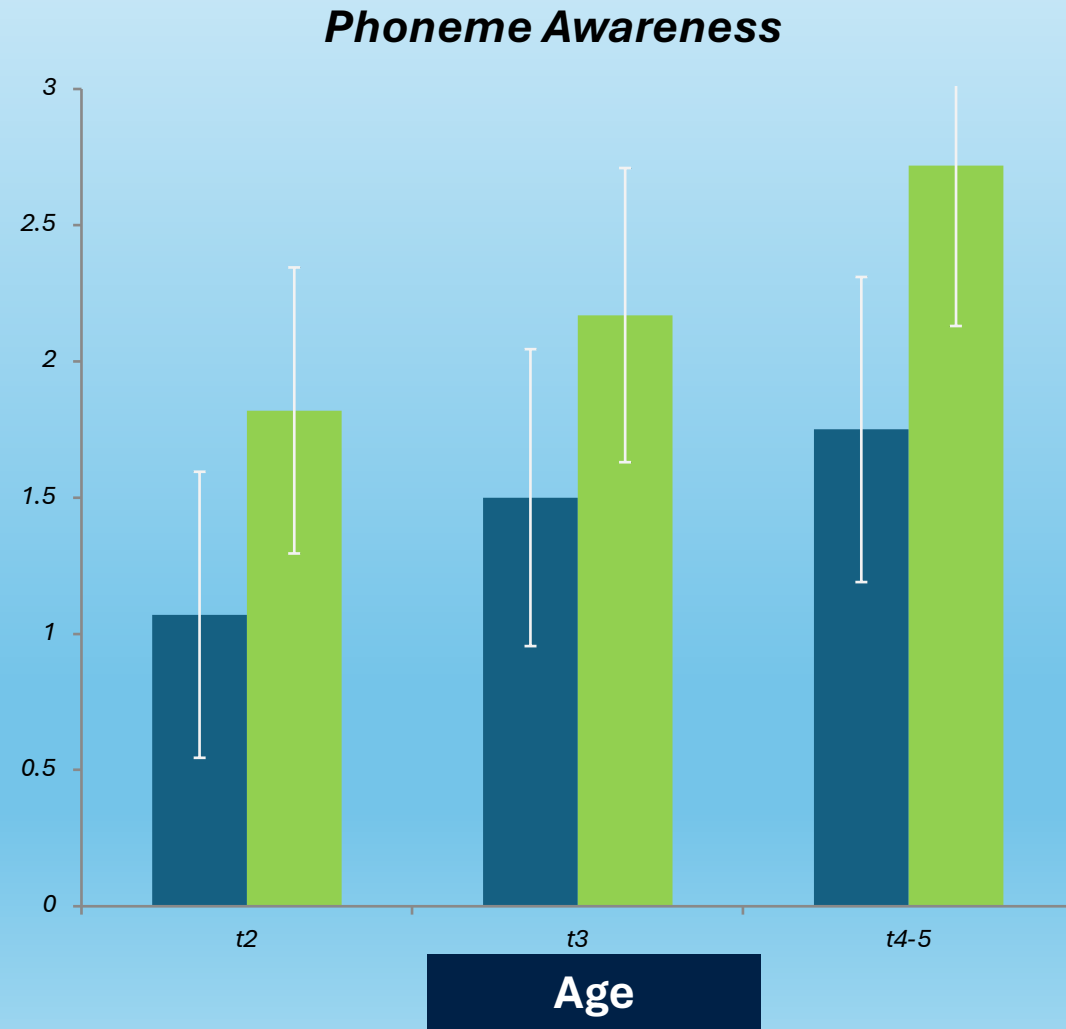
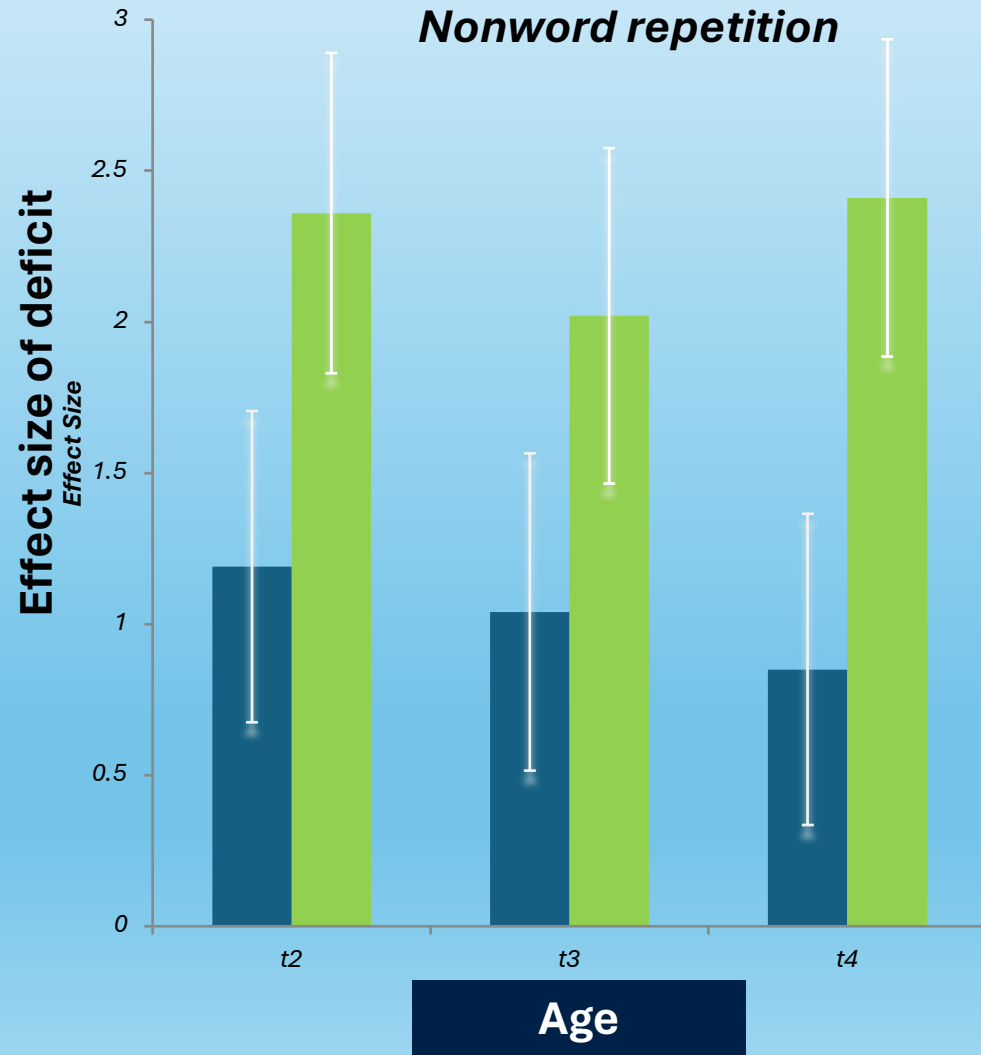


Language Skills (ages 4 ½-6½ years)

Grammar and vocabulary



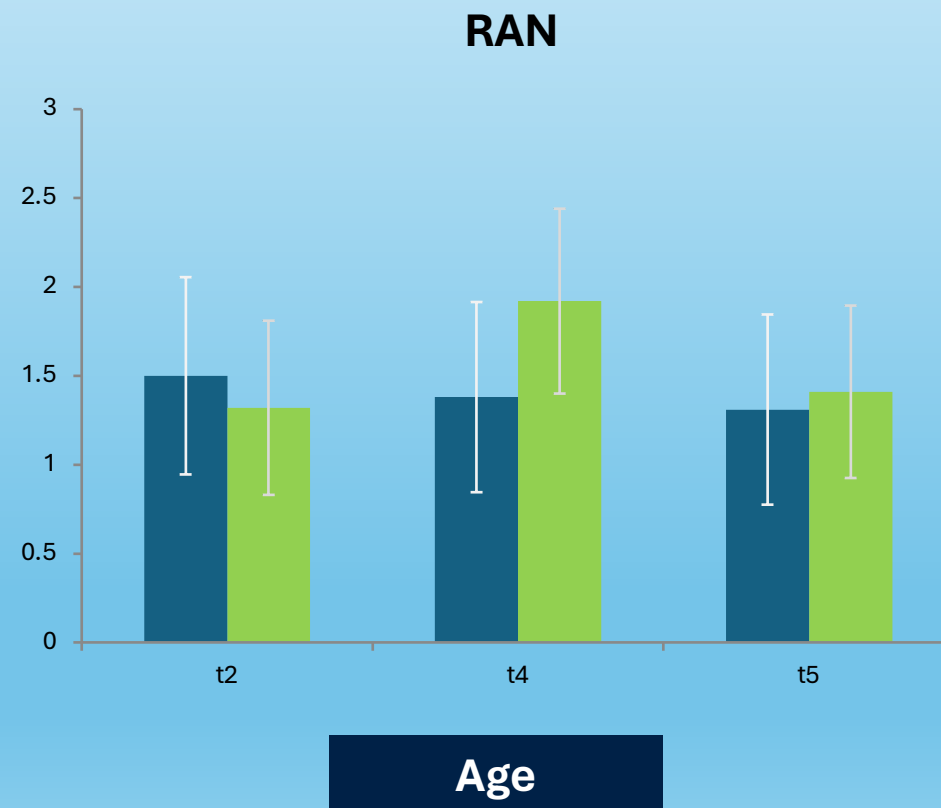
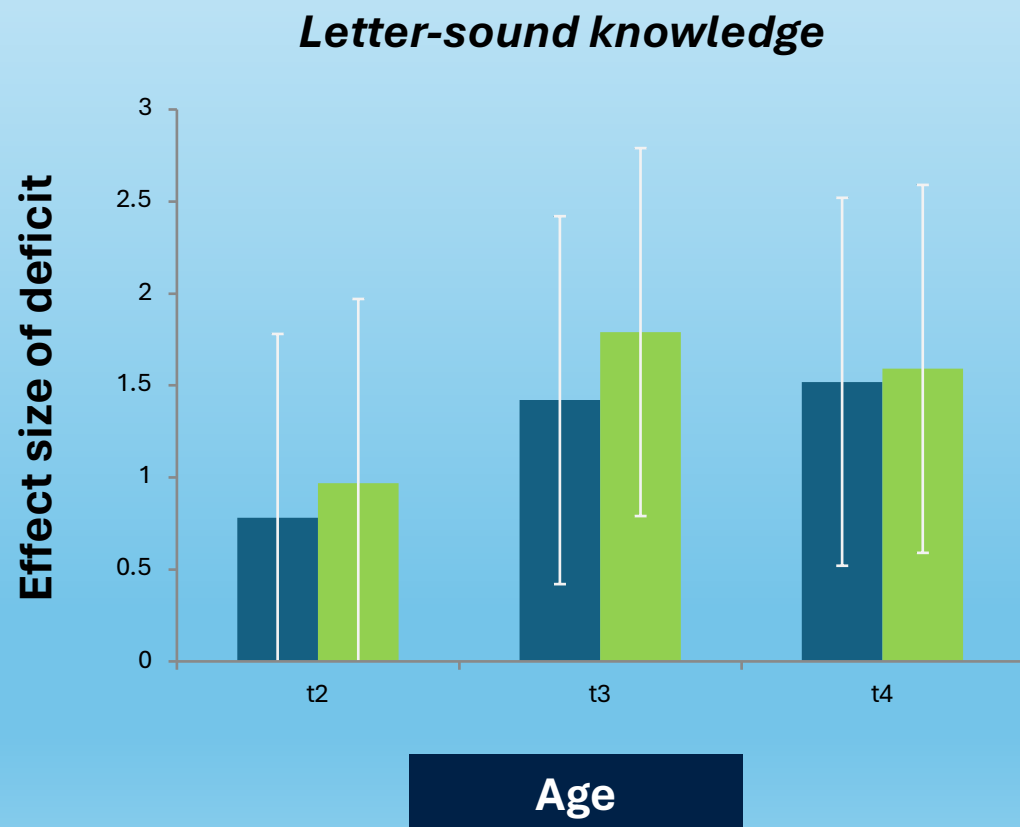
Phonological Skills



Letter Knowledge & RAN

DYS

DYS+DLD

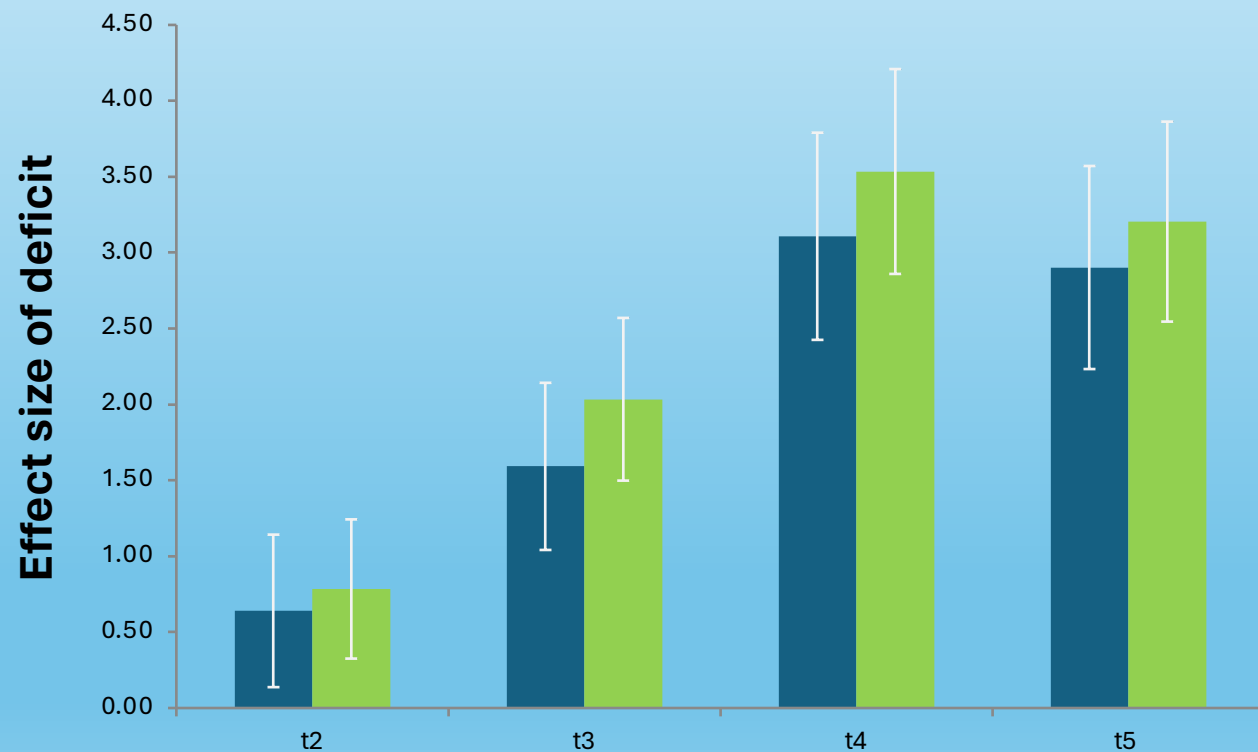


DYS

Behavioural Symptoms of Dyslexia

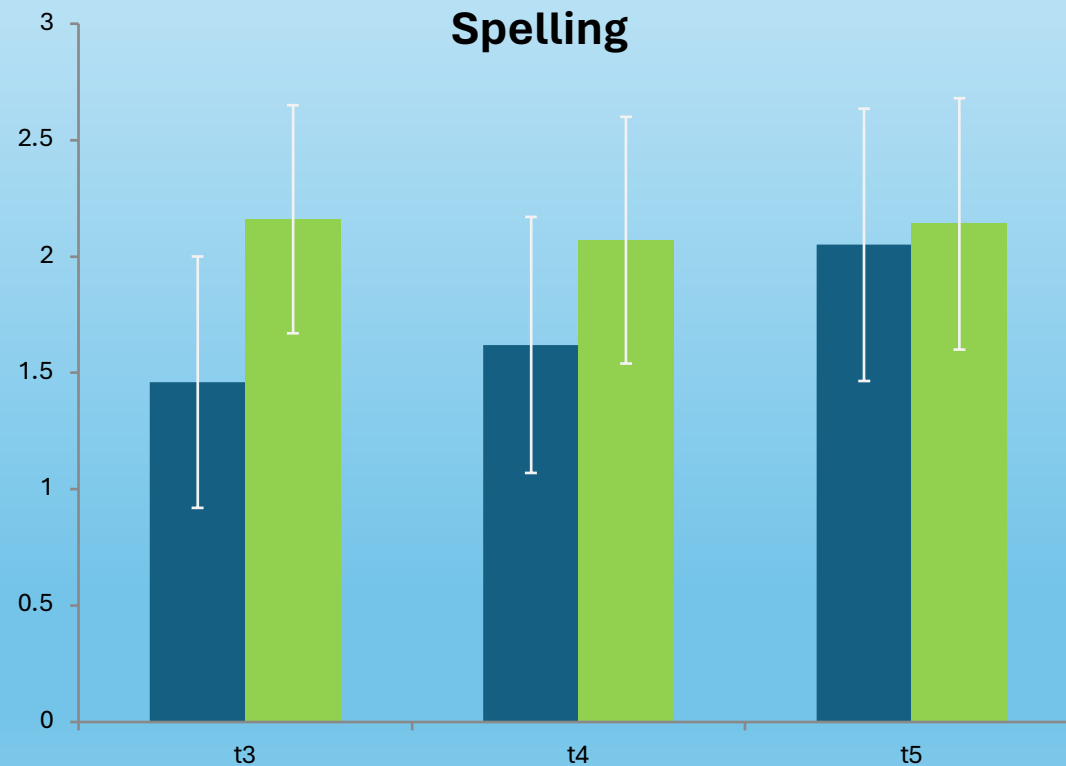
DYS+DLD

Decoding

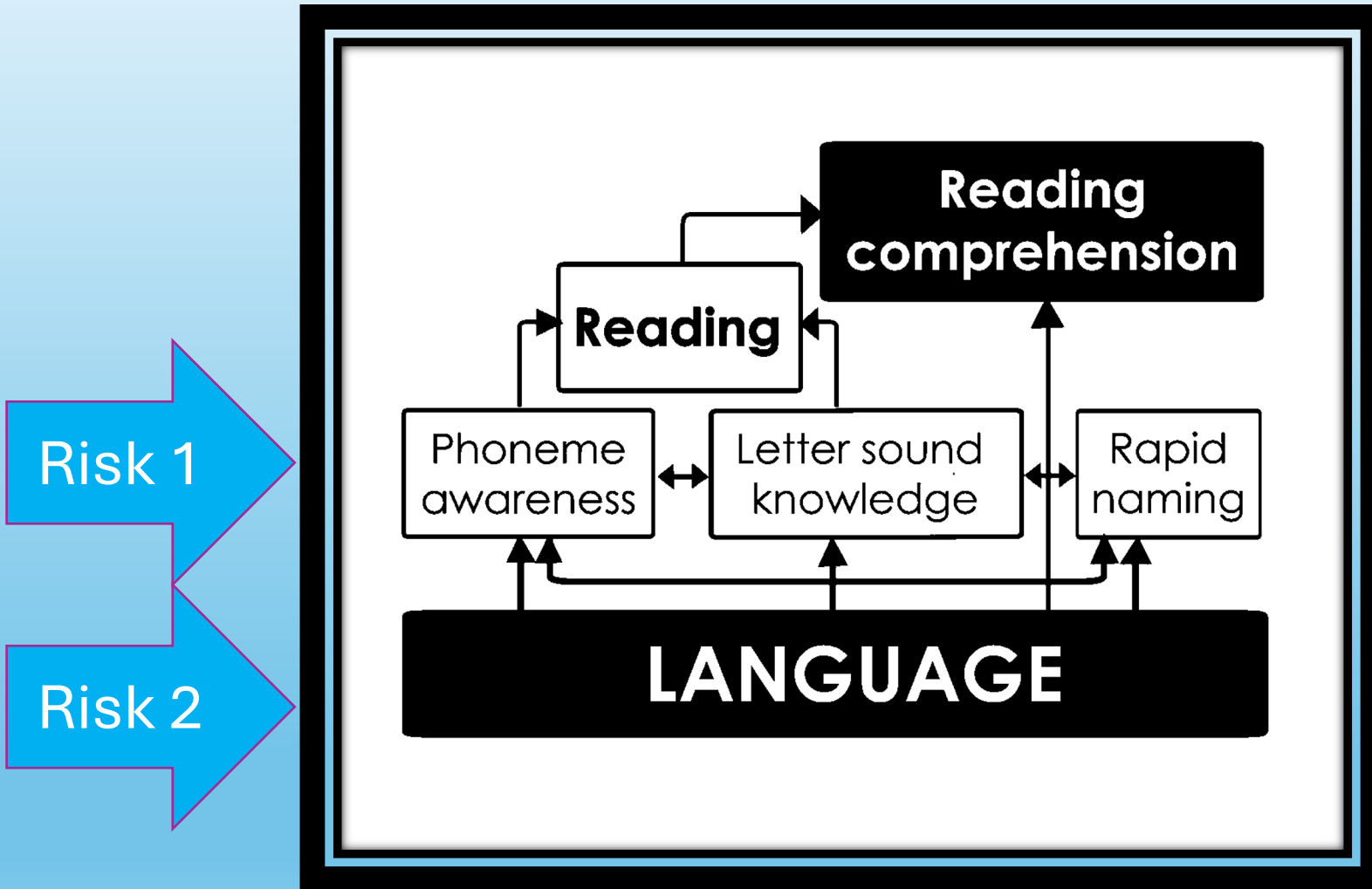


Age

Spelling

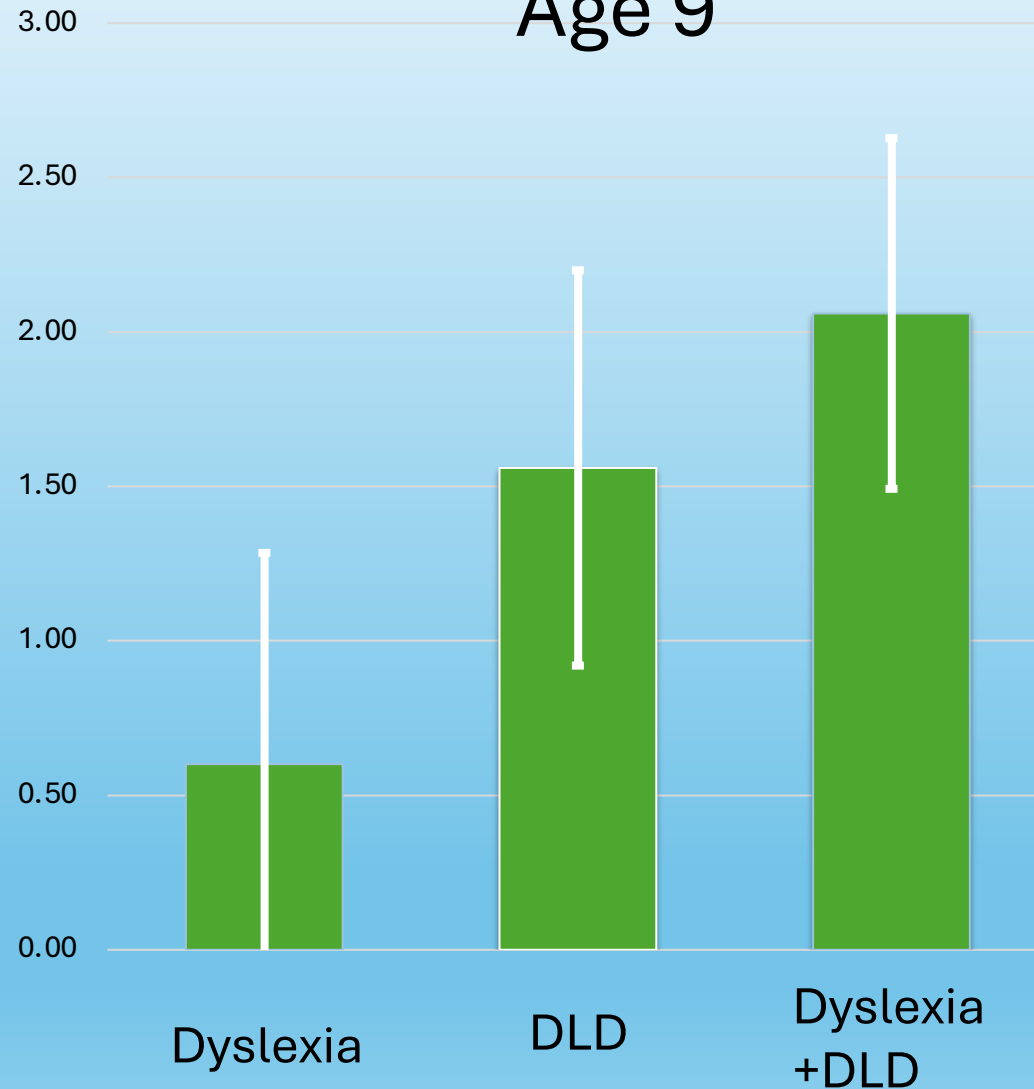


Age



Reading Comprehension Age 9

COMPREHENSION 'GAP'



Developing Reading Comprehension

Paula J. Clarke, Emma Truelove, Charles Hulme
and Margaret J. Snowling

E·S·R·C
ECONOMIC
& SOCIAL
RESEARCH
COUNCIL

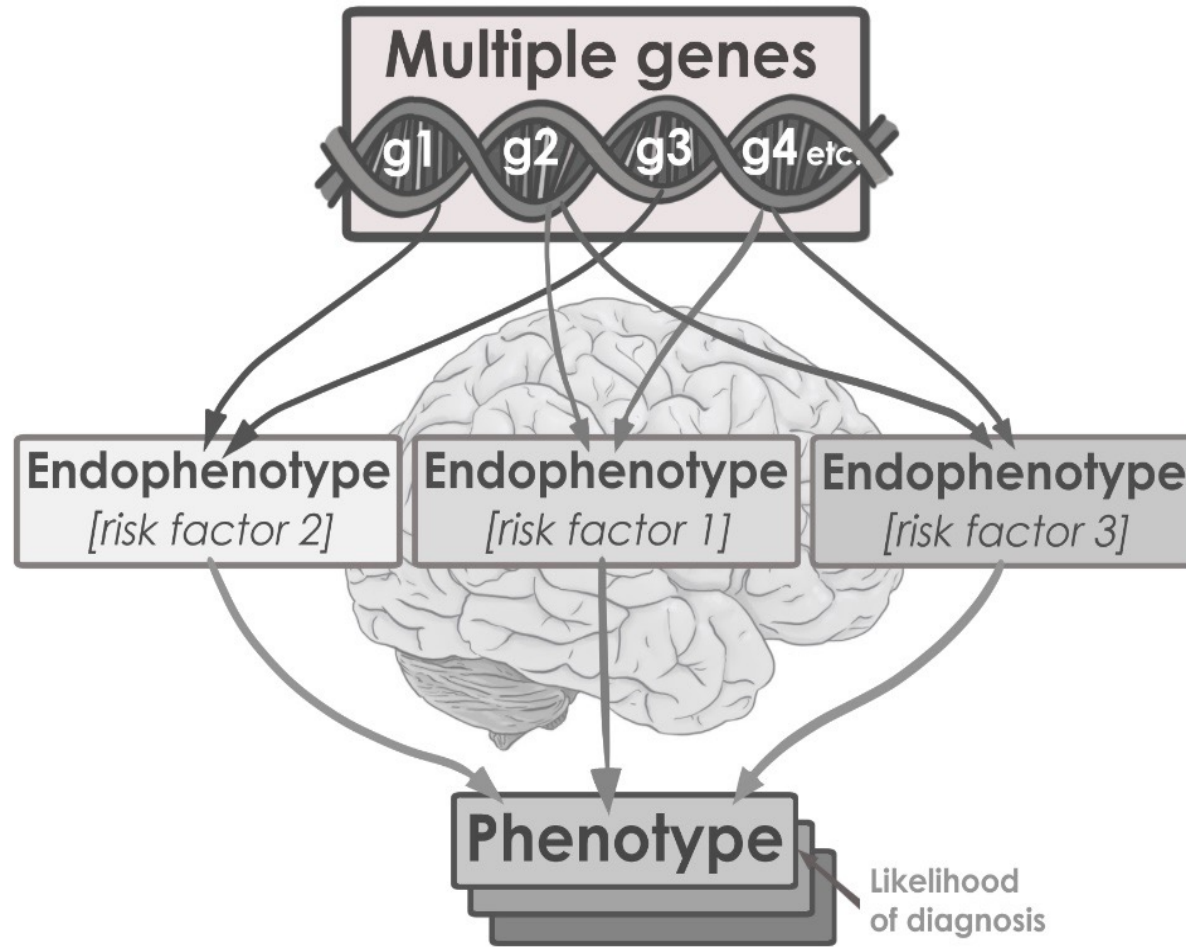
WILEY

Multifactorial Risk Framework

Biology

Cognition

Behaviour

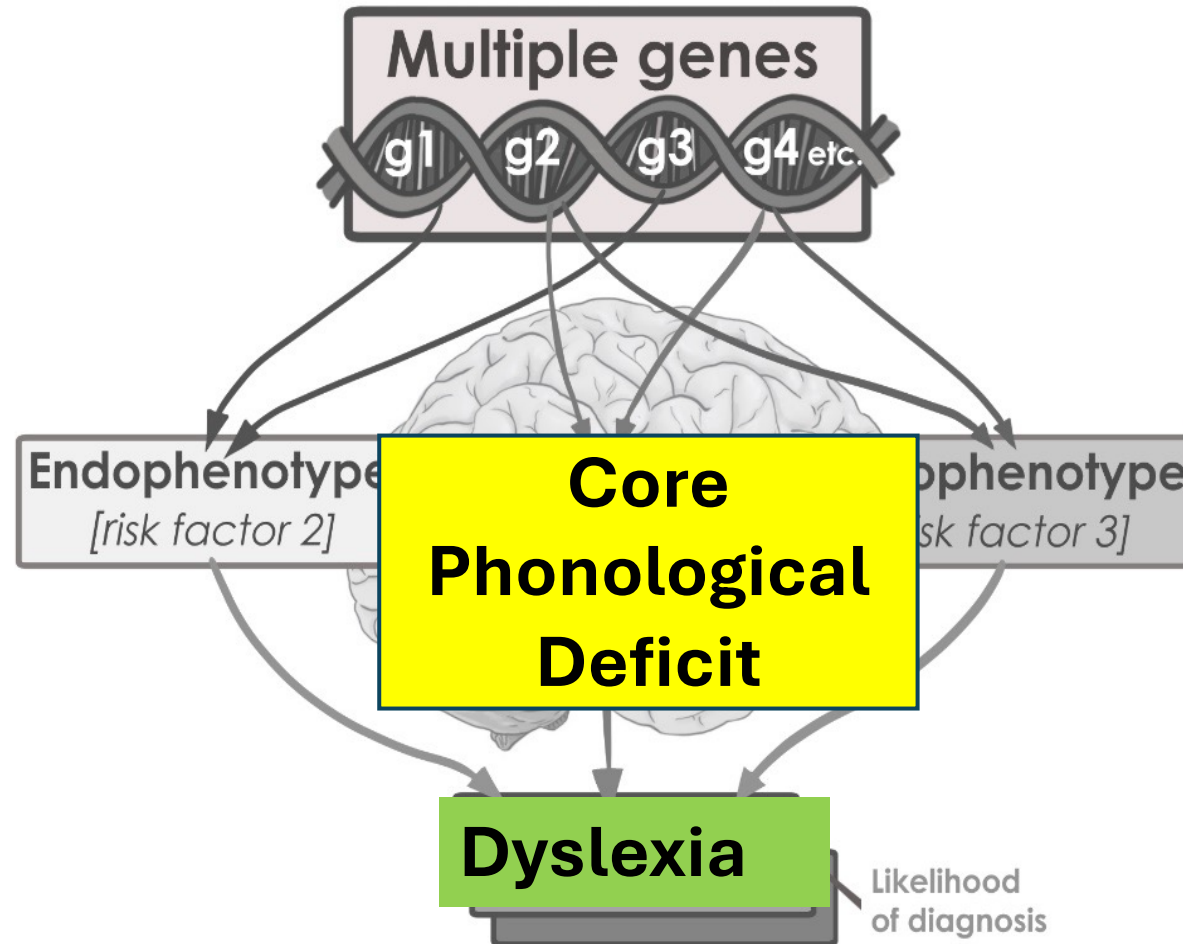


Environment

Biology

Cognition

Behaviour

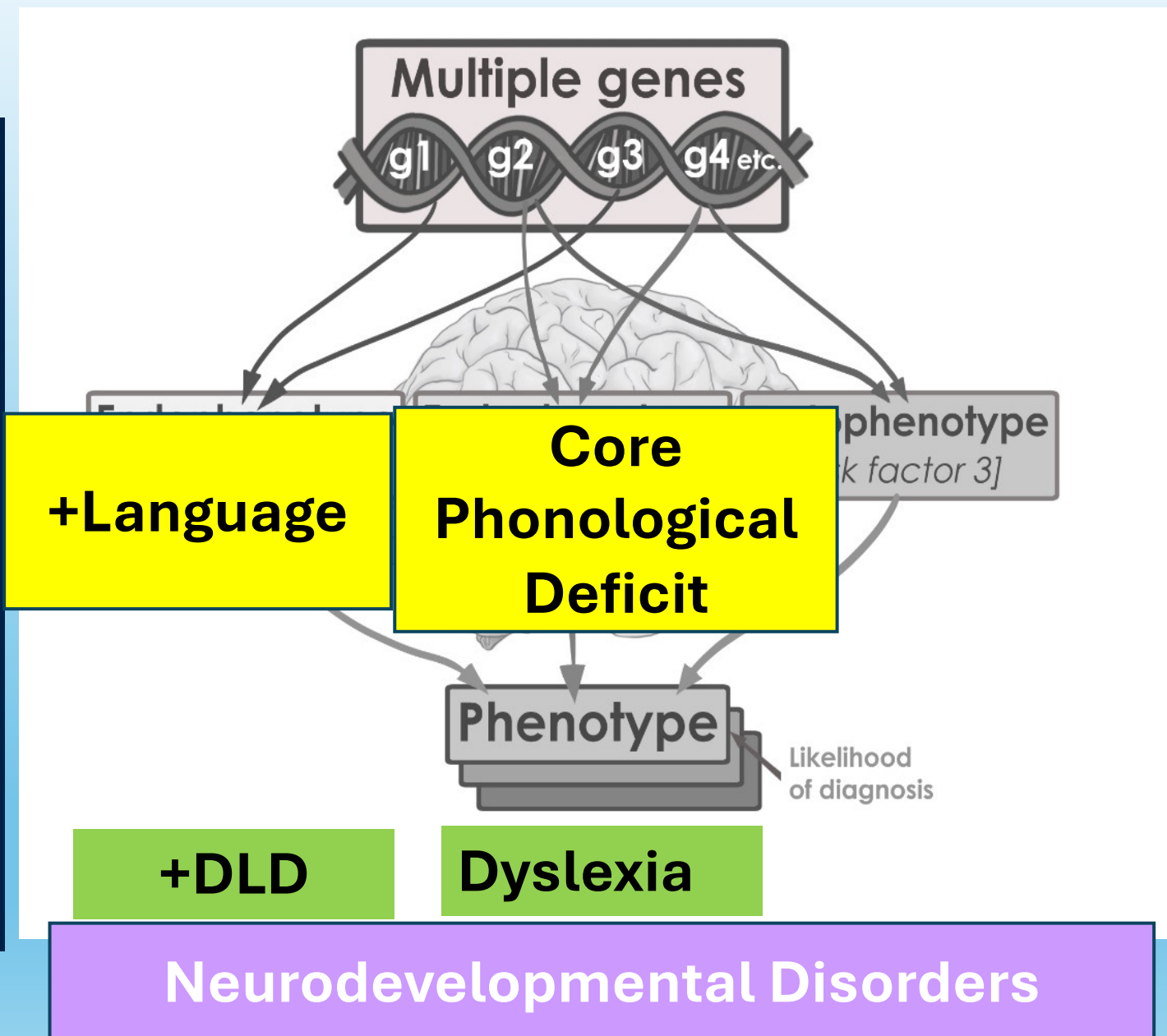


Environment

Biology

Cognition

Behaviour



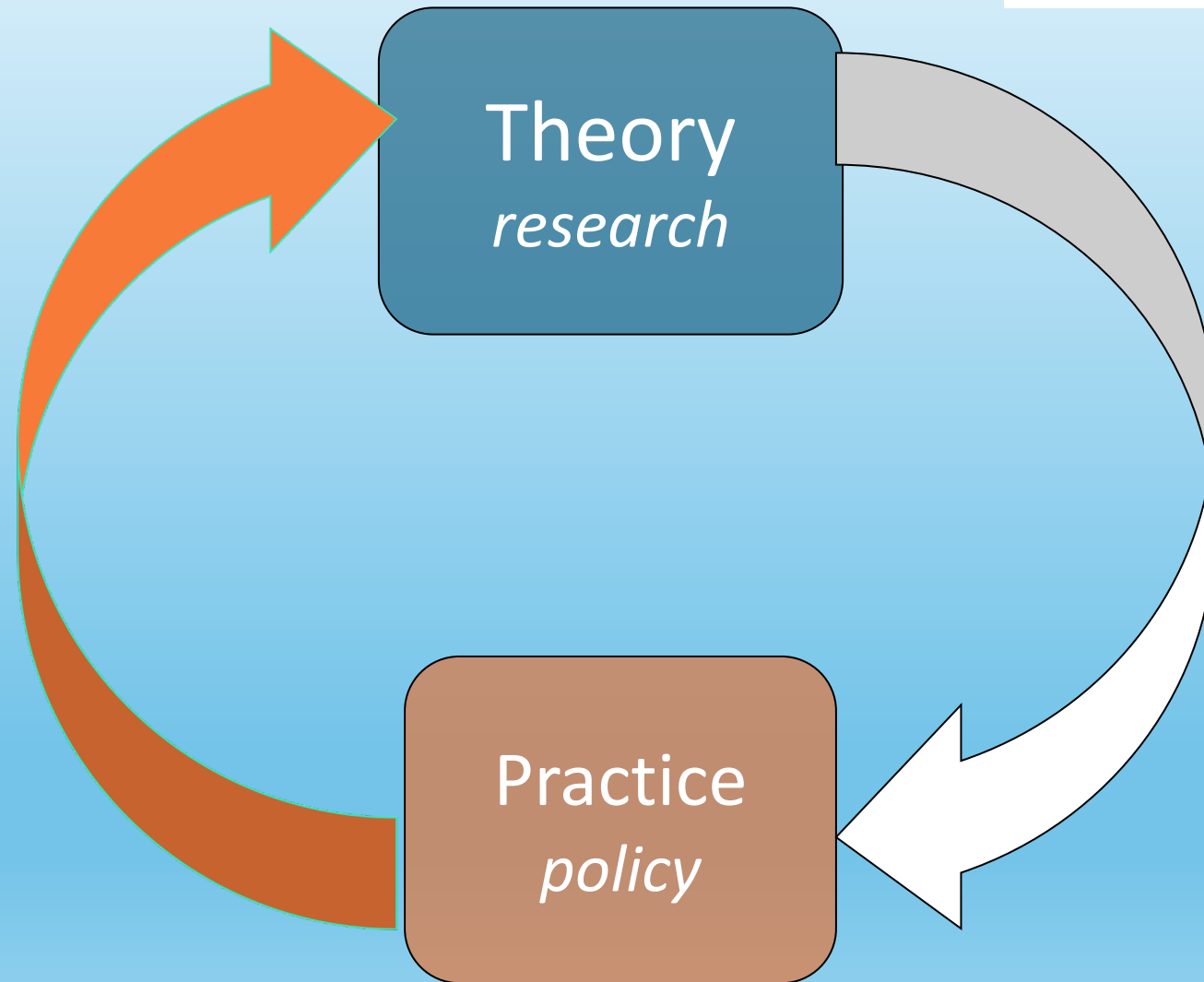
Environment

Individual Differences in Dyslexia

- Many genes in combination acting through the environment
- Overlapping disorders
- ‘Comorbidity’

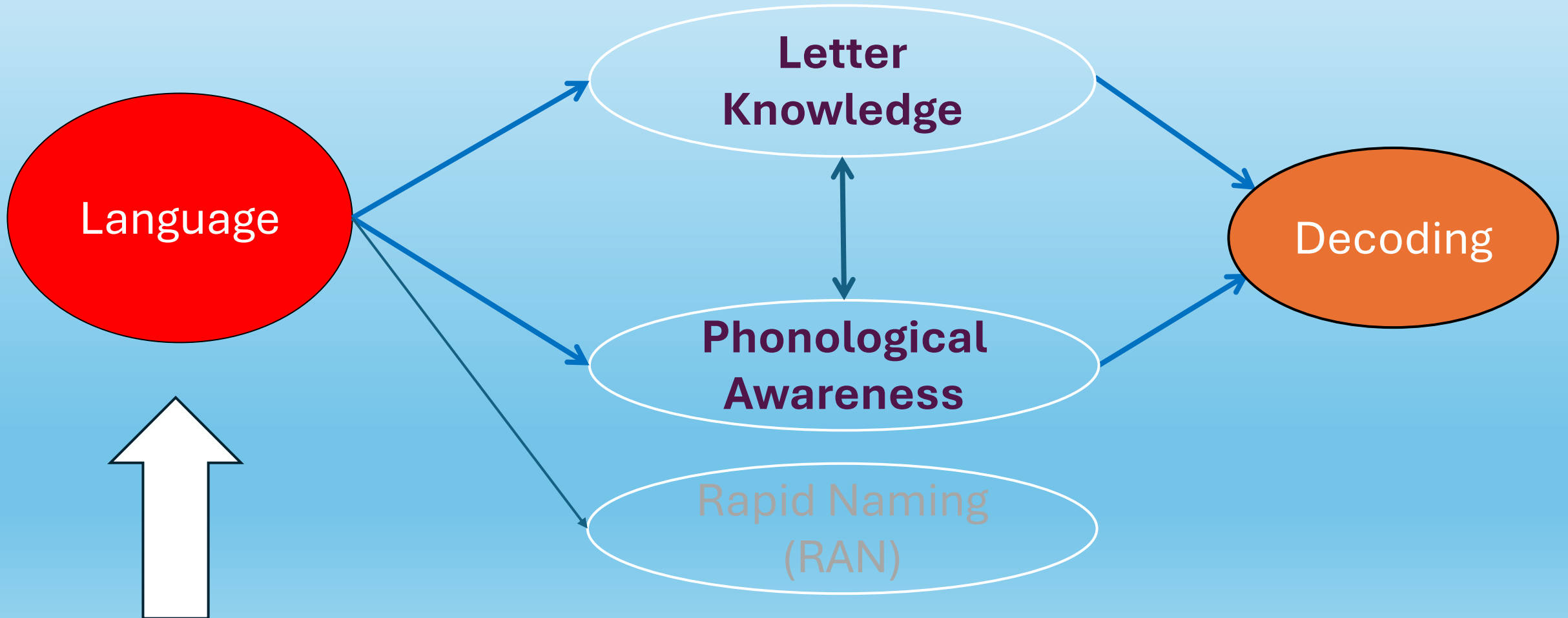


Dyslexia + ADHD



Language is the Foundation of literacy

[the not-so-simple view]



Early language screening and intervention can be delivered successfully at scale: evidence from a cluster randomized controlled trial

Gillian West,¹  Margaret J. Snowling,¹ Arne Lervåg,² Elizabeth Buchanan-Worster,¹ Mihaela Duta,¹  Alexandra Hall,³ Henrietta McLachlan,³ and Charles Hulme¹ 

¹University of Oxford, Oxford, UK; ²University of Oslo, Oslo, Norway; ³Elklan Training Ltd, Cornwall, UK

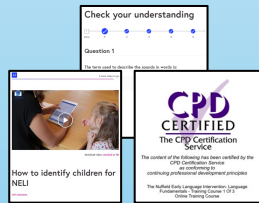
NELI PROGRAMME

1



LanguageScreen selects pupils for intervention and monitors individual and whole-class progress

2



Online training that is CPD-accredited and includes mentoring

3



NELI (intervention) and NELI Whole class that is shown to improve language ability

Standard Timeline

Preparation Phase

Assessment and Training
(2-6 weeks)

- 1 LanguageScreen
- 2 Training

Delivery Phase

Language Intervention
and Whole Class Enrichment
(20 weeks)

- 3 NELI and Whole Class

Re-assessment Phase

Reassessment
(1-2 weeks)

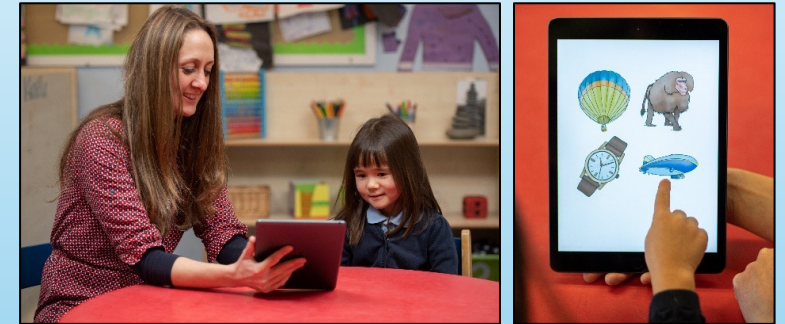
- 1 LanguageScreen
- * ReadingScreen (optional)

Screening for Language Difficulties

LanguageScreen is a standardised and automated test. It has been shown to have the same accuracy as traditional 30-minute paper-based speech and language tests that would be administered by a specialist¹.

LanguageScreen allows schools to:

- ▶ Measure children' language skills and compare to peers
- ▶ Identify language difficulties that might otherwise be missed
- ▶ TSelect children in need of language intervention
- ▶ rack progress of individual children and classes
- ▶ Maps results against a Simple View of Reading graph (when ReadingScreen is also used)



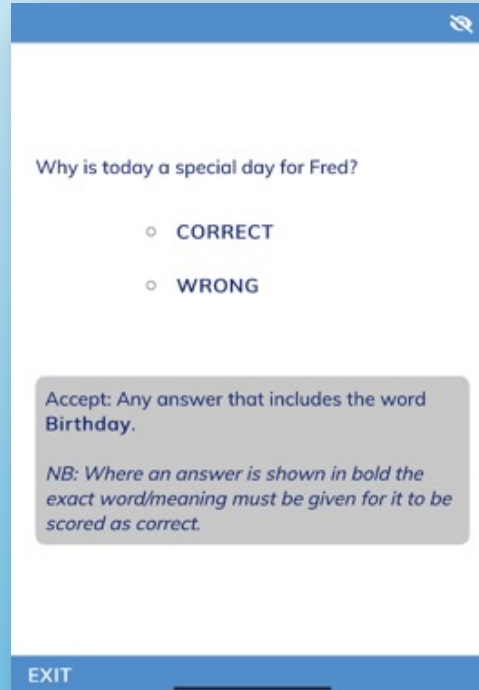
¹ <https://oxedandassessment.com/uk/wp-content/uploads/sites/2/2022/10/WestEtAl2021.pdf>

1. Expressive Vocabulary



- 24 pictures – what does each one show?

2. Listening Comprehension



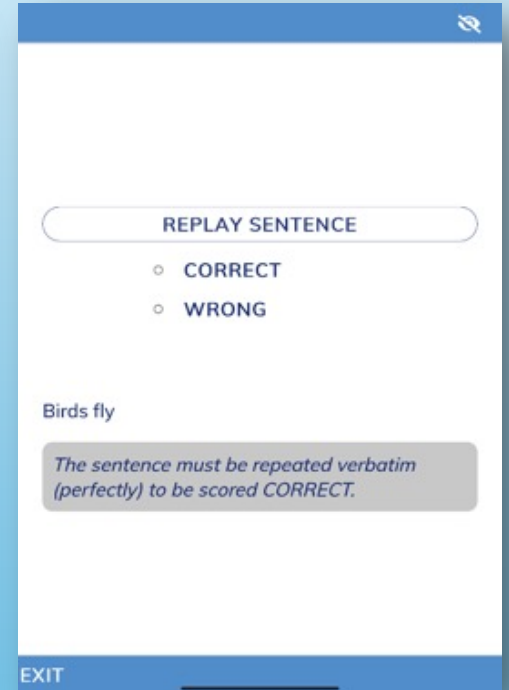
- 16 questions about 3 short stories

3. Receptive Vocabulary



- 23 sets of four pictures
- Which of the pictures matches the word spoken out loud?

4. Sentence Repetition



- 14 sentences read out loud which must be repeated verbatim by the student

Reports provide an at-a-glance view for a class, year group or the whole school

Current Reception summary

First names	Surname	DoB	Current class	Assessment date	Age at assessment	Standard score (average 100)	Percentile	Description	Alert	Latest intervention	Completion date
Albert	Harris	07/05/2018	Abacus	07/03/2022	3yr 9mo	73	4	clear concerns	🔴	NELI	Jul 2022
Imogen	Temple	08/04/2018	Abacus	07/03/2022	3yr 10mo	83	13	slight concerns	🟡	NELI	Jul 2022
Eddy	Fowler	06/05/2018	Abacus	07/03/2022	3yr 10mo	104	61	no concerns	🟢		
Olivia	Riley	10/01/2018	Abacus	07/03/2022	4yr 1mo	134	99	much above average	🟢		



- Red, amber and green symbols highlight children who would benefit from additional support
- Any interventions logged are shown here

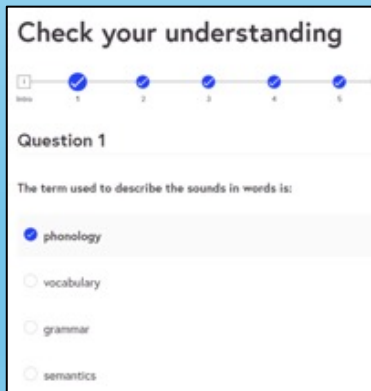


Welcome to the course

Why are oral language skills so important? You'll begin the course by thinking about this question and meeting the team behind NELI. You'll also be invited to introduce yourself to other learners on the course.



- 1.1** Welcome to NELI VIDEO (02:45)
- 1.2** Learning to learn online ARTICLE
- 1.3** Stop and share: build your community DISCUSSION

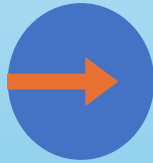


- ▶ **CPD accredited training** that is delivered digitally with support from **remote mentors**
- ▶ The courses cover:
 - The **importance of oral language**, why good language skills are important and how NELI supports children's development
 - The practicalities of **implementing** the Nuffield Early Language **Intervention**
 - The structure and content of **letter sounds** and **phonological** awareness

Nuffield Early Language Intervention Programme (NELI)

Reception 1 (10 weeks)

- Narrative, vocabulary, listening
- 3 x 30 min group sessions
- 2 x 15 min individual sessions



Reception 2 (10 weeks)

- + letter-sound knowledge & phonological awareness
- 3 x 30 min group sessions
- 2 x 15 min individual sessions

a

b

c

d

e





Proven to improve children's oral language skills and support reading comprehension



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[Consultations](#) [Statistics](#) [News and communications](#)

 **Coronavirus (COVID-19)** | [Guidance and support](#)

[Home](#) > [Education, training and skills](#)

News story

Early years support package to help close Covid language gap

Targeted funding for Reception pupils to help schools boost early language skills.

Published 24 August 2020
From: [Department for Education](#)

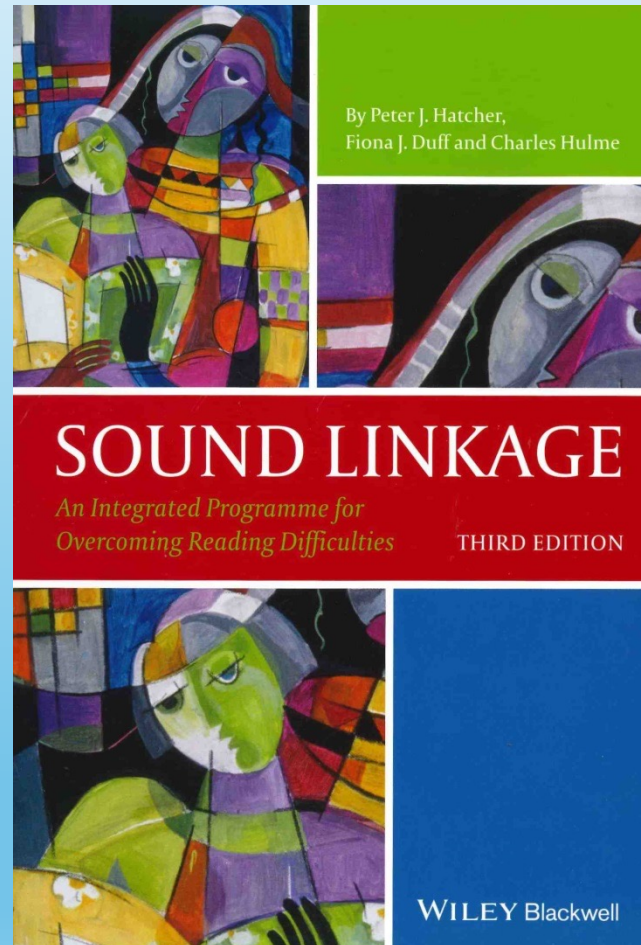


Catch-up: DfE extends early years language scheme funding

The NELI programme has been funded by the department to help pupils impacted by the pandemic catch up on speech, language and communication skills

20th July 2023, 5:47pm

Reading Intervention



Reading interventions are effective
(Hatcher, Hulme et al., $d = .41-.45$)

Reading + Phonology Intervention

Sequence of Activities (30 mins)

1. **Re-reading an easy book (>94% accuracy)**
Reading the book introduced in the previous lesson
2. Letter identification
Phonological awareness training
Writing a story (Sound linkage activities)
3. **Introduction to and Reading a new book at instructional level (90 – 94% accuracy)**

What works for children and young people with literacy difficulties?



Primary and Secondary National Strategies

What works for pupils with literacy difficulties?

The effectiveness of intervention schemes



Guidance

Curriculum and Standards

LA SEN and learning support managers, primary and secondary strategy managers

LA English and literacy managers and co-ordinators, primary and secondary schools, headteachers, literacy subject leaders, SENCOs and inclusion managers in primary and secondary schools

Status: Recommended

Date of issue: 12-01-09

Ref: 00688-2007B



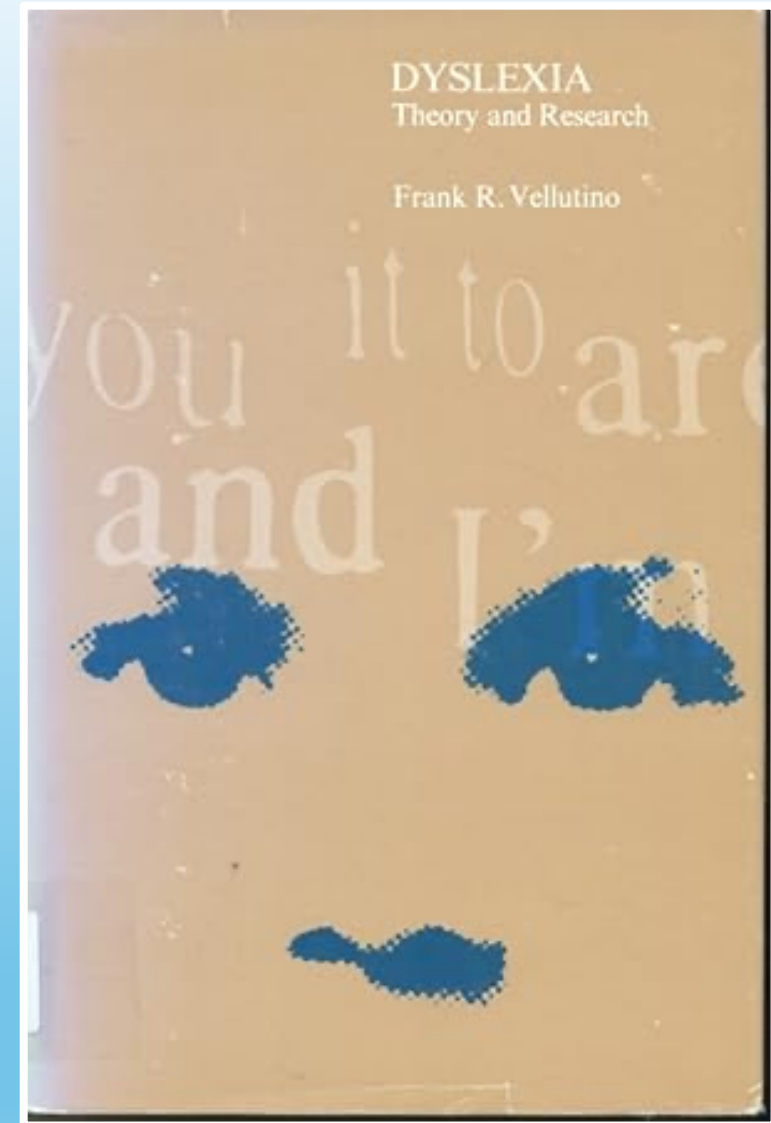
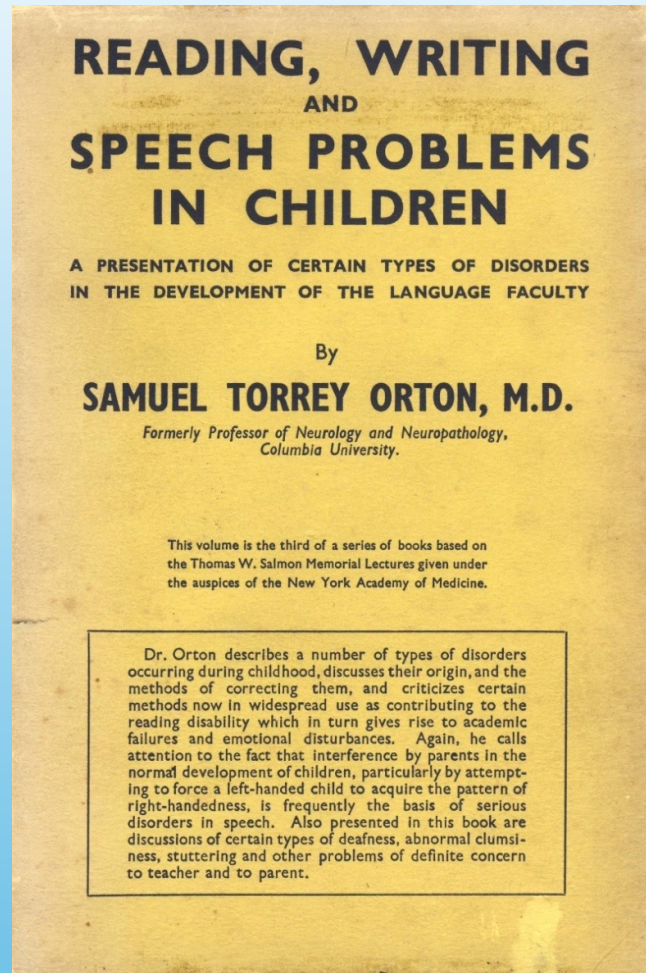
IES : WWC What Works Clearinghouse

MENU



Identifying and Teaching Children and Young People with Dyslexia and Literacy Difficulties

An independent report from Sir Jim Rose to the Secretary of State for Children, Schools and Families June 2009



Dyslexia: A Disorder of the Language Faculty

SIMPLE VIEW OF READING



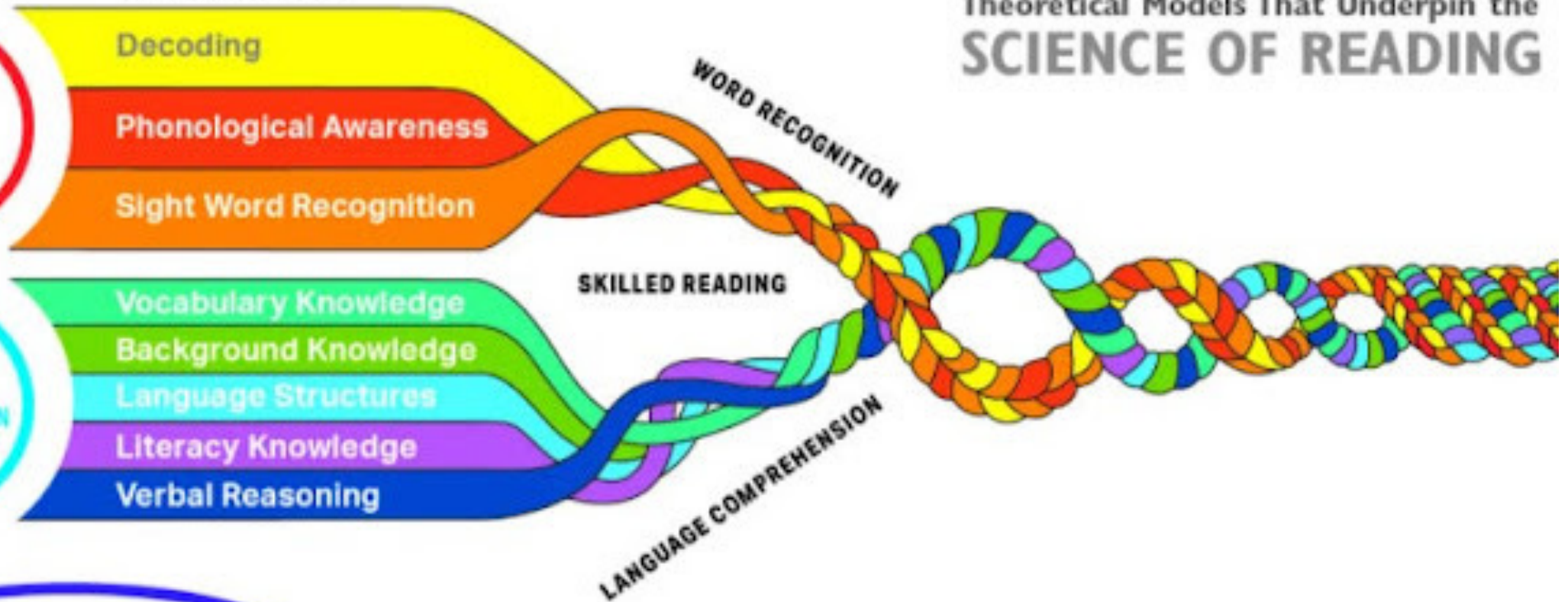
x



=



SCARBOROUGH'S READING ROPE



Theoretical Models That Underpin the
SCIENCE OF READING

Conclusions



- Early language is the foundation for learning to read (Hulme et al., 2015)
 - Language is a strong predictor of phoneme awareness
 - Effect of language on reading/spelling in first year of school mediated by phoneme awareness and letter sound knowledge
- School-entry is a critical phase for literacy development
 - Children with weak language (or DLD) are at high-risk of poor reading (Bishop & Adams, 1990; Snowling & Melby-Lervag, 2016)
- There is a tight window of time in which to prepare children's language for learning to read (and spell)
- Intervene and don't wait for 'diagnosis'!



Continue Your Dyslexia Learning with Demystifying Dyslexia



Access and learn with AIM's virtual 3-hour course for just \$50 during Dyslexia Awareness Month.
Use Code: Dyslexia50



Join us for a full-day of literacy learning!

Monday, March 10, 2025



13th Annual Research to Practice Symposium

Monday, March 10, 2025
**Implementation Science and Systems
Change for Literacy Improvement**

REGISTER:
www.aimpa.org/symposium
**FREE In-Person and Online
Attendance Opportunities**

**Hollis Scarborough
Award Recipient**



Kate Cain D.Phil.
Professor of Language and
Literacy, Lancaster University

Moderator



Tiffany Hogan Ph.D.
Director, SAIL Literacy Lab,
MGH Institute



Margaret Goldberg
Educator and Co-Founder
The Right to Read Project



Nicole Patton Terry Ph.D.
Director, Florida Center for
Reading Research



Adrea Truckenmiller, Ph.D.
Associate Professor,
Michigan State University

**AIM to Impact:
Leadership
Panel**

Moderator



Kristen Wynn
Head of
AIM Institute



Khalek Kirkland Ed.D.
Superintendent of District 23,
New York City Schools



Grant Rivera Ed.D.
Superintendent of
Marietta City Schools



Carey Wright Ed.D.
Maryland State
Superintendent of Schools

