From the Womb to the Classroom:

Typical and Atypical Reading Development and Implications for a Preventative Education Model

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Scan Me

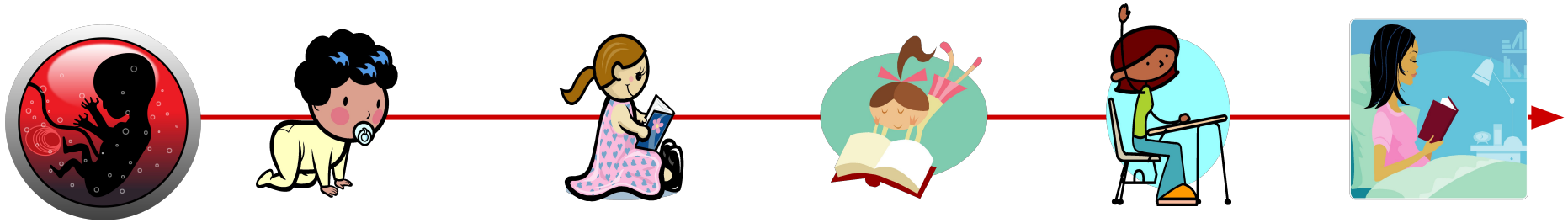
When does reading development start?

(Frederico Clapis)

Learning to read is a process that requires the mastering of a series of developmental stages in response to environmental input, starting with language processing in utero and ending with proficient reading years later (e.g., Chall, 1983).

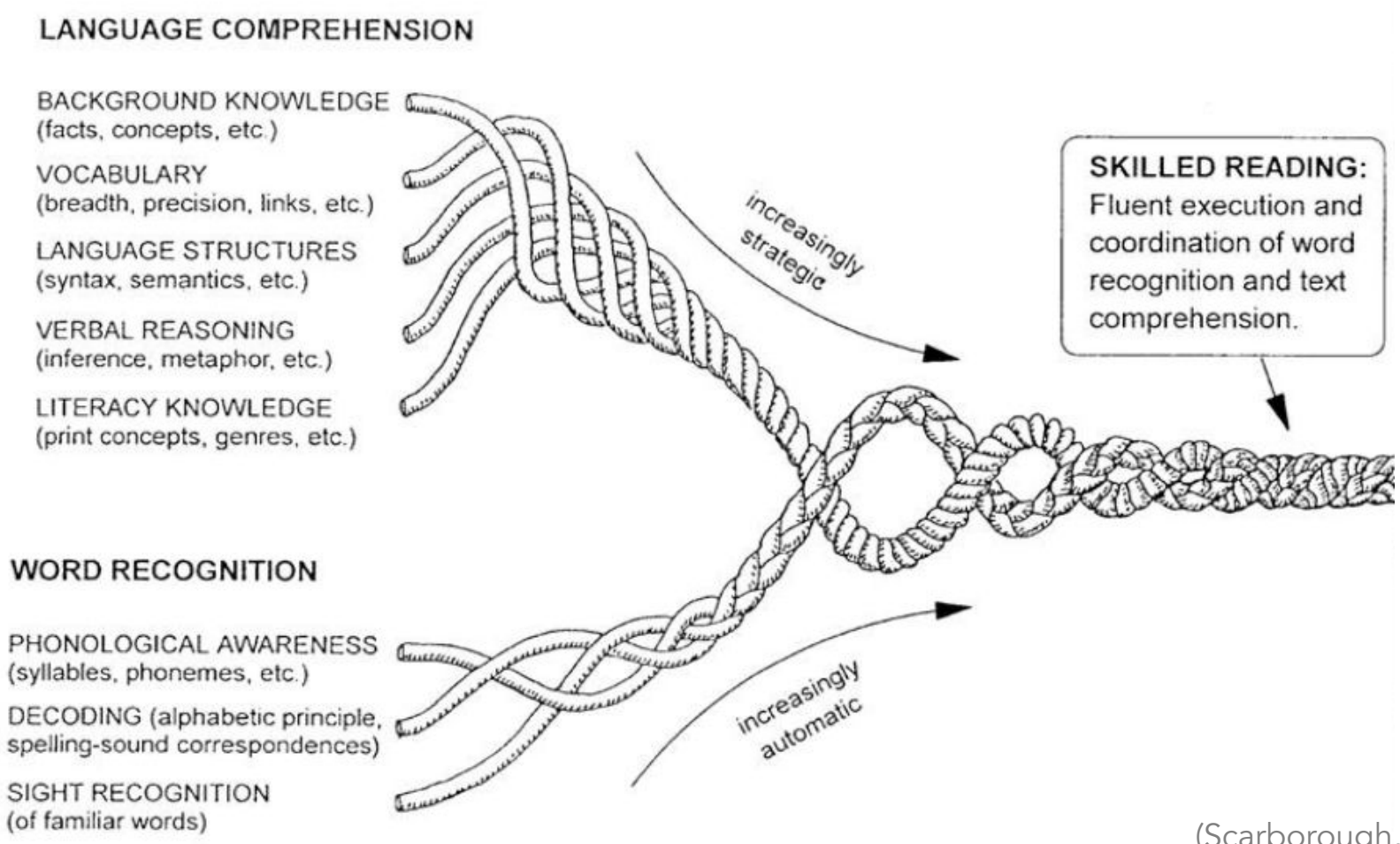
Learning to read is **NOT** a natural process

Typical reading development



Learning to read → Reading to learn

Theoretical models suggest a dynamic interplay between lower-level foundational and cognitive-linguistic skills



(Scarborough, 2001)

Every child has the right to learn to read well…

69% of all fourth-graders in the U.S. are reading below grade level and approximately 80% of fourth-graders from low socio-economic backgrounds are reading below grade level.

National Center for Education Statistics (2024)

Low reading skills are tied to

- low self-esteem, feelings of shame, inadequacy, and helplessness (e.g., Valas, 1999).
- greater risk for developing internalizing or externalizing symptoms (e.g., Hendren et al., 2018).
- lower education levels, less income, increased health issues, higher incarceration and poverty rates (e.g., Moody et al 2000).

The National Council for Adult Learning estimates that low literacy skills cost the U.S. at least $225 billion each year.

What is Developmental Dyslexia?

Affects 7-12% of children in English-speaking countries (about 2-3 in each classroom)

- difficulties with accurate and/or fluent word reading
- poor spelling and decoding abilities

Heritability estimates are 40-60%

(Grigorenko et al., 2020)

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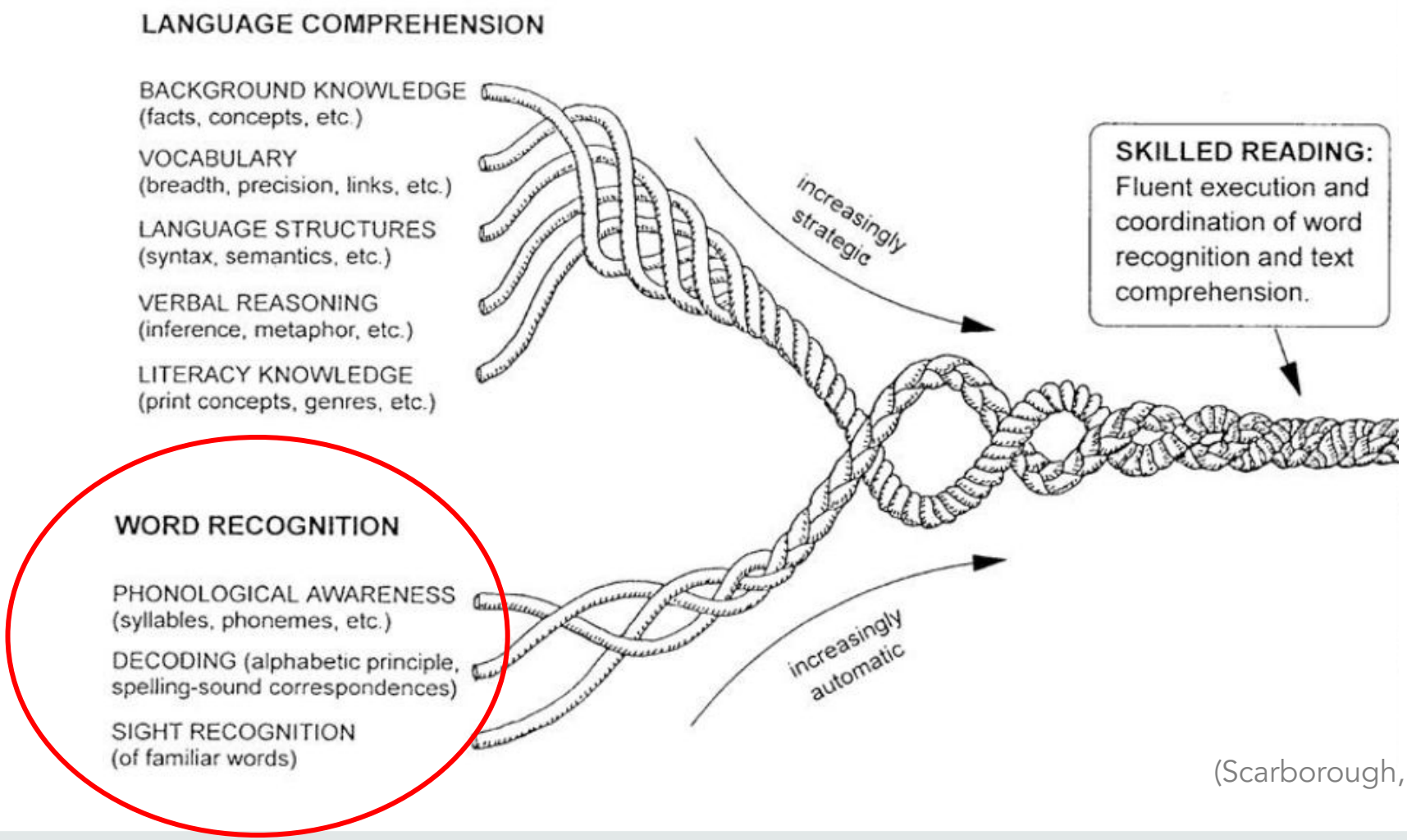

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Recognizing Psychiatric Comorbidity With Reading Disorders

Robert L. Hendren[1,2], Stephanie L. Haft[1], Jessica M. Black[3], Nancy Cushen White[2,4] and Fumiko Hoeft[1,2,5,6,7]*

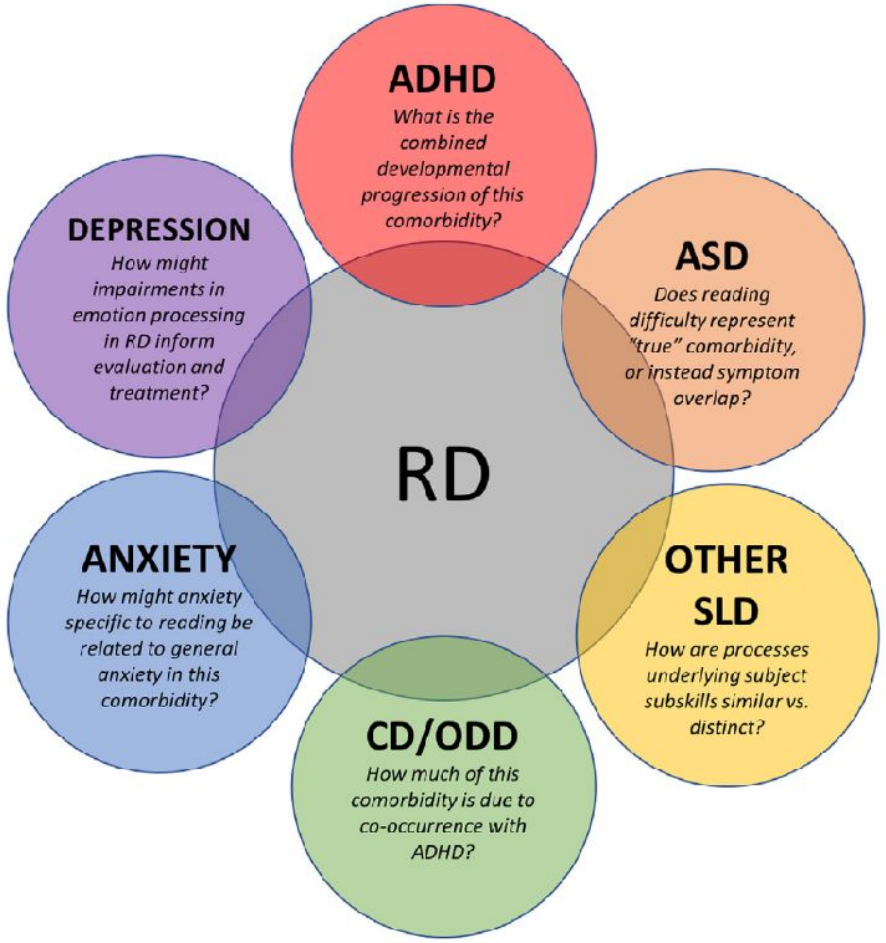
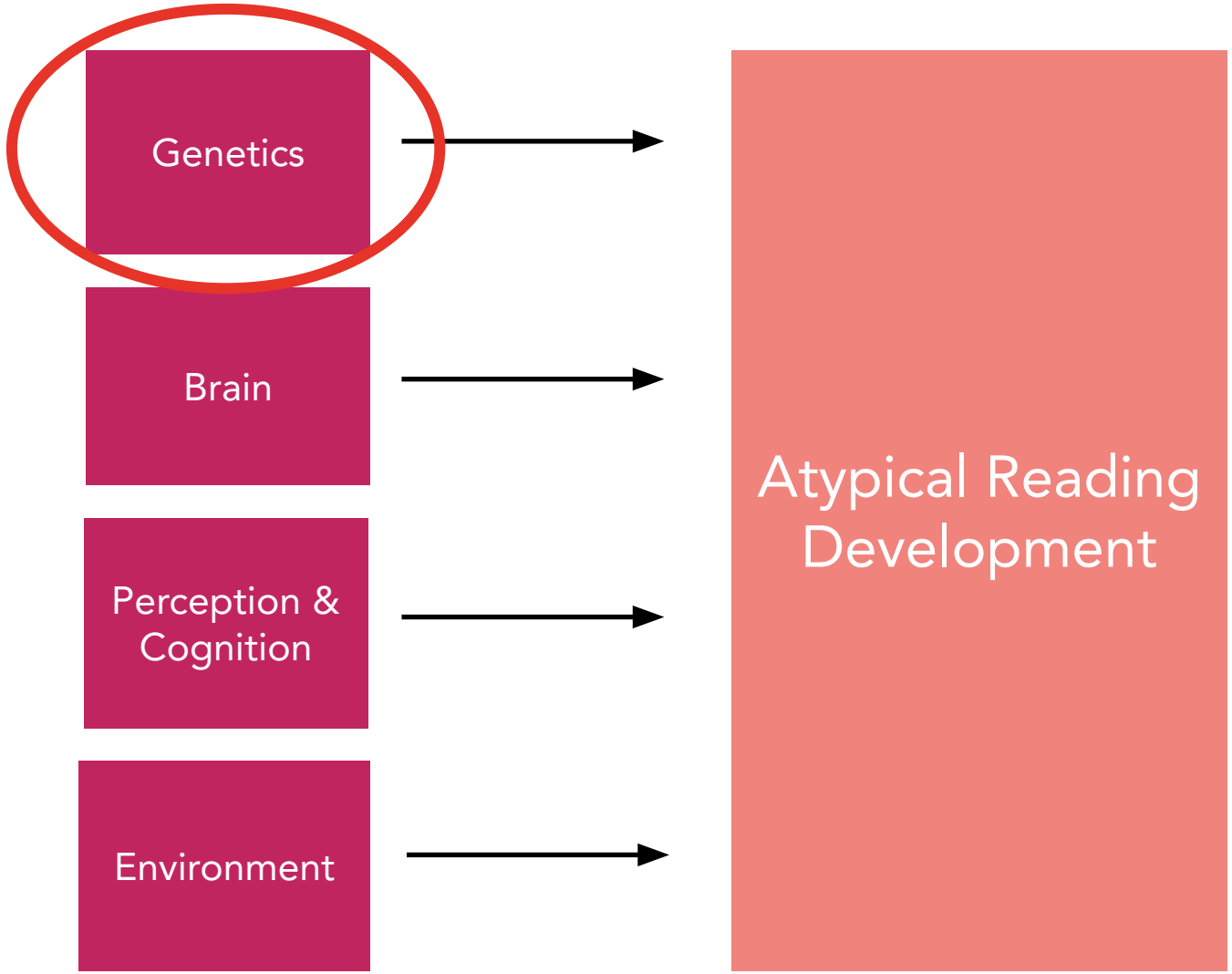


FIGURE 1 | Current issues, areas of investigation, and suggestions for future research in conditions commonly occurring with RD in children. RD, reading disorder; ADHD, attention deficit hyperactivity disorder; ASD, autism spectrum disorder; SLD, specific learning disorder; CD, conduct disorder; ODD, oppositional defiant disorder.

Factors contributing to reading disabilities



nature genetics

Article

https://doi.org/10.1038/s41588-022-01192-y

Discovery of 42 genome-wide significant loci associated with dyslexia

Received: 28 August 2021

Accepted: 23 August 2022

Published online: 20 October 2022

Check for updates

Catherine Doust[1], Pierre Fontanillas[2], Else Eising[3], Scott D. Gordon[4], Zhengjun Wang[5], Gökberk Alagöz[3], Barbara Molz[3], 23andMe Research Team*, Quantitative Trait Working Group of the GenLang Consortium*, Beate St Pourcain[3,6,7], Clyde Francks[3,6], Riccardo E. Marioni[8], Jingjing Zhao[5], Silvia Paracchini[9], Joel B. Talcott[10], Anthony P. Monaco[11], John F. Stein[12], Jeffrey R. Gruen[13], Richard K. Olson[14,15], Erik G. Willcutt[14,15], John C. DeFries[14,15], Bruce F. Pennington[16], Shelley D. Smith[17], Margaret J. Wright[10], Nicholas G. Martin[4], Adam Auton, Timothy C. Bates[1], Simon E. Fisher[3,6] and Michelle Luciano[1]

Reading and writing are crucial life skills but roughly one in ten children are affected by dyslexia, which can persist into adulthood. Family studies of dyslexia suggest heritability up to 70%, yet few convincing genetic markers have been found. Here we performed a genome-wide association study of 51,800 adults self-reporting a dyslexia diagnosis and 1,087,070 controls and identified 42 independent genome-wide significant loci: 15 in genes linked to cognitive ability/educational attainment, and 27 new and potentially more specific to dyslexia. We validated 23 loci (13 new) in independent cohorts of Chinese and European ancestry. Genetic etiology of dyslexia was similar between sexes, and genetic covariance with many traits was found, including ambidexterity, but not neuroanatomical measures of language-related circuitry. Dyslexia polygenic scores explained up to 6% of variance in reading traits, and might in future contribute to earlier identification and remediation of dyslexia.

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PNAS RESEARCH ARTICLE | PSYCHOLOGICAL AND COGNITIVE SCIENCES GENETICS

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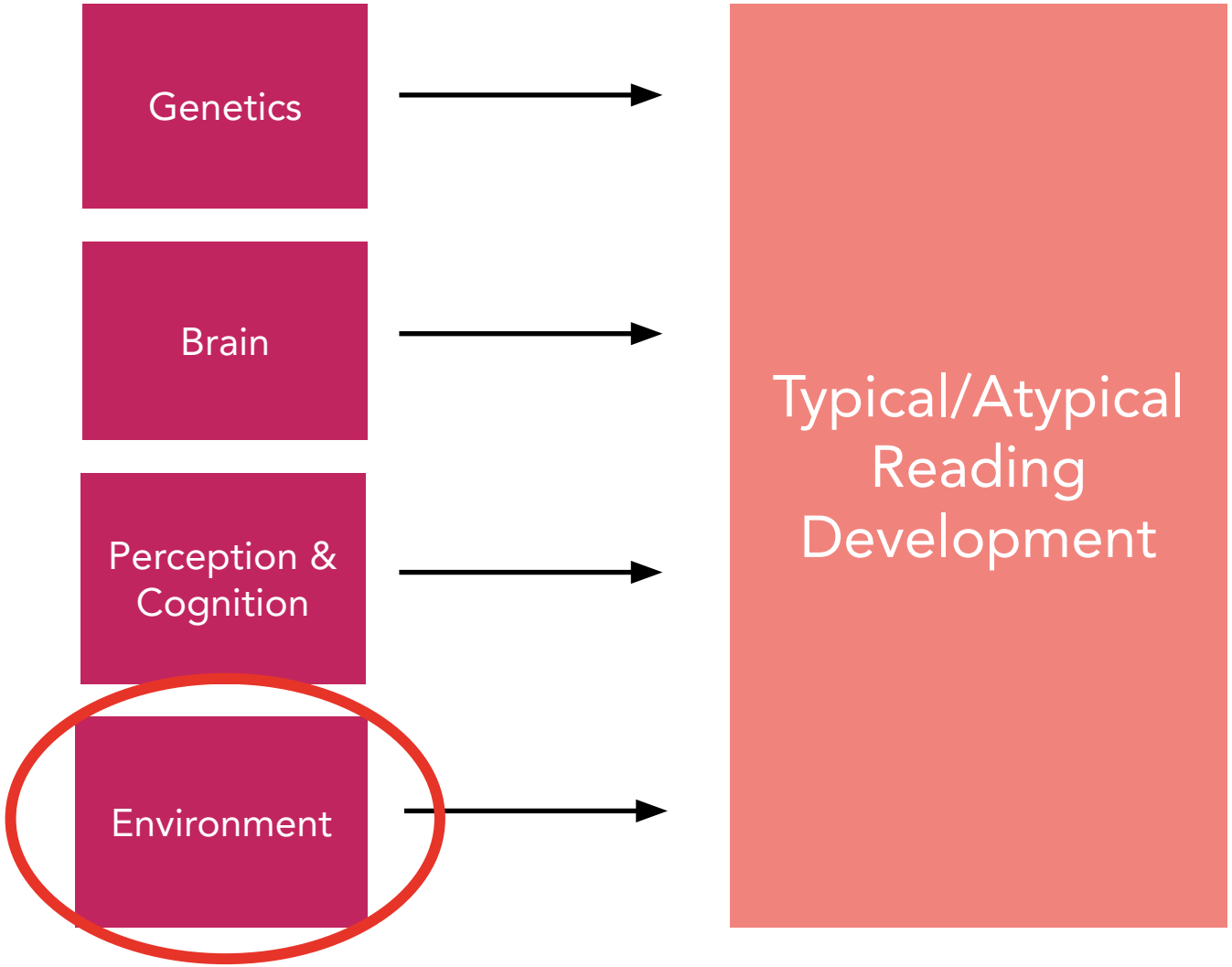
Genome-wide analyses of individual differences in quantitatively assessed reading- and language-related skills in up to 34,000 people

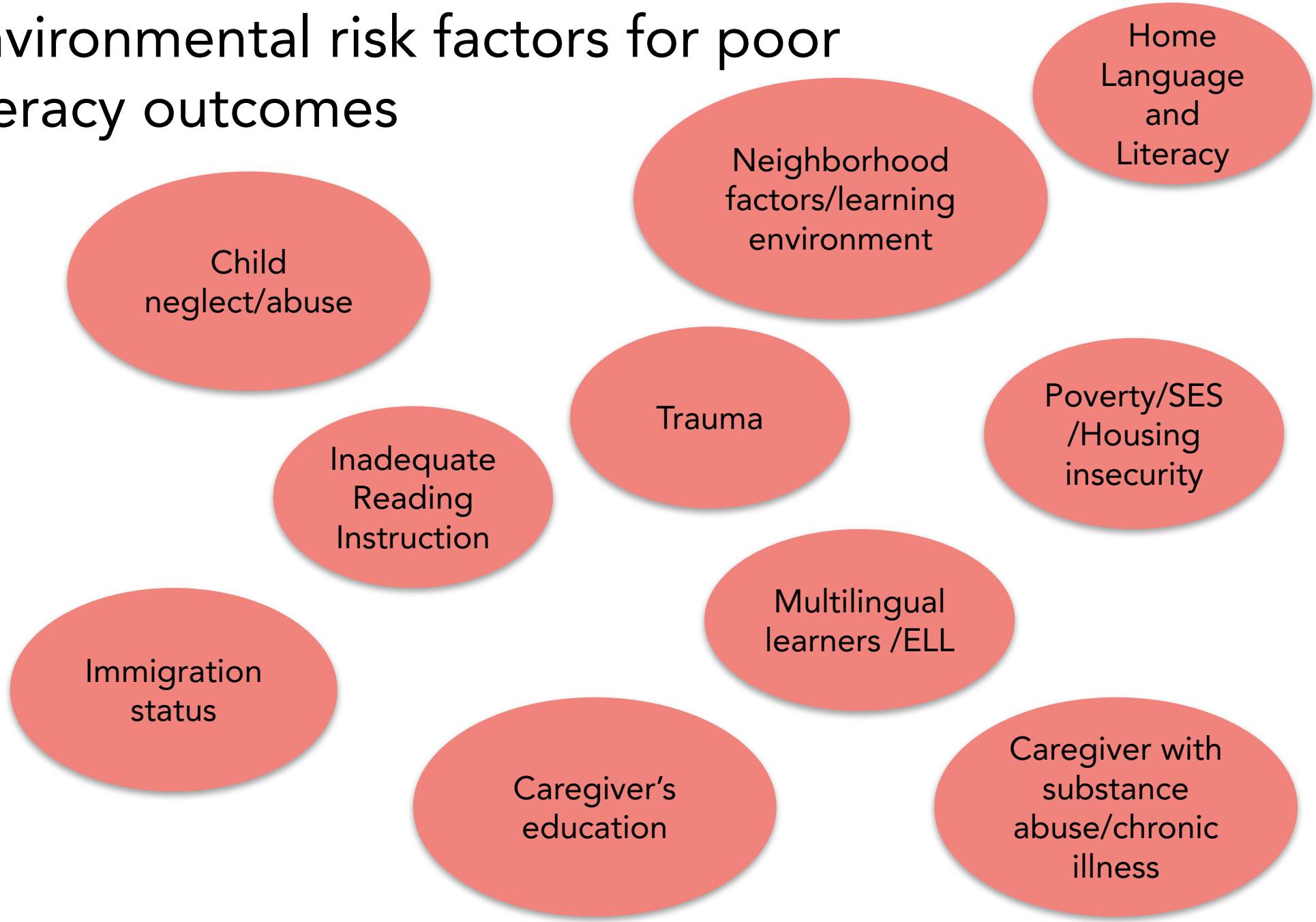
Else Eising[a], Nazanin Mirza-Schreiber[b], Eveline L. de Zeeuw[c], Carol A. Wang[d,e], Dongnhu T. Truong[f], Andrea G. Allegrini[g], Chin Yang Shapland[h,i], Gu Zhu[j], Karen G. Wigg[k], Margot L. Gerritse[a], Barbara Molz[a], Gökberk Alagöz[a], Alessandro Gialluisi[l,m,n], Filippo Abbondanza[o], Kaili Rimfeld[g,p], Marjolein van Donkelaar[a], Zhijie Liao (廖志洁)[q], Philip R. Jansen[r,s,t], Till F. M. Andlauer[l,u], Timothy C. Bates[v], Manon Bernard[w], Kirsten Blokland[x], Milene Bonte[y], Anders D. Børglum[z,aa,bb], Thomas Bourgeron[cc], Daniel Brandeis[dd,ee,ff,gg], Fabiola Ceroni[hh,ii], Valéria Csépe[jj,kk], Philip S. Dale[ll], Peter F. de Jong[mm], John C. DeFries[nn,oo], Jean-François Démonet[pp], Ditte Demontis[z,aa], Yu Feng[k], Scott D. Gordon[j], Sharon L. Guger[qq], Marianna E. Hayiou-Thomas[rr], Juan A. Hernández-Cabrera[ss], Jouke-Jan Hottenga[c], Charles Hulme[tt], Juha Kere[uu,vv], Elizabeth N. Kerr[qq,ww,xx], Tanner Koomar[yy], Karin Landerl[zz,aaa], Gabriel T. Leonard[bbb], Maureen W. Lovett[x,xx], Heikki Lyytinen[ccc], Nicholas G. Martin[j], Angela Martinelli[o], Urs Maurer[ddd], Jacob J. Michaelson[yy], Kristina Moll[eee], Anthony P. Monaco[fff], Angela T. Morgan[ggg,hhh,iii], Markus M. Nöthen[jjj], Zdenka Pausova[w,kkk], Craig E. Pennell[d,e,lll], Bruce F. Pennington[mmm], Kaitlyn M. Price[k,x,nnn], Veera M. Rajagopal[z,aa], Franck Ramus[ooo], Louis Richer[ppp], Nuala H. Simpson[q,qq], Shelley D. Smith[rrr], Margaret J. Snowling[qqq,sss], John Stein[ttt], Lisa J. Strug[uuu,vvv], Joel B. Talcott[www], Henning Tiemeier[r,xxx], Marc P. van der Schroeff[yyy,zzz], Ellen Verhoef[a], Kate E. Watkins[qqq], Margaret Wilkinson[x], Margaret J. Wright[aaaa], Cathy L. Barr[k,x,nnn], Dorret I. Boomsma[c,bbbb,cccc], Manuel Carreiras[dddd,eeee,ffff], Marie-Christine J. Franken[yy], Jeffrey R. Gruen[f], Michelle Luciano[v], Bertram Müller-Myhsok[l,gggg], Dianne F. Newbury[jj], Richard K. Olson[nn], Silvia Paracchini[o], Tomáš Paus[hhhh], Robert Plomin[g], Sheena Reilly[ggg,iii], Gerd Schulte-Körne[eee], J. Bruce Tomblin[jjj], Elsje van Bergen[c,bbbb,kkkk], Andrew J. O. Whitehouse[lll], Erik G. Willcutt[oo], Beate St Pourcain[a,h,mmmm,1], Clyde Francks[a,mmmm,nnnn,1], and Simon E. Fisher[a,mmmm,2]

Edited by Uta Frith, University College London, London, United Kingdom; received February 18, 2022; accepted May 31, 2022

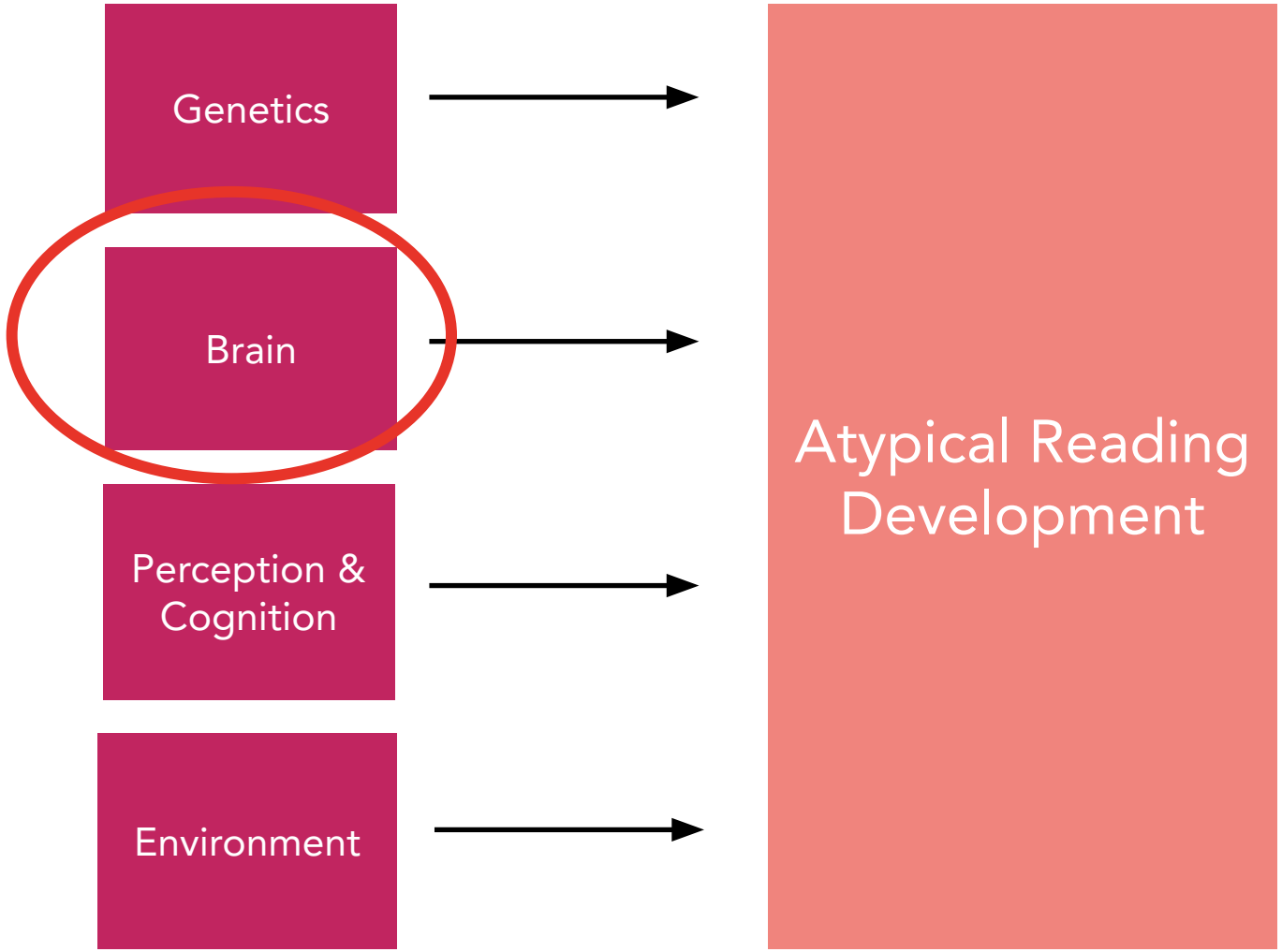
Factors influencing the development of Reading Disabilities



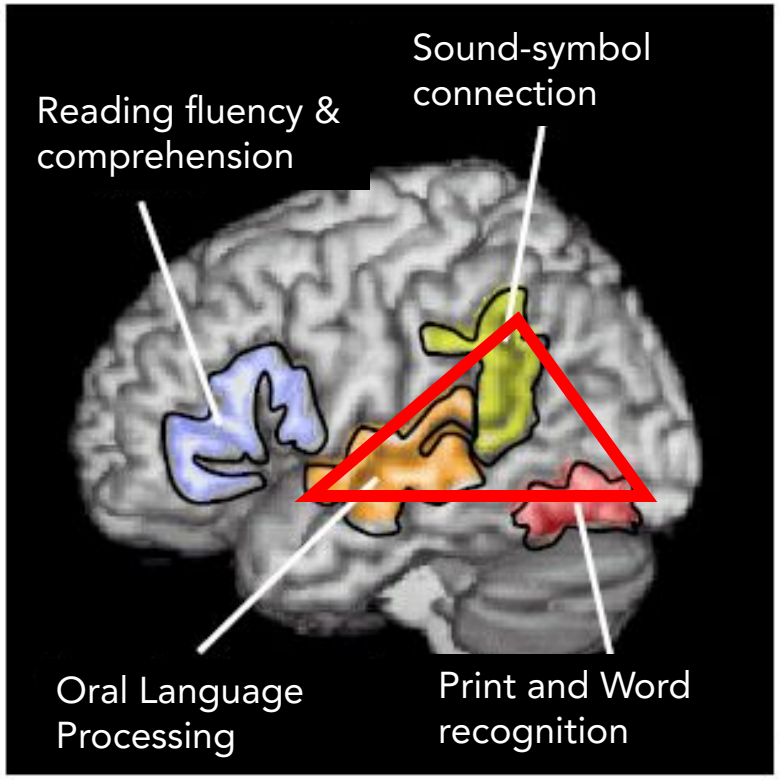
Environmental risk factors for poor literacy outcomes

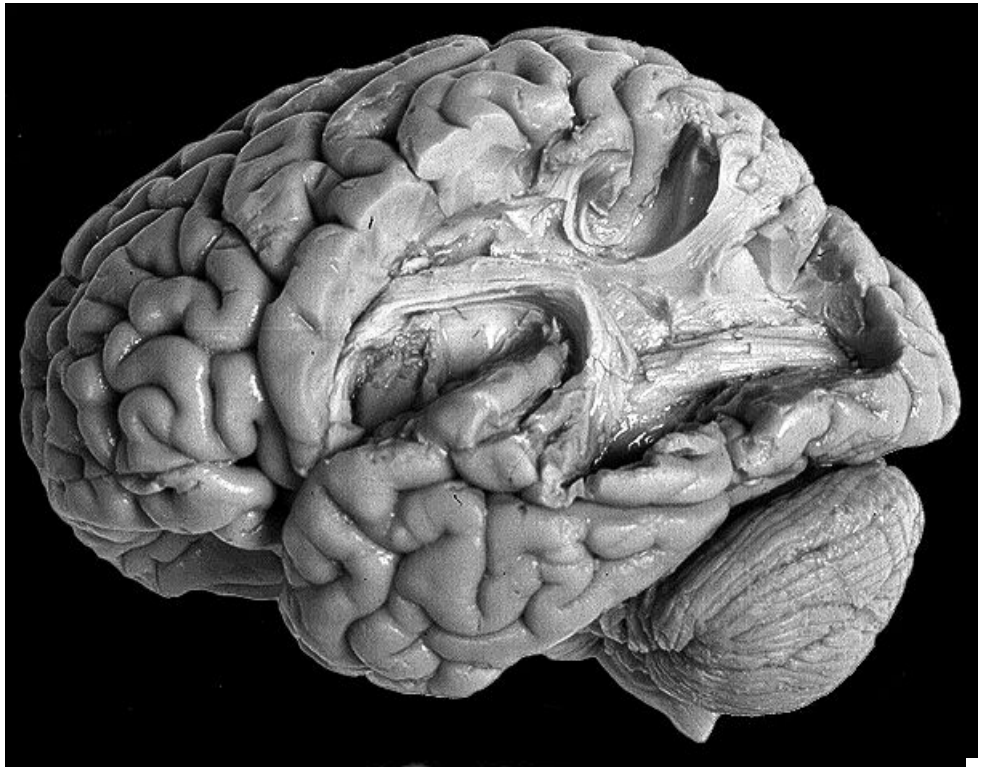


Factors contributing to reading disabilities



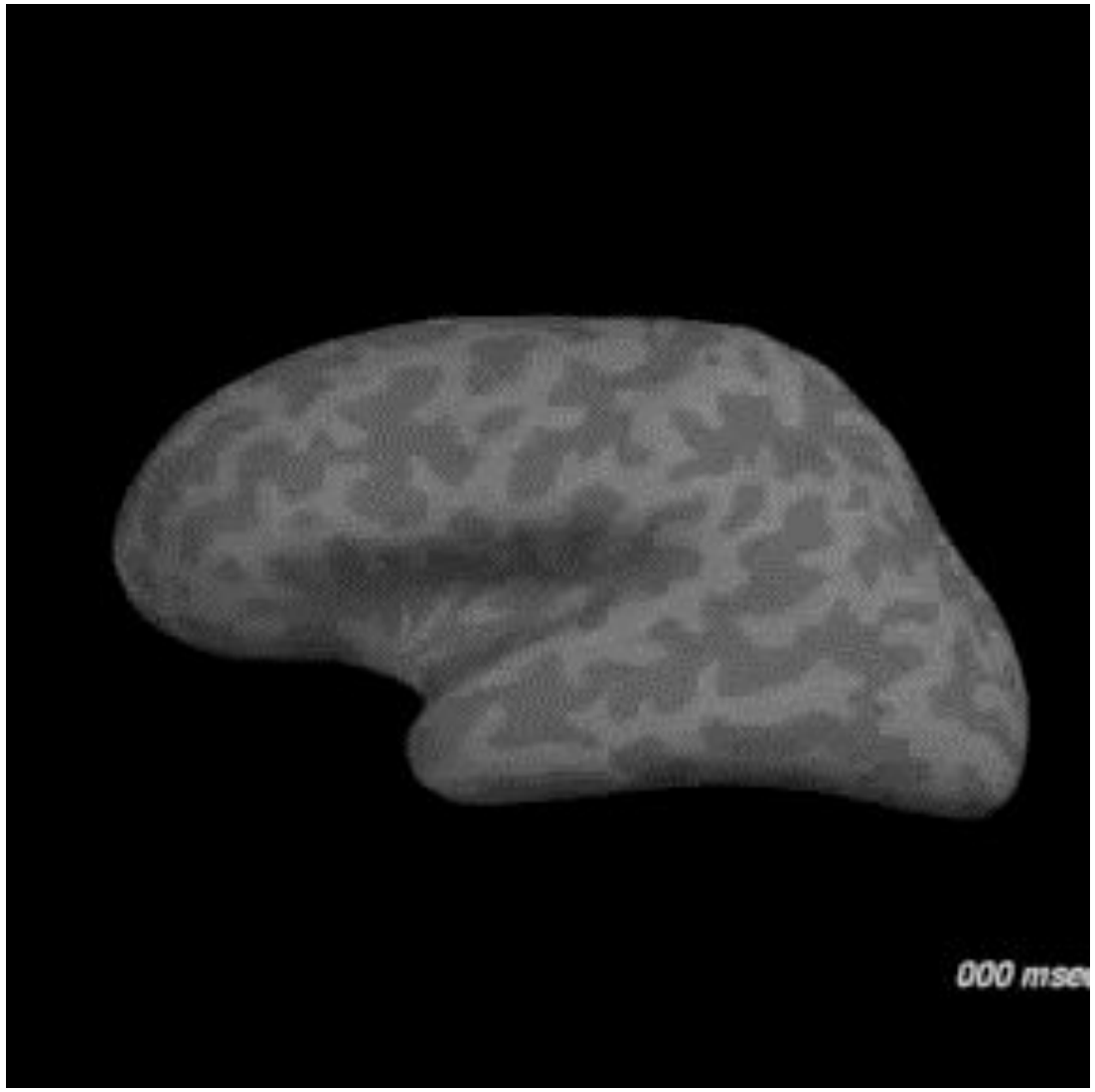
Brain studies in school-age children and adults have demonstrated critical mechanistic support for multifactorial models of reading





(Ozernov-Palchik & Gaab , 2016; Wiley Interdiscip Rev Cogn Sc)

Reading words…



[Video: Showing brain activation while an adults is reading a word]

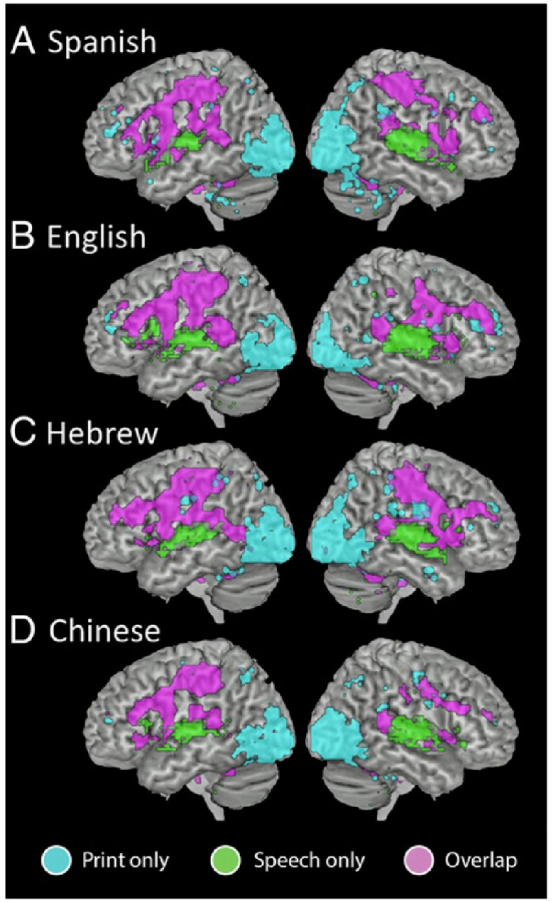
(Dale et al., 2000)

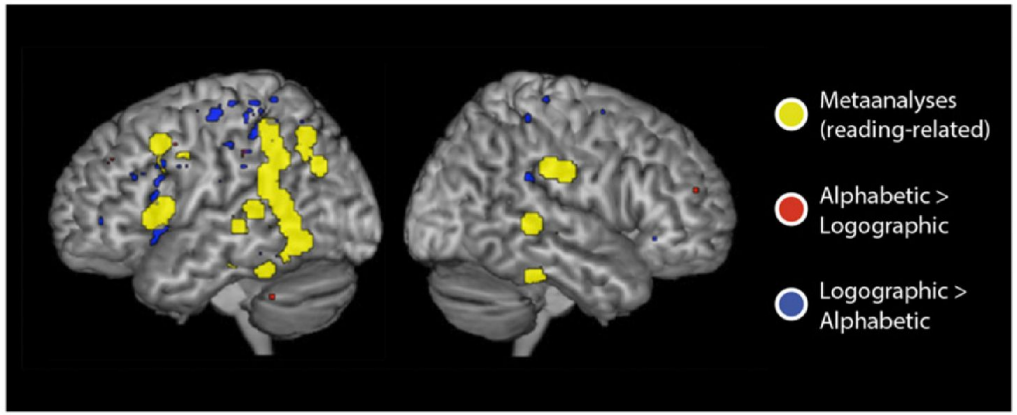
PNAS

Universal brain signature of proficient reading: Evidence from four contrasting languages

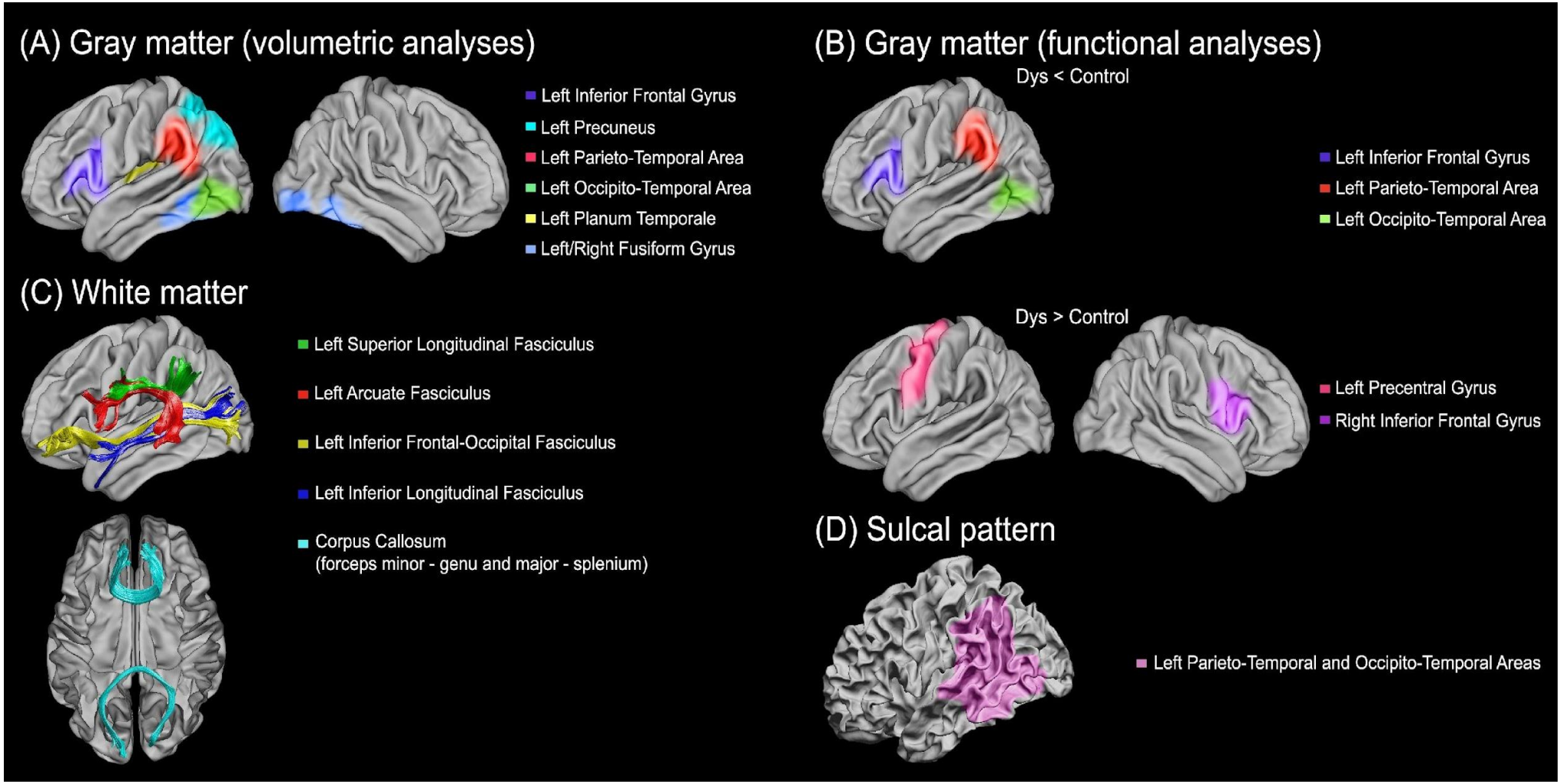
2015

Jay G. Rueckl[a,b], Pedro M. Paz-Alonso[c], Peter J. Molfese[a,b], Wen-Jui Kuo[d], Atira Bick[e], Stephen J. Frost[a,1], Roeland Hancock[f], Denise H. Wu[g], William Einar Mencl[a], Jon Andoni Duñabeitia[c], Jun-Ren Lee[h], Myriam Oliver[c], Jason D. Zevin[a,i,j], Fumiko Hoeft[a,f], Manuel Carreiras[c,k], Ovid J. L. Tzeng[l,m,n], Kenneth R. Pugh[a,b,o], and Ram Frost[a,c,e]





Structural and functional brain alterations in individuals with dyslexia



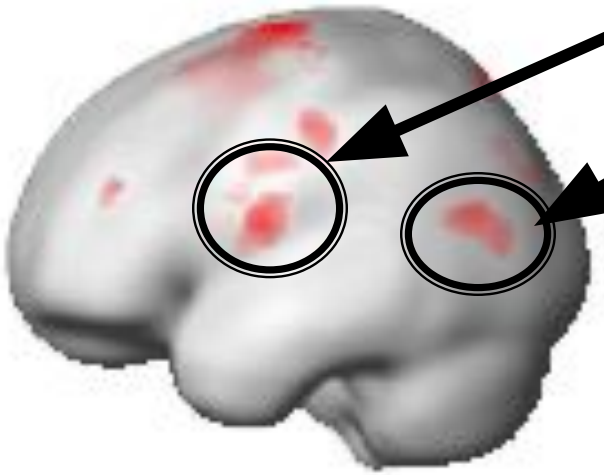
(Ozernov-Palchik, … & Gaab, 2016; Curr Opin. Behav. Sci)

Neural deficits in children with dyslexia ameliorated by behavioral remediation: Evidence from functional MRI

Elise Temple[†‡], Gayle K. Deutsch[§], Russell A. Poldrack[¶], Steven L. Miller[‖], Paula Tallal[‖††], Michael M. Merzenich[‖‡‡], and John D. E. Gabrieli[†§]

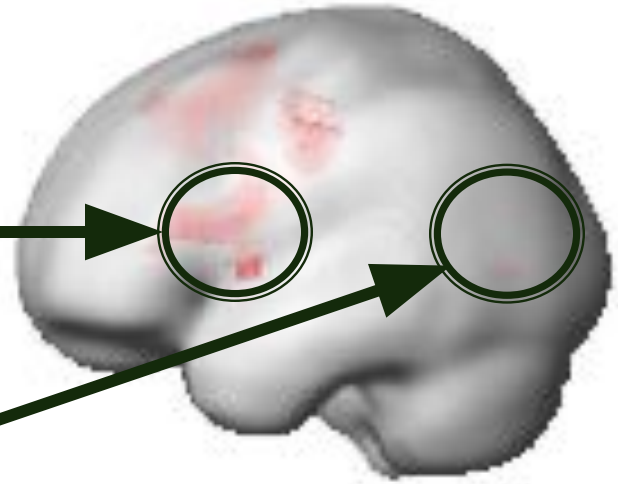
n= 45
8 weeks intervention

Control



Frontal
AND
Temporo-pa
rietal

Dyslexia



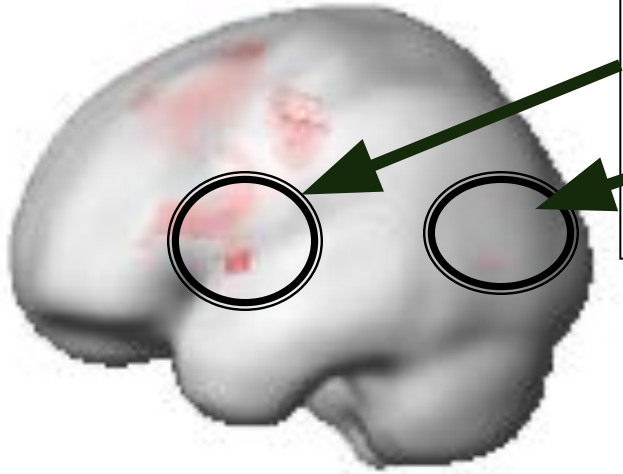
Frontal
but NOT
Temporo-pa
rietal

Example:
B D = Rhyme
B K = Do Not Rhyme

[Temple et al. (2003) PNAS, 100]

Neural effect of intervention

Pre-Intervention

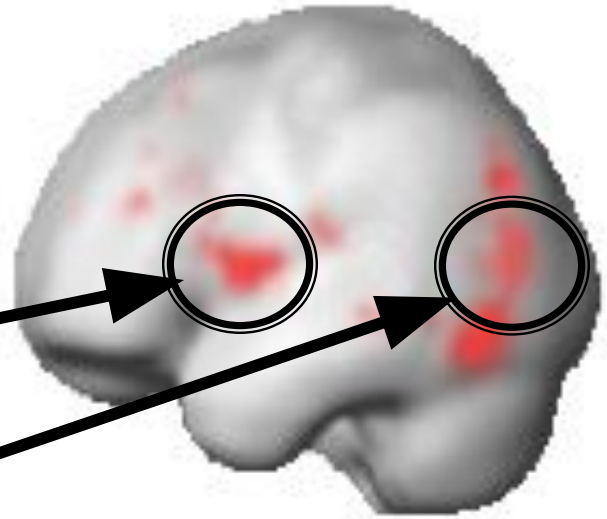


Frontal
but NOT
Temporo-pa
rietal

After training, metabolic brain activity in dyslexics more closely resembles that of typical readers.

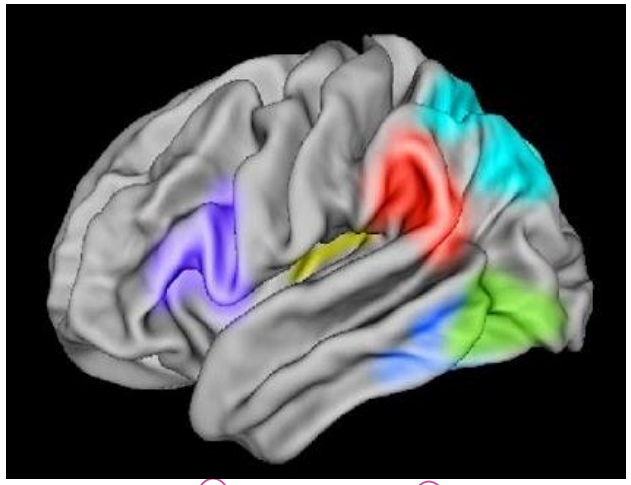
Post-Intervention

Increased
activity in
Frontal AND
Temporo-par
ietal

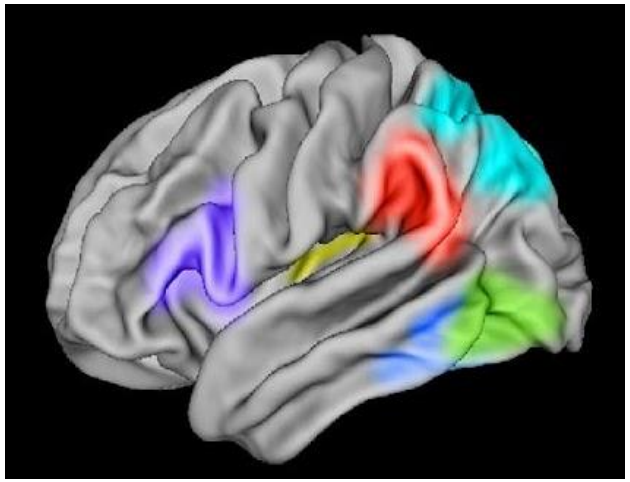


[Temple et al. (2003) PNAS, 100]

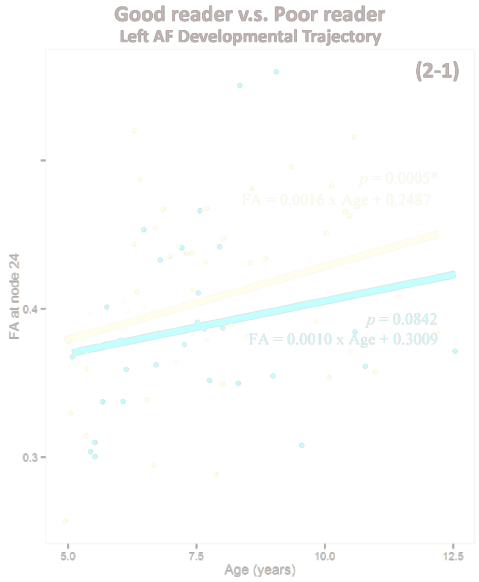
Cause or consequence?
An important question for practice and policy



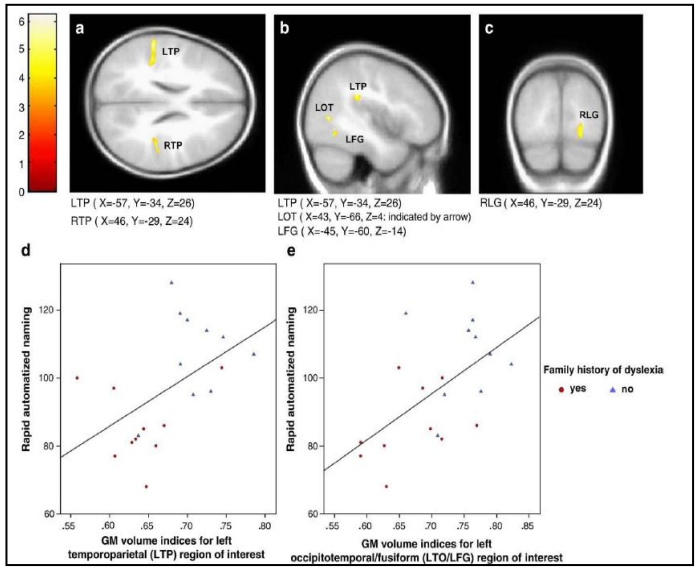
Birth | Pre-K | K | 1 | 2 | 3 | 4 | 5



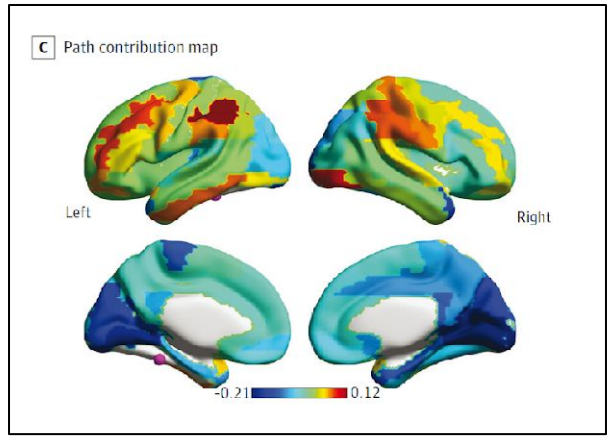
Some of the brain alterations in struggling readers predate formal reading instruction



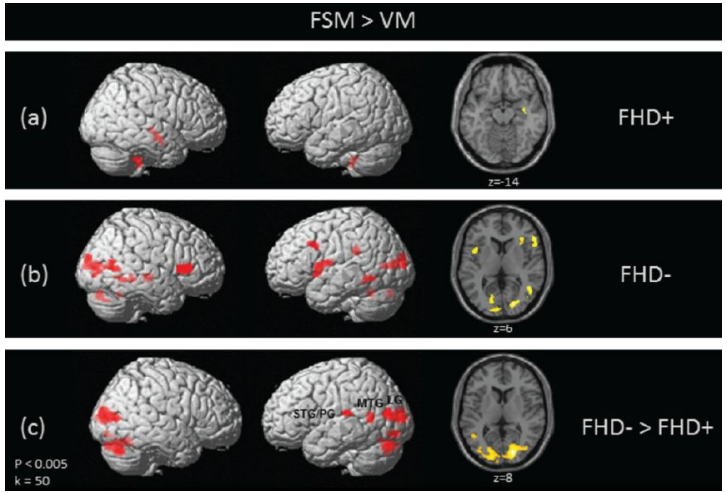
Wang,…Gaab, 2017; Cerebral Cortex



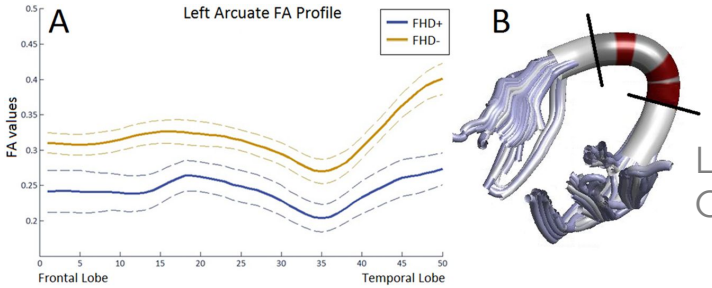
Raschle, …Gaab, 2010; Neuroimage



Yu, …Gaab, 2022; JAMA Pediatrics

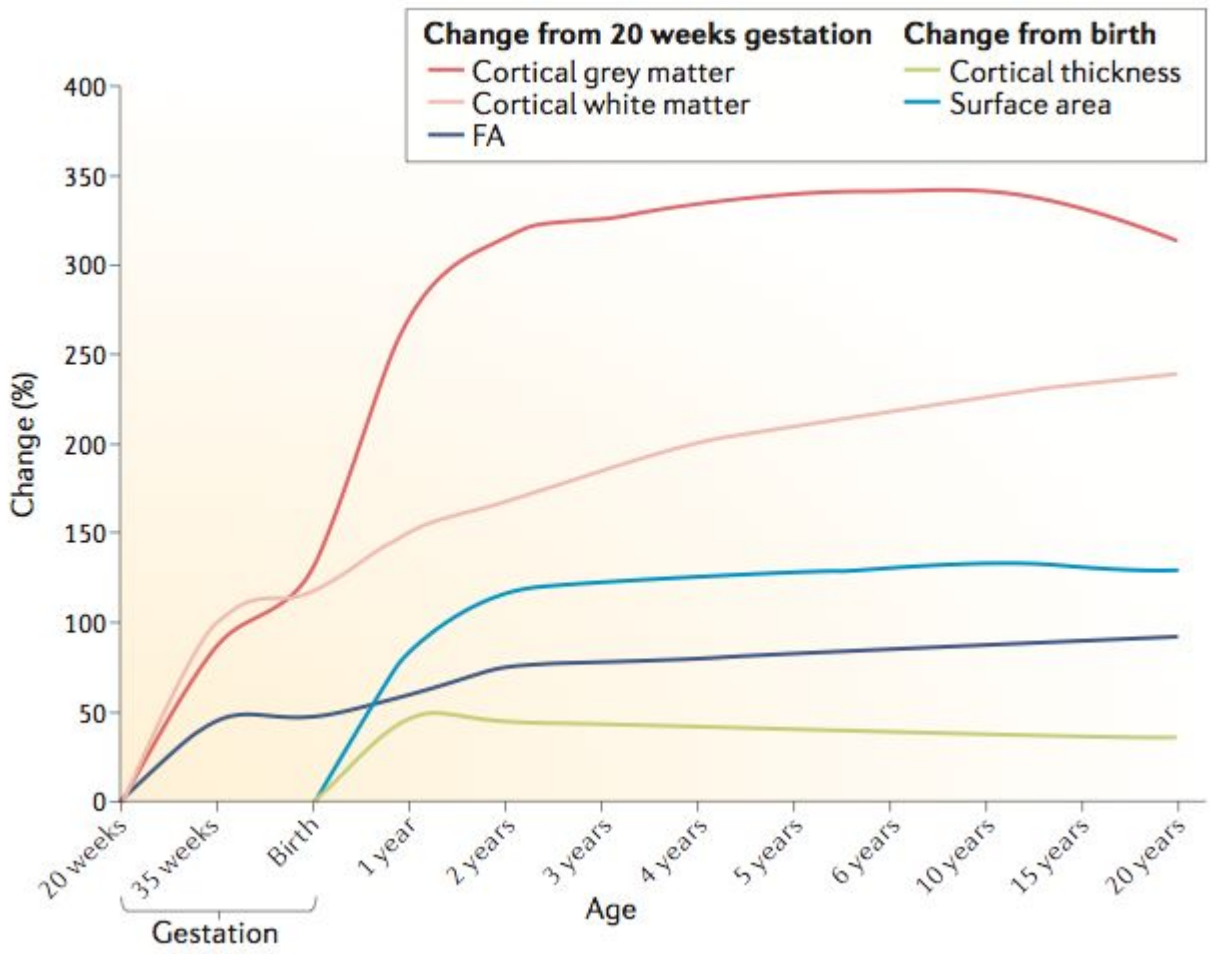


Raschle, … Gaab, 2012; PNAS



Langer, …Gaab, 2016; Cerebral Cortex

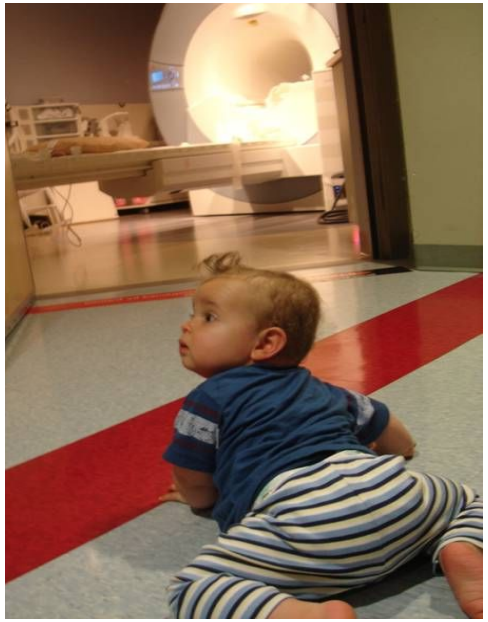
Early Infancy:
Rapid Period of Brain Development



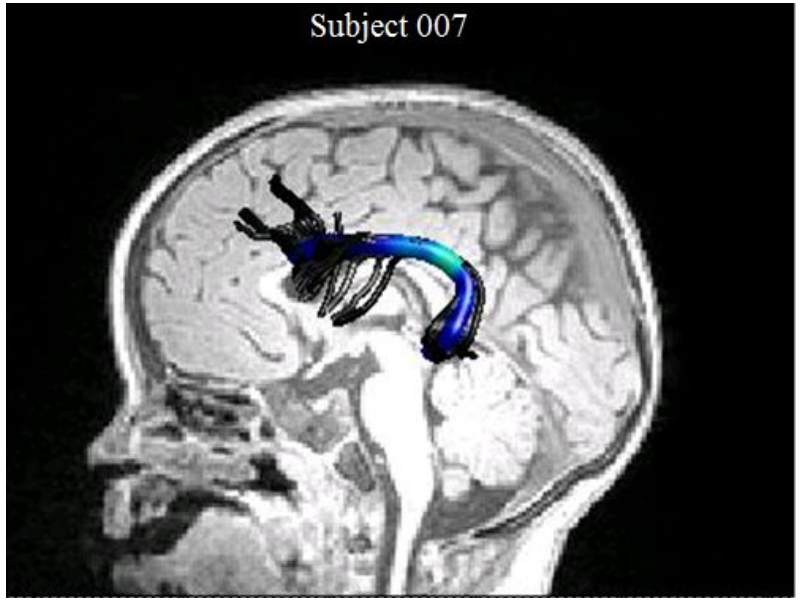
(Gilmore, Knickmeyer, & Gao, 2018)

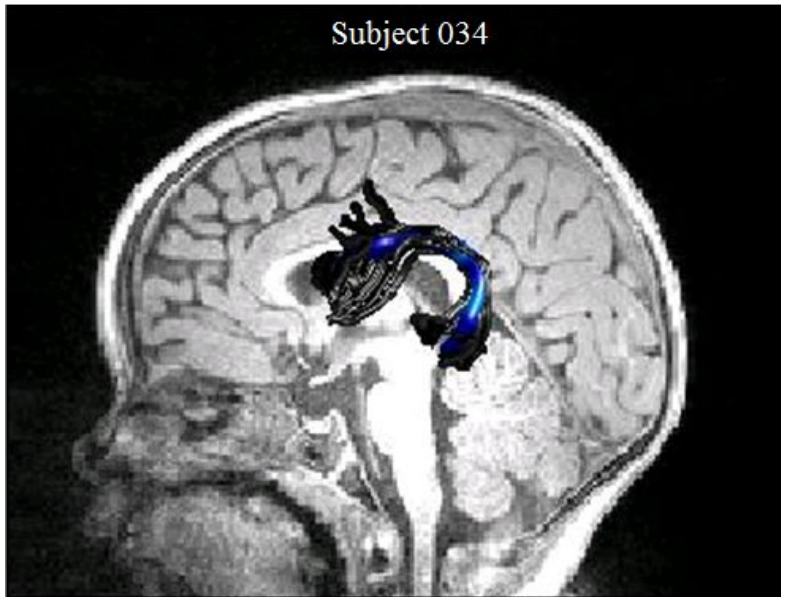
Neuroimaging the rapidly developing brain

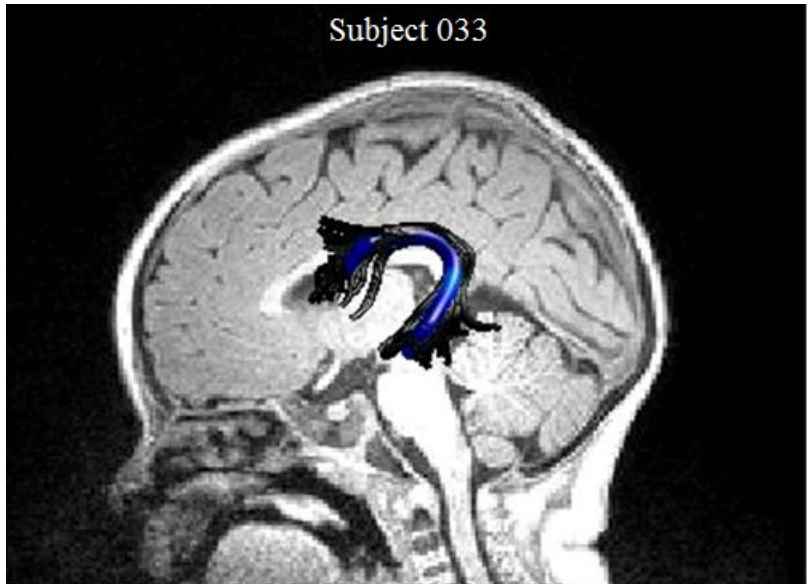
(Turesky, … & Gaab, 2021; Dev. Cog. Neur.)

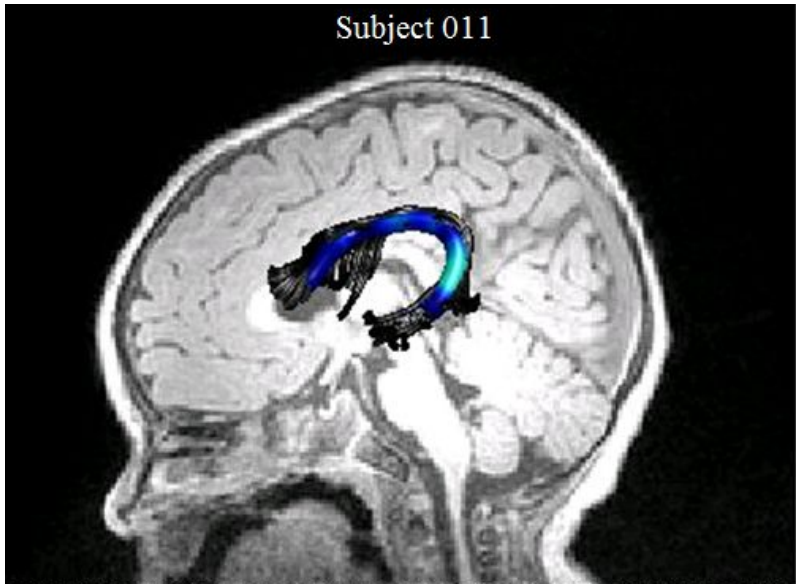


Examples of variability in brain structure



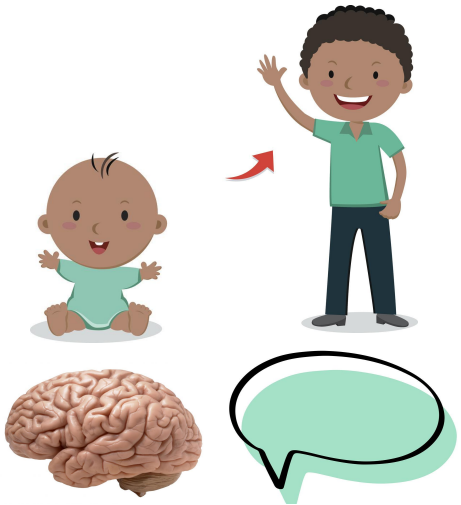


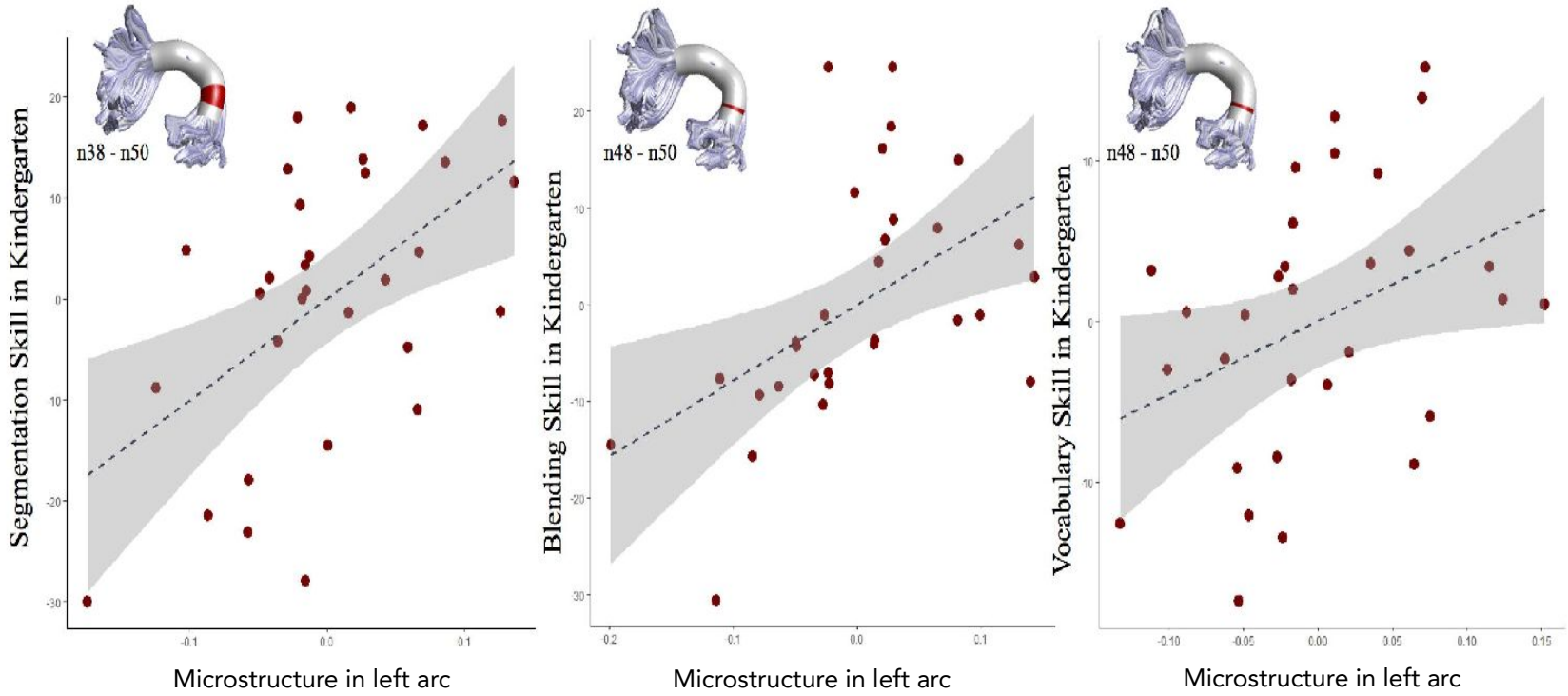




White matter in infancy is prospectively associated with language outcomes in kindergarten

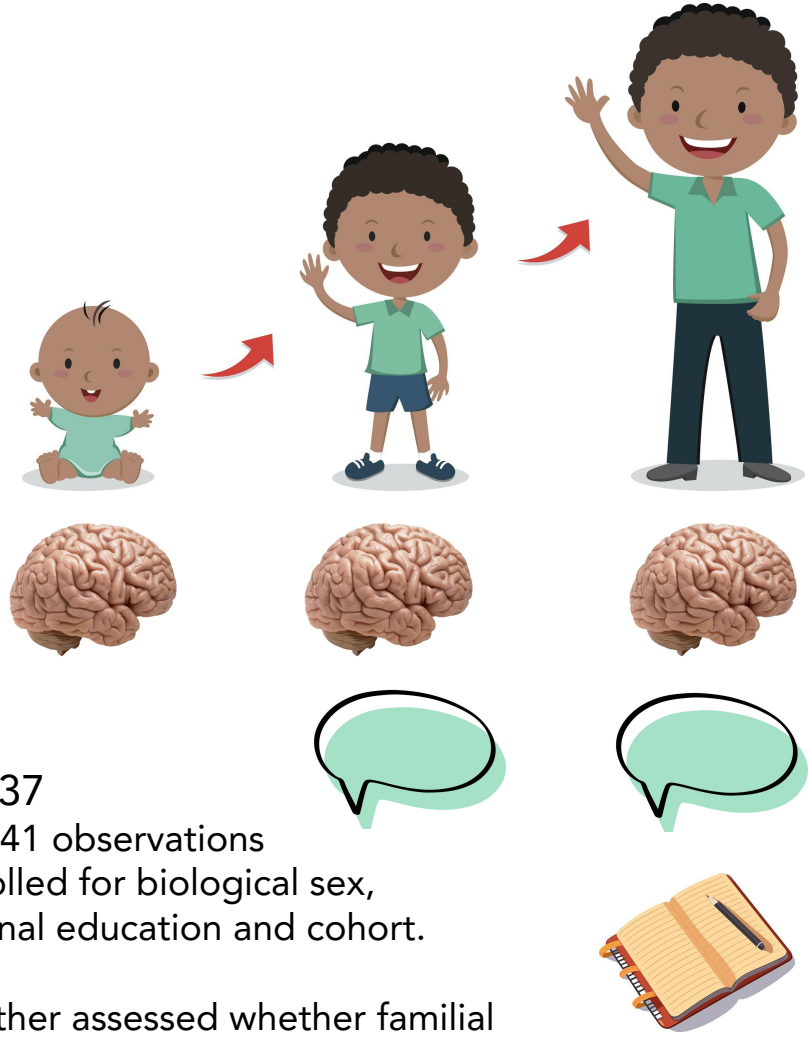
(Zuk, … & Gaab, 2021; Dev. Cog. Neur.)





Microstructure within the left arcuate fasciculus is prospectively associated with phonological awareness and vocabulary skills (controlling for age and the home language/literacy environment)

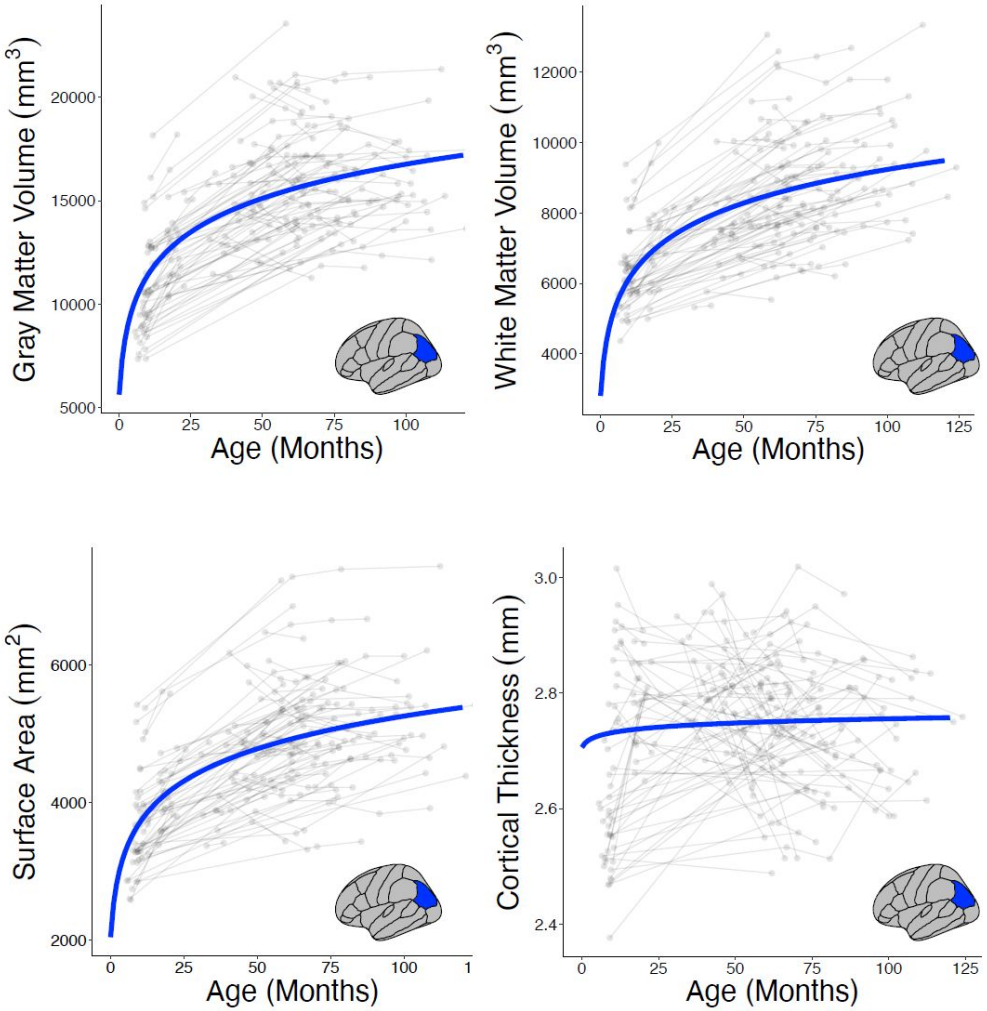
Longitudinal trajectories of brain development from infancy to school age and their relationship to literacy development



n ≈ 137
with 441 observations
controlled for biological sex, maternal education and cohort.

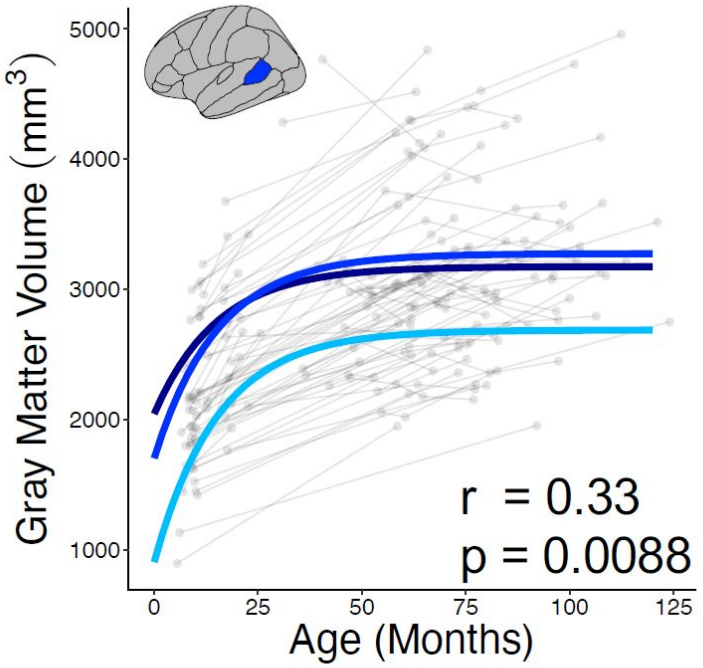
 Further assessed whether familial risk or home literacy environment show influences

Turesky et al., in press; PNAS)

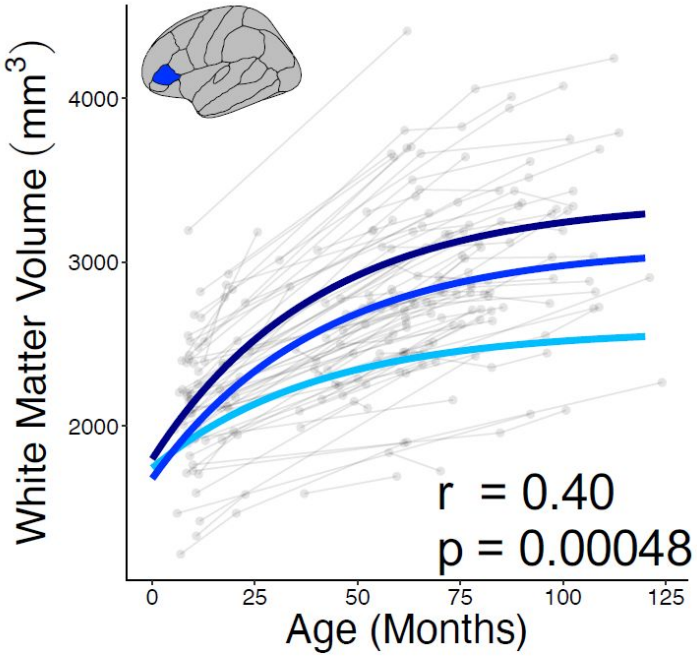


Growth curves differ depending on pre-literacy outcomes

Turesky et al., in press; PNAS)



Different intercepts



Different slopes

Phonological Processing at 60 months:

Low Average High

Home Language and Literacy Environment (HLLE)

Aspects of HLLE that are most predictive of future language and literacy skills include (e.g., Hamilton, 2013; Payne, Whitehurst, & Angell, 1994; Bus et al., 1995; Rodriguez et al., 2011):

- Age of onset of shared reading
- Frequency and quality of book reading
- Frequency of library visits
- Parental knowledge of storybook titles
- Parental mediating style during shared reading
- Parental language during shared reading
- …

…but there are large cultural differences….

Home language and literacy environment and its relationship to socioeconomic status and white matter structure in infancy

Ted K. Turesky[1,3] · Joseph Sanfilippo[2,4] · Jennifer Zuk[5] · Banu Ahtam[3,6] · Borjan Gagoski[3,6] · Ally Lee[1,2] · Kathryn Garrisi[1,2] · Jade Dunstan[2] · Clarisa Carruthers[2] · Jolijn Vanderauwera[7,8] · Xi Yu[9] · Nadine Gaab[1,3]

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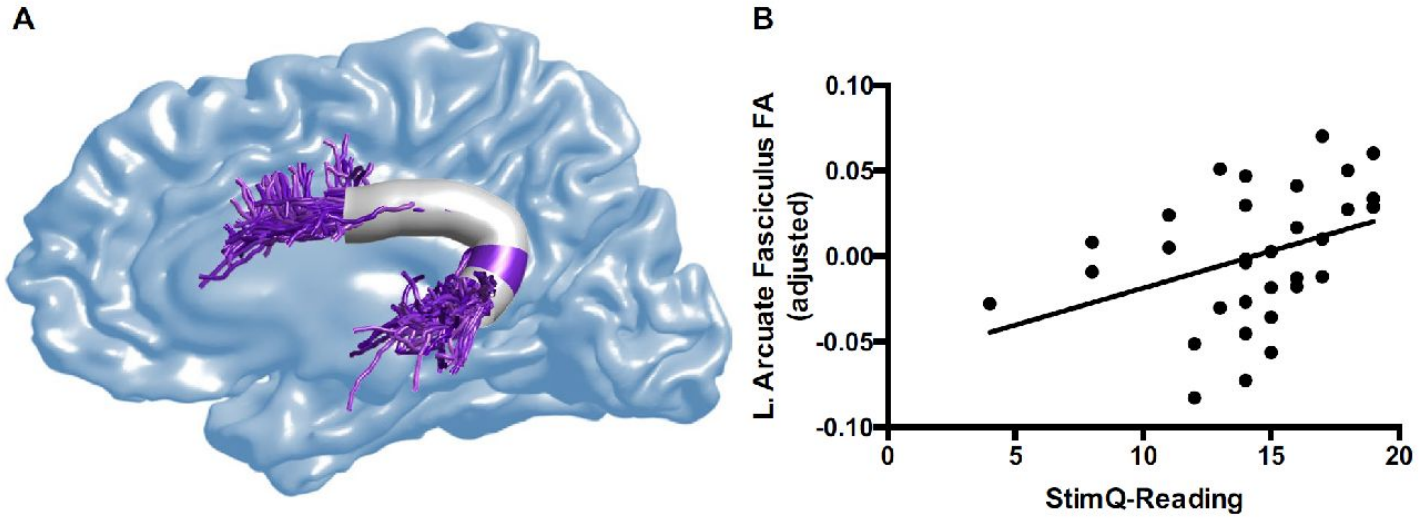

Fig. 2 Association between StimQ-Reading and white matter organization in the left AF. **A** Nodes exhibiting significant associations between StimQ-Reading and FA (after FWE correction for multiple comparisons), superimposed on a midsagittal slice of one infant (purple). **B** Scatterplot depicting average FA from nodes represented in A in relation to StimQ-Reading. FA was adjusted for infant age, sex, and self-reported maternal reading ability

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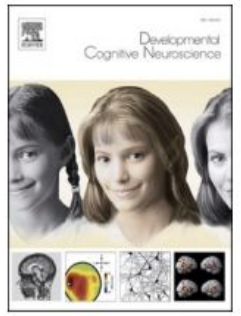


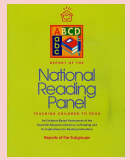
Leveraging brain science for impactful advocacy and policymaking: The synergistic partnership between developmental cognitive neuroscientists and a parent-led grassroots movement to drive dyslexia prevention policy and legislation

Nadine Gaab [a,*], Nancy Duggan [b]

[a] Harvard Graduate School of Education, USA
[b] Decoding Dyslexia Massachusetts, USA

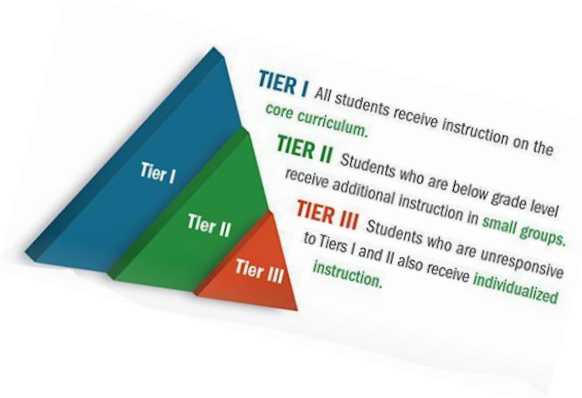
For at least 25 years, our society has invested millions of dollars to improve educational opportunities and outcomes for struggling readers

National Reading Panel



The Individuals with Disabilities Education Act 2004 (IDEA)

IDEA 2004



2000

2002

2004

2015

No Child Left Behind Act

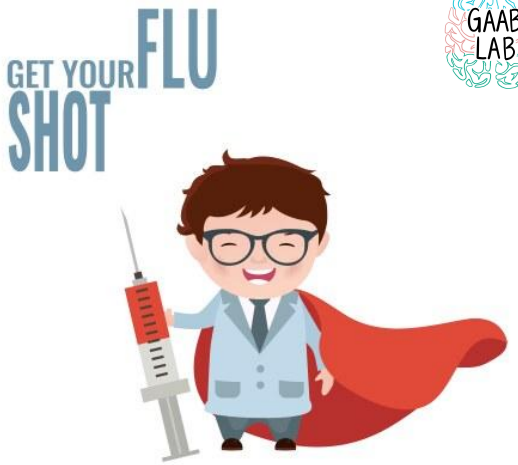
U.S. Department of Education
No Child LEFT BEHIND

Every Student Succeeds Act

ESSA
Every Student Succeeds Act

GAAB LAB

As a society, we embrace preventative medicine, but we have not prioritized preventative education strategies to the same extent.



The dominant approach has been a reactive, deficit-driven, "wait-to-fail" model

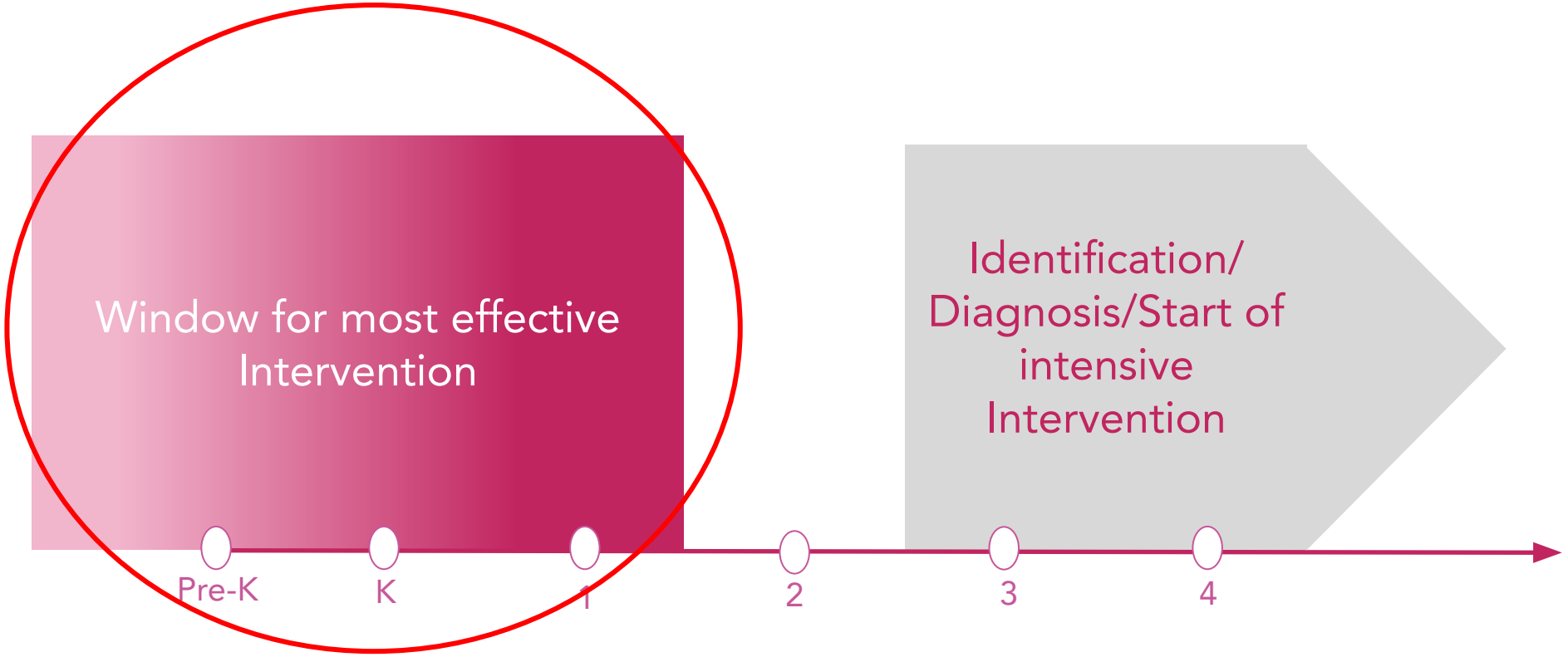
Identification/ Diagnosis/Start of intensive Intervention

Pre-K K 1 2 3 4

As outlined in
(Ozernov-Palchik, … & Gaab, 2016; Curr Opin Behav Sci)
(Ozernov-Palchik & Gaab , 2016; Wiley Interdiscip Rev Cogn Sci)

The "Dyslexia Paradox"

A reading disability is generally identified after the most effective intervention window



As outlined in
(Ozernov-Palchik, … & Gaab, 2016; Curr Opin Behav Sci)
(Ozernov-Palchik & Gaab , 2016; Wiley Interdiscip Rev Cogn Sci)

Early versus late intervention

- A meta-analysis comparing intervention studies offering at least 100 sessions, reported larger effect sizes in kindergarten/1st grade than in 2nd and 3rd grades (Wanzek & Vaughn, 2007; Wanzek et al., 2013; Wanzek et al., 2016) .
- When "at risk" beginning readers receive intensive instruction, 56% to 92% of at-risk children across six studies reached the range of average reading ability (Torgesen, 2004).
- Overall, converging research points to the importance of early interventions for at-risk students for improving the effectiveness of remediation (Connor et al., 2013; Catts, et al., 2015; Denton & Vaughn, 2008; Connor et al., 2009; Shaywitz, Morris, & Shaywitz, 2008, Torgesen, et al., 1999; Flynn, Zheng, & Swanson, 2012; Vellutino et al., 1996; Morris, Lovett, Wolf et al., 2012; Morris et al., 1997).

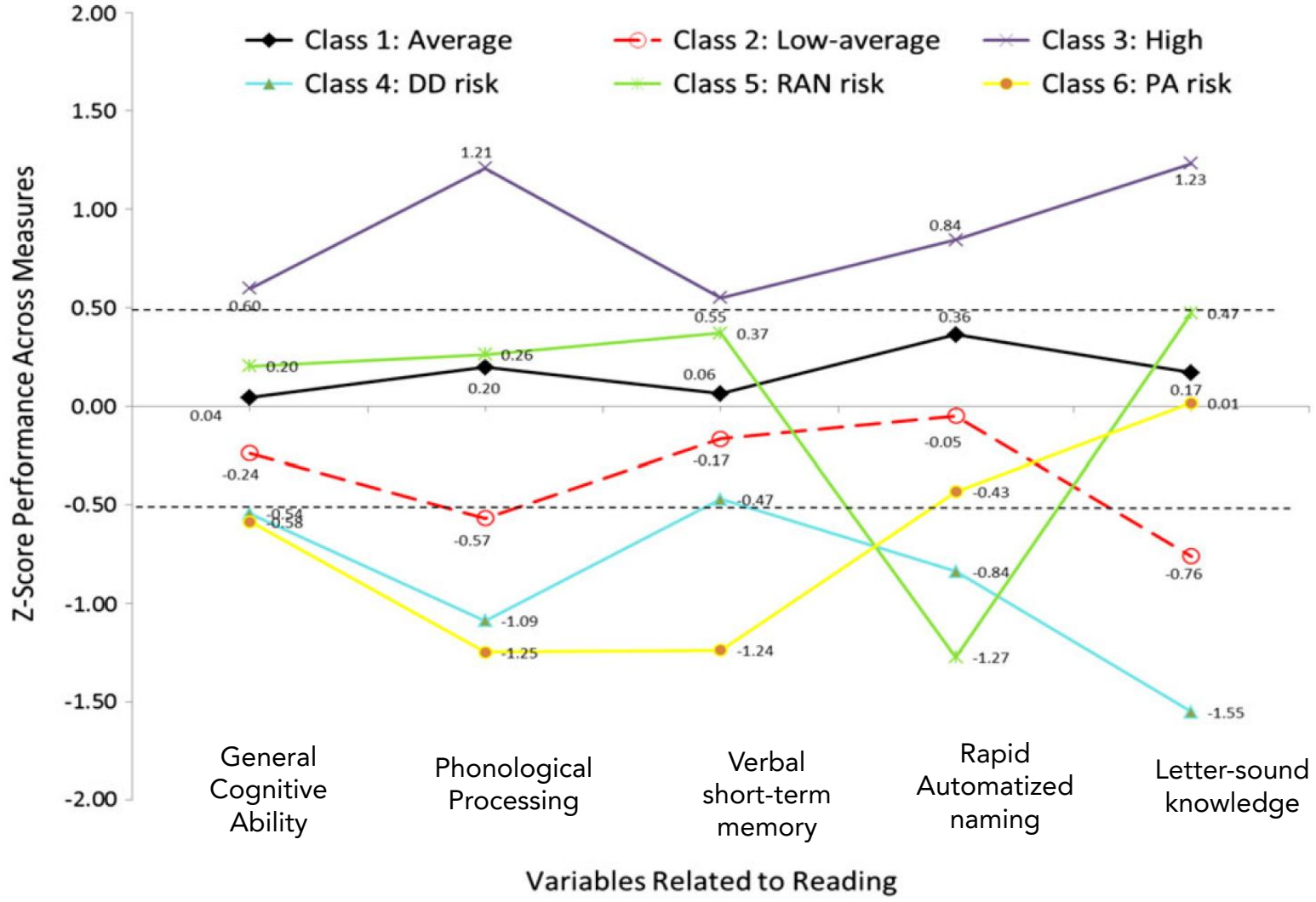
Replacing the wait-to-fail model with a preventative support model

Comprehensive early risk screening and evidence-based response to screening

Lower rates of dyslexia and improved reading outcomes in children with a diagnosis / better mental health

Birth | Pre-K | K | 1 | 2 | 3 | 4

Latent profile analysis shows six distinct profiles of early reading and long-term stability



[n = 1,215 children]

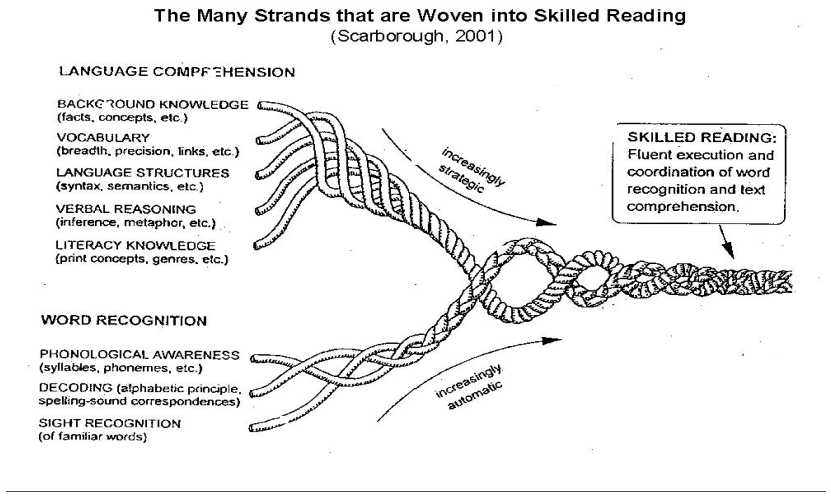
(Ozernov-Palchik, … & Gaab, 2017; Developmental Science)

Early behavioral predictors of reading difficulties/dyslexia

Key childhood predictors of reading problems (e.g., Landerl, et al., 2013; Elbro et al., 1998; Scarborough, 1998, O'Connor & Jenkins, 1999; Lyytinen et al., 2001; Catts et al., 2001, 2015; Schatschneider et al., 2004, Pennington et al., 2001; Compton et al., 2006; Stanley et al., 2018):

- Phonological awareness
- Pseudoword repetition
- Rapid automatized naming
- Expressive/receptive vocabulary
- Letter (sound) knowledge
- Oral listening comprehension

Familial risk of dyslexia and language delay



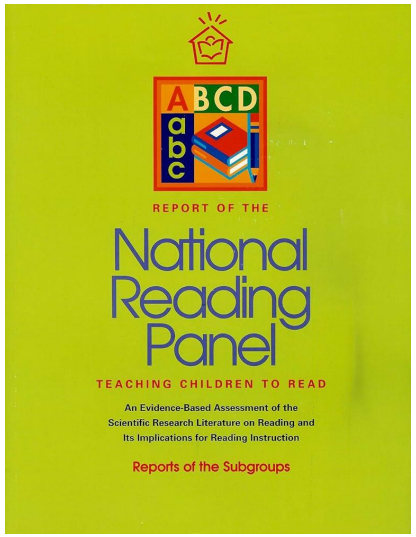

Do vision problems cause dyslexia?
No. Although vision is fundamental for reading, there is no current evidence that suggests visual problems cause dyslexia. Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge.[2]
What about convergence issues?
Convergence insufficiency, a reduced ability to turn the eyes towards each other, is uncommon in children. Incidences typically peak in high school or college-aged individuals, or early middle-aged individuals.[3] According to the American Academy of Ophthalmology, treatment for convergence issues will not improve decoding or comprehension.[1]
Dyslexia and learning disabilities are complex problems without simple solutions and there is no evidence to suggest that visual interventions remediate them. However, through early detection and language-based individualized instruction that is systematic, explicit, and cumulative, children can develop appropriate word reading skills.
THE SOUTHPORT COLAB
FCRR
[1]American Academy of Ophthalmology (2009). Learning Disabilities, Dyslexia and Vision. San Francisco, CA: Author.
[2]International Dyslexia Association (2002). Definition consensus project. Retrieved from https://dyslexiaida.org/definition-consensus-project/
[3]Mazow M. The Convergence Insufficiency Syndrome. J Pediatr Ophthalmol Strabismus. 1971; 8: 243-244. doi: 10.3928/0191-3913-19711101-07

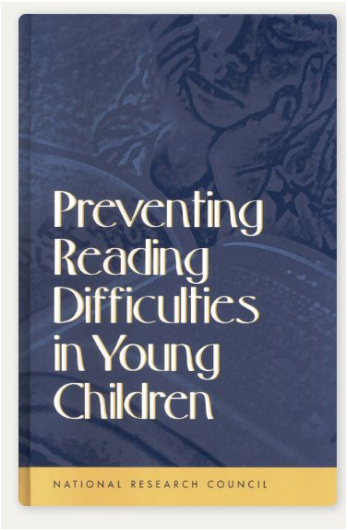
Scientific Studies of Reading

ISSN: 1088-8438 (Print) 1532-799X (Online) Journal homepage: www.tandfonline.com/journals/hssr20

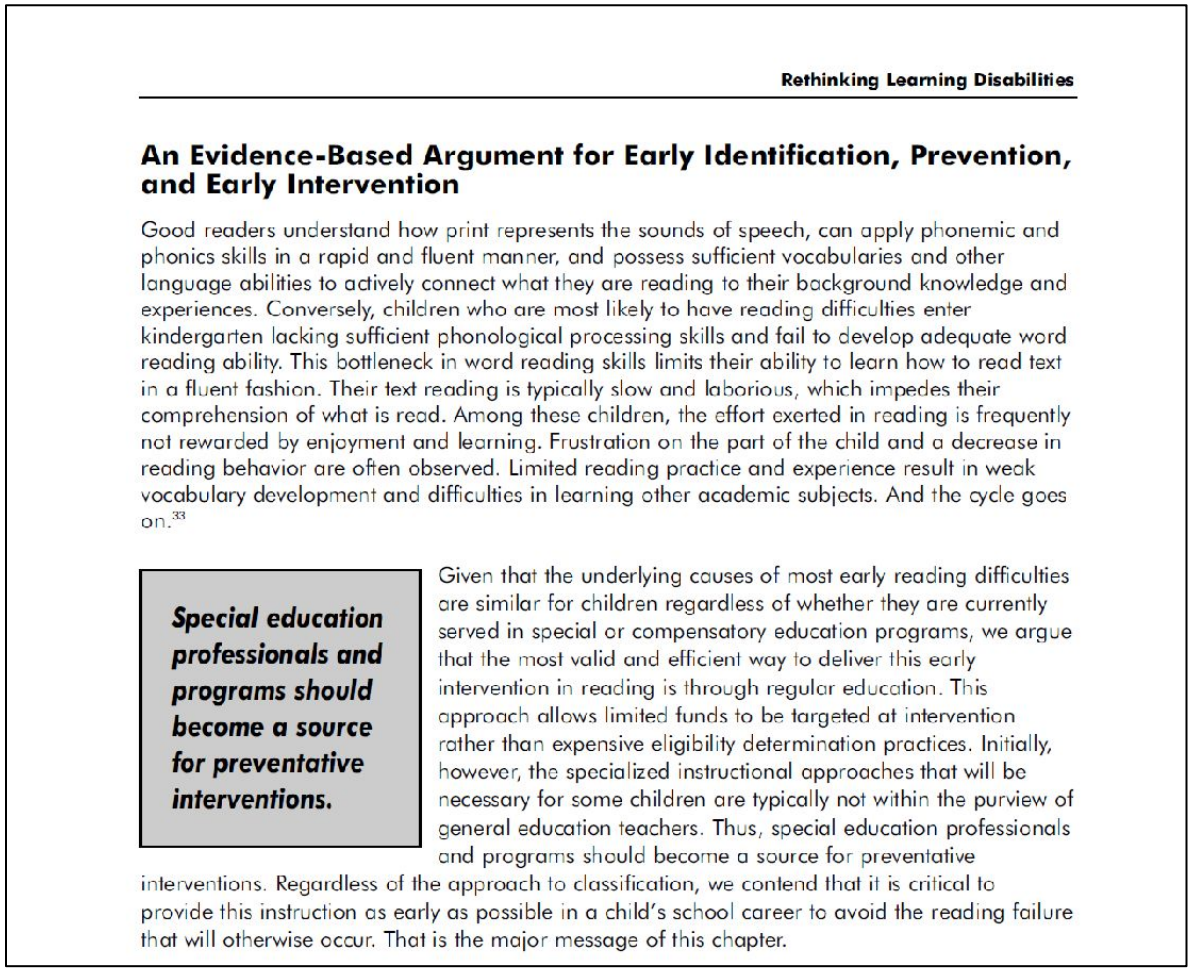
Prevention and Remediation of Severe Reading Disabilities: Keeping the End In Mind

Joseph K. Torgesen, Richard K. Wagner & Carol A. Rashotte (1997)





National Research Council. 1998.
Preventing Reading Difficulties in Young Children.
Washington, DC: The National Academies Press



Rethinking Learning Disabilities

An Evidence-Based Argument for Early Identification, Prevention, and Early Intervention

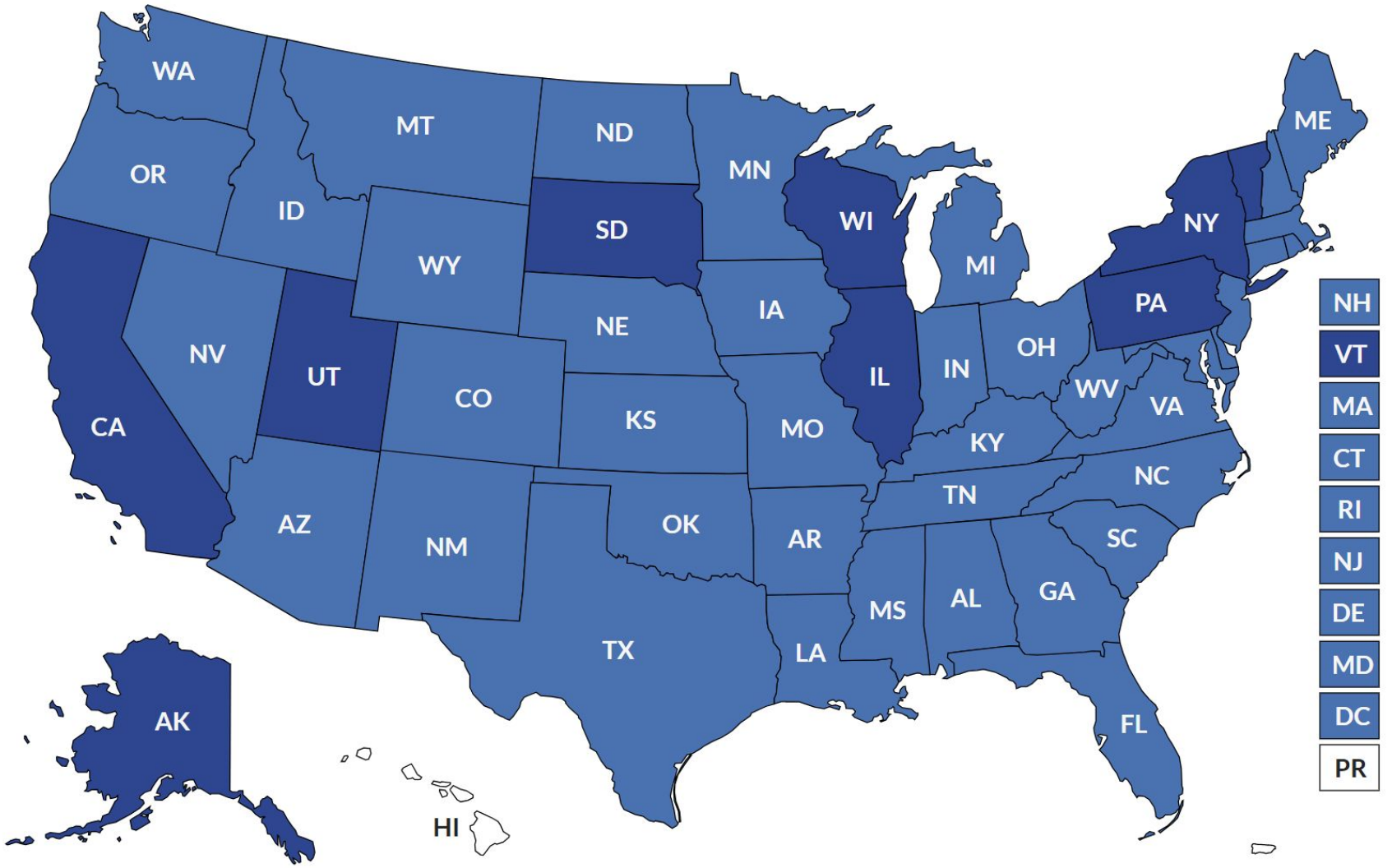
Good readers understand how print represents the sounds of speech, can apply phonemic and phonics skills in a rapid and fluent manner, and possess sufficient vocabularies and other language abilities to actively connect what they are reading to their background knowledge and experiences. Conversely, children who are most likely to have reading difficulties enter kindergarten lacking sufficient phonological processing skills and fail to develop adequate word reading ability. This bottleneck in word reading skills limits their ability to learn how to read text in a fluent fashion. Their text reading is typically slow and laborious, which impedes their comprehension of what is read. Among these children, the effort exerted in reading is frequently not rewarded by enjoyment and learning. Frustration on the part of the child and a decrease in reading behavior are often observed. Limited reading practice and experience result in weak vocabulary development and difficulties in learning other academic subjects. And the cycle goes on.[33]

Special education professionals and programs should become a source for preventative interventions.

Given that the underlying causes of most early reading difficulties are similar for children regardless of whether they are currently served in special or compensatory education programs, we argue that the most valid and efficient way to deliver this early intervention in reading is through regular education. This approach allows limited funds to be targeted at intervention rather than expensive eligibility determination practices. Initially, however, the specialized instructional approaches that will be necessary for some children are typically not within the purview of general education teachers. Thus, special education professionals and programs should become a source for preventative interventions. Regardless of the approach to classification, we contend that it is critical to provide this instruction as early as possible in a child's school career to avoid the reading failure that will otherwise occur. That is the major message of this chapter.

Lyon, G. R., Fletcher, J. M., Shaywitz, S. E., Shaywitz, B. A., Torgesen, J. K., Wood, F. B., Schulte, A., & Olson, R. (2001). Rethinking Learning-Disabilities. In C. E. Finn Jr., A. J. Rotherham, & C. R. Hokanson Jr. (Eds.), Rethinking Special Education for a New Century (pp. 259-287). Washington DC: Thomas B. Fordham Foundation.

LEGISLATION OVERVIEW | DYSLEXIA POLICIES | SCREENING POLICIES | INTERVENTION POLICIES | STATE LEGISLATION



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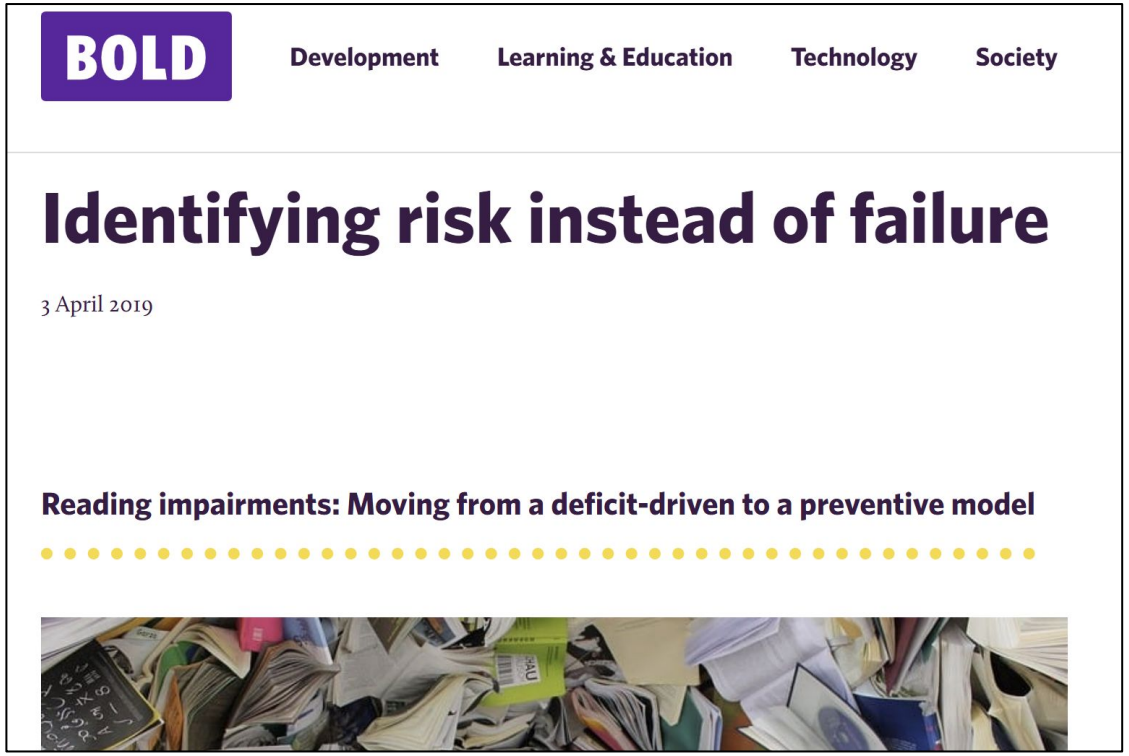
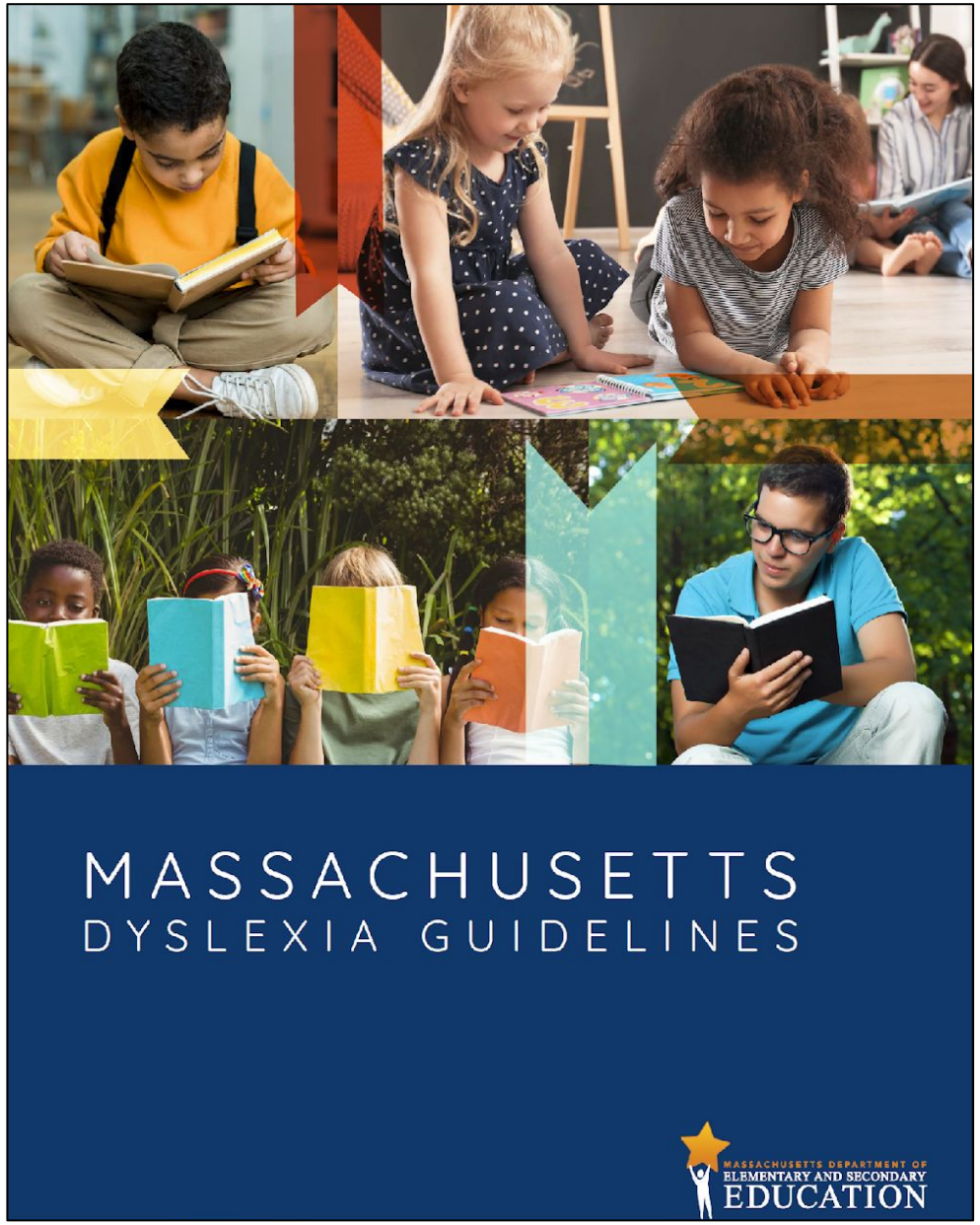
Screening for Early Literacy Milestones and Reading Disabilities

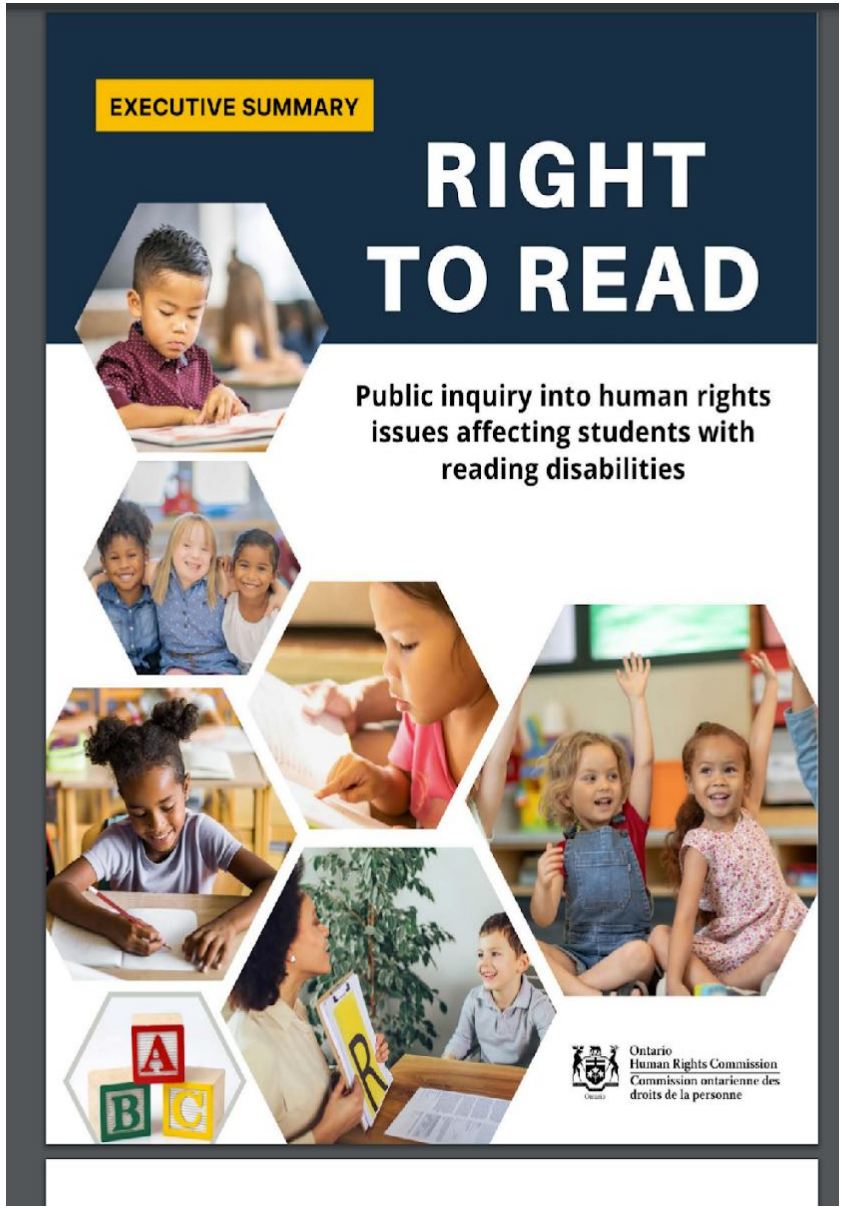
The Why, When, Whom, How, and Where

by Nadine Gaab and Yaacov Petscher

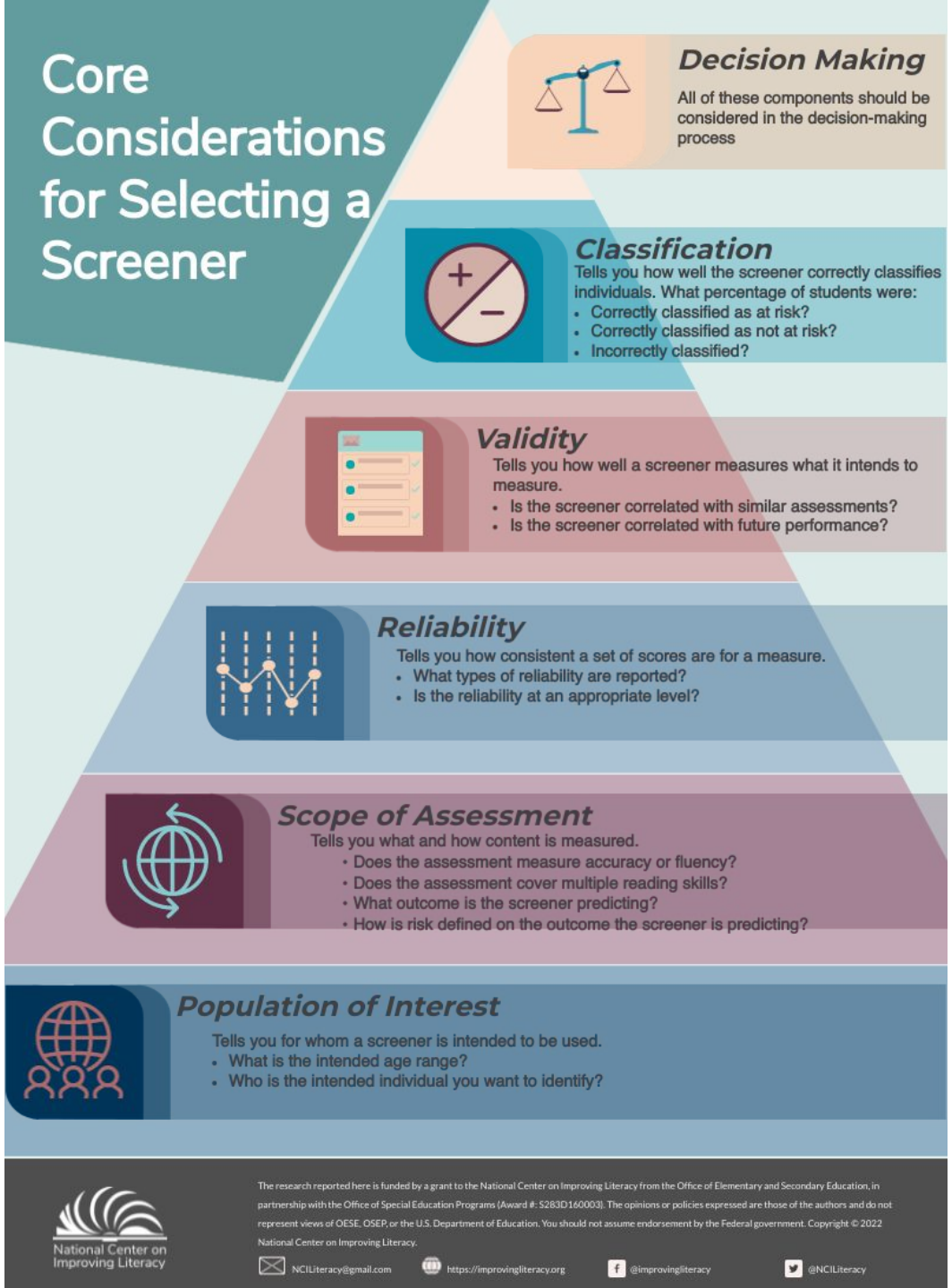
International Dyslexia Association, 2022







Ontario Right to Read Inquiry Report, 2022


Core Considerations for Selecting a Screener
Decision Making
All of these components should be considered in the decision-making process
Classification
Tells you how well the screener correctly classifies individuals. What percentage of students were:
• Correctly classified as at risk?
• Correctly classified as not at risk?
• Incorrectly classified?
Validity
Tells you how well a screener measures what it intends to measure.
• Is the screener correlated with similar assessments?
• Is the screener correlated with future performance?
Reliability
Tells you how consistent a set of scores are for a measure.
• What types of reliability are reported?
• Is the reliability at an appropriate level?
Scope of Assessment
Tells you what and how content is measured.
• Does the assessment measure accuracy or fluency?
• Does the assessment cover multiple reading skills?
• What outcome is the screener predicting?
• How is risk defined on the outcome the screener is predicting?
Population of Interest
Tells you for whom a screener is intended to be used.
• What is the intended age range?
• Who is the intended individual you want to identify?
National Center on Improving Literacy
The research reported here is funded by a grant to the National Center on Improving Literacy from the Office of Elementary and Secondary Education, in partnership with the Office of Special Education Programs (Award #: S283D160003). The opinions or policies expressed are those of the authors and do not represent views of OESE, OSEP, or the U.S. Department of Education. You should not assume endorsement by the Federal government. Copyright © 2022 National Center on Improving Literacy.
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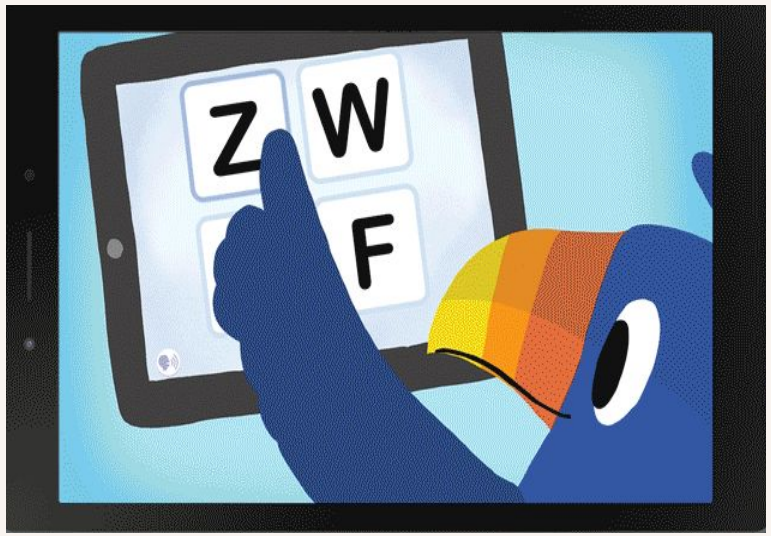


www.earlybirdeducation.com

Where else should we screen?

- Pediatrician's offices (e.g. at 4 or 5 year well visit)
- Social Workers
- Preschools/Day Cares
- Libraries
- Children's Museum
- Speech and Language Therapy/Occupational Therapy sessions
- Children's homes

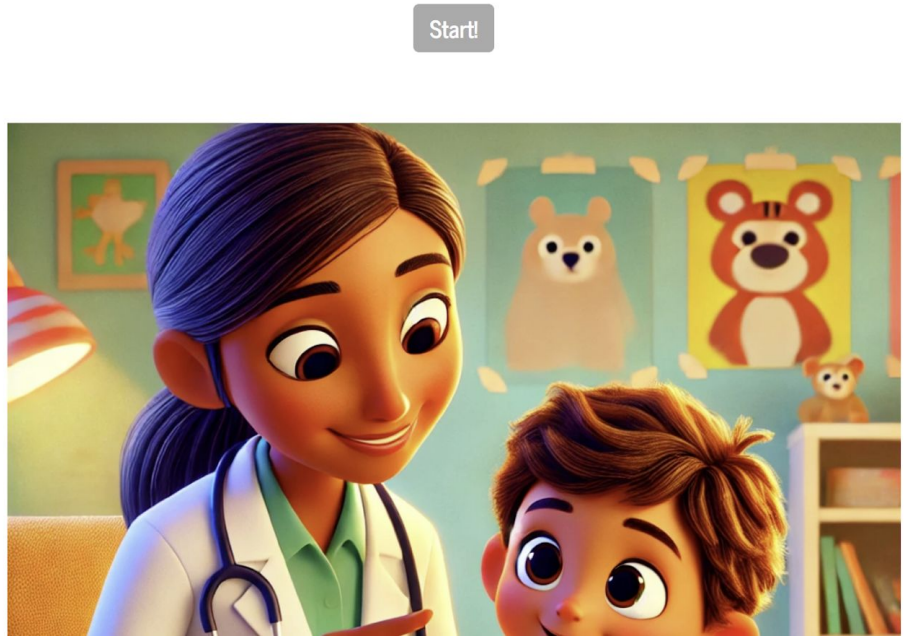
Embracing literacy as a community

Reintroducing Dyslexia: Early Identification and Implications for Pediatric Practice

(Sanfilippo, …Gaab, 2020; Pediatrics)

Screening Pediatric Patients for Reading difficulties Test: Draft (SPRouT-D)

Developed by Eric Q. Tridas, Yaacov Petscher, Christopher Stanley, Jospeh Sanfilippo, and Nadine Gaab



English: https://osf.io/hdxgf
Portuguese: https://osf.io/preprints/osf/4hscz
Spanish: https://osf.io/8k5de

Article

Dyslexia in the Context of Social Work: Screening and Early Intervention

Families in Society: The Journal of Contemporary Social Services
1–12

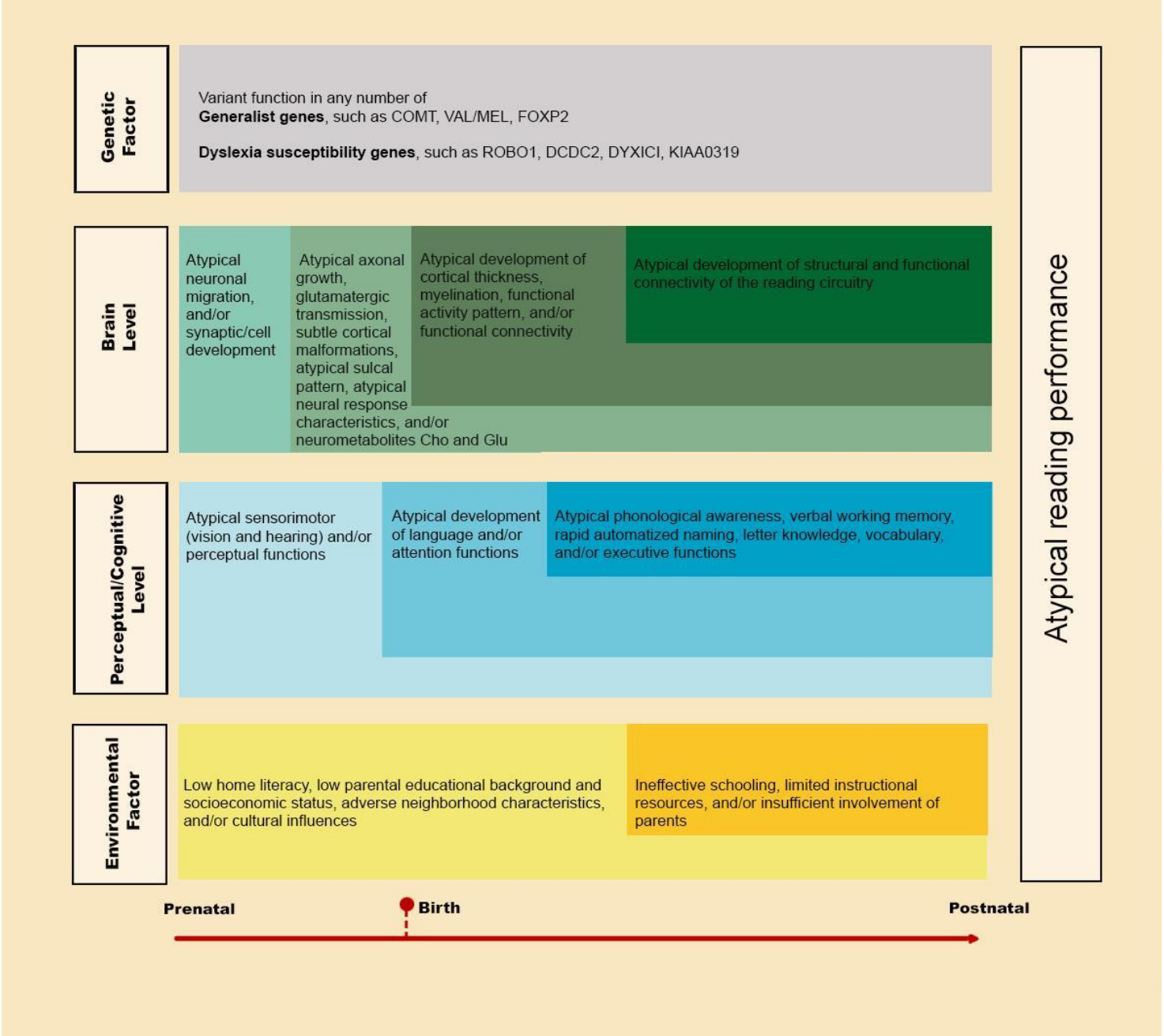
DOI: 10.1177/10443894211042323
journals.sagepub.com/home/fis
SAGE

Lisa Schelbe[1], Jessica Pryce[2], Yaacov Petscher[3], Hank Fien[4], Christopher Stanley[5], Brian Gearin[6], and Nadine Gaab[7]

Families in Society, 2022

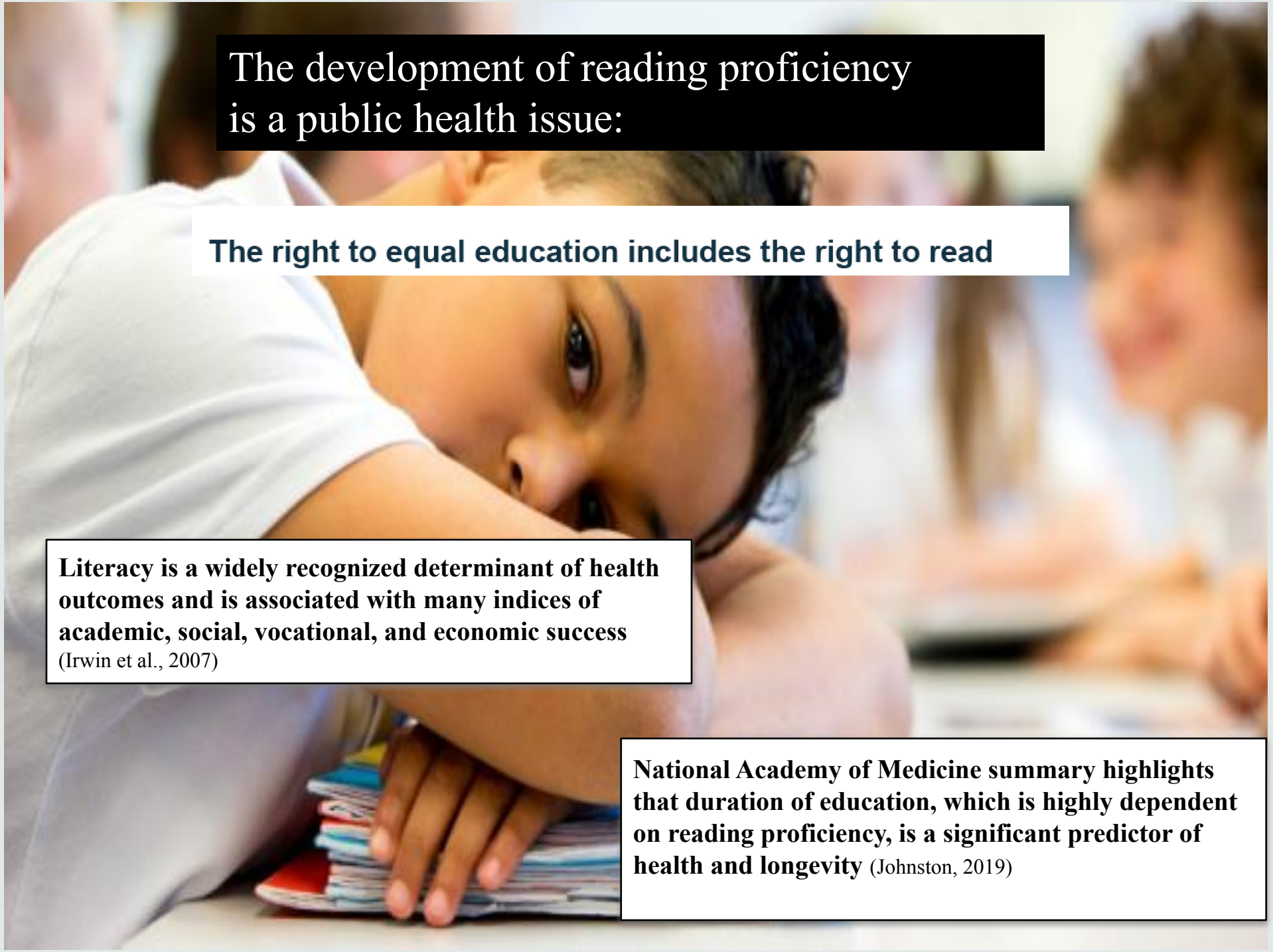
Abstract

Dyslexia, the most common learning disability, is associated with poor academic, economic, vocational, and health outcomes. Disproportionately, dyslexia is undiagnosed and untreated in children who are Black, Indigenous, and people of color (BIPOC) or who live in poverty. Early identification of and subsequent interventions for children at risk for dyslexia can effectively mitigate poor outcomes. While screening and interventions largely occur in schools, social workers across practice contexts have responsibilities to address dyslexia: identifying, referring, educating, and advocating. Social workers should address dyslexia to promote equity and improve quality of life and various outcomes across the life course. This article describes dyslexia, early screening, and interventions; dyslexia as a social justice issue; and social workers' roles in addressing dyslexia.



(Ozernov-Palchik, … & Gaab, 2016; Curr Opin. Behav. Sci)

The development of reading proficiency is a public health issue:



The right to equal education includes the right to read

Literacy is a widely recognized determinant of health outcomes and is associated with many indices of academic, social, vocational, and economic success (Irwin et al., 2007)

National Academy of Medicine summary highlights that duration of education, which is highly dependent on reading proficiency, is a significant predictor of health and longevity (Johnston, 2019)

From the Womb to the Classroom:

Typical and Atypical Reading Development and Implications for a Preventative Education Model

NADINE GAAB, PHD

SILVANA AND CHRIS PASCUCCI PROFESSOR IN LEARNING DIFFERENCES

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