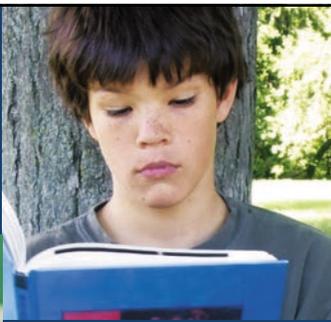


Shaywitz DyslexiaScreen
Presented by: Adam Scheller, Ph.D.
Pearson Clinical Assessment



Shaywitz
DyslexiaScreen™
by: Dr. Sally Shaywitz



Presented by:
Dr. Adam Scheller
October 20, 2016



Agenda

- Dyslexia Screening
 - Important Points for Consideration
 - Universal or Tier 2?
- Shaywitz DyslexiaScreen
 - What is it?
 - A look at the test
 - Sample, Reliability, and Validity?

Dr. Scheller is an employee of Pearson (financial disclosure), publisher of the Shaywitz DyslexiaScreen.



Points to Consider for Dyslexia Identification

Refer to: "A Model for Dyslexia Screening"
Webinar from 8/25/16



Why Use A Screener?

- Large numbers of children must be evaluated, to meet district/state criteria
- Referral process is not clearly established
 - Referral process has a poor "hit rate"
- **Intervening early has benefits for prognosis**
 - Large achievement gap between students with and without dyslexia is evident in kindergarten and first grade, and this gap persists through high school.
 - These findings strongly advocate for early identification and intervention for students at risk for dyslexia in order to close the achievement gap and prevent persistent academic failure.

Ferrer et al. (2015)



Limitations of a Screener



- Can not be used to provide a diagnosis
- Is not designed to identify the degree of impairment
- Can not be used to identify pattern of strengths or weaknesses



Dyslexia Screeners: Universal or Tier 2?



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Universal Screening

- An interrelated process that is applied to every student
- A process by which instructional practices are evaluated and adjusted based on data
- Not an indication of a need for special education services



Examples of Screeners for Reading (Including both Universal and Tier 2 capable measures)

- Pearson
 - Shaywitz DyslexiaScreen (SDS)
 - KTEA-3 Brief
 - KTEA-3 and WIAT Dyslexia Index Scores
 - aimswebPlus
- Others
 - DIBELS (Dynamic Measurement Group)
 - easyCBM Reading (University of Oregon)
 - MindPlay Universal Screener (MindPlay)
 - Feifer Assessment of Reading Screening Form (PAR)
 - Predictive Assessment of Reading

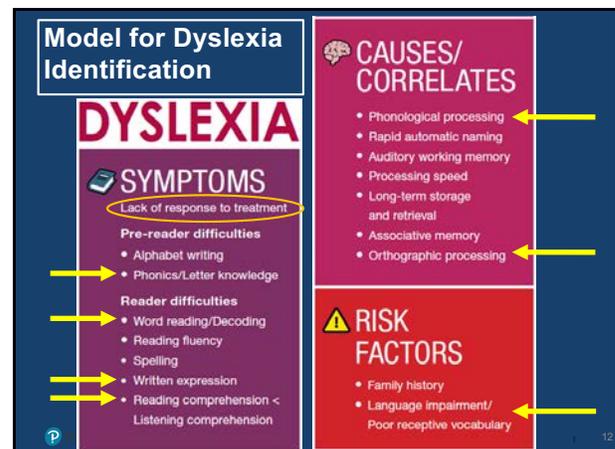
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Shaywitz DyslexiaScreen (SDS)

- Brief teacher survey for identifying students **at-risk for dyslexia**.
- Intended for use with students experiencing academic difficulties, but can also be used to screen all students.
 - Universal or Tier 2 capable
- 5 minutes using an online form
- Digital administration and scoring
- The classification accuracy data indicate moderately high sensitivity and specificity

What does the SDS measure?

- Emphasis on:
 1. Phonological,
 2. Linguistic, and
 3. Academic performance
- Ratings based on classroom teacher observations



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Qualification Level B



1. Schools and school districts are able to purchase this tool.
2. Purchasers must be Qual. B, but those who fill it out do not need to be, in fact...
 - Teachers are best responders
3. Administering a screening program is more than just "completing a screener."
4. Qual. B users must train examiners, interpret results correctly, and disseminate results appropriately.
5. "What's next" requires a collaborative approach between professionals from different disciplines and often across general and special education perspectives.

Forms

- All materials needed to administer the Shaywitz DyslexiaScreen are available in one location on Q-global®
 - www.helloQ.com for more information on Q-global
- The Shaywitz DyslexiaScreen offers two forms:
 - **Form 1:** Students ages 5:0 through 6:11 in kindergarten and consists of 10 items.
 - **Form 2:** Students ages 6:0 through 7:11 in Grade 1 and consists of 12 items.

Reports

- Two report options:
 1. An **Individual Report** that includes student's standard demographic information, risk level, and an interpretive statement.
 2. A **Group Report** that includes all students' raw scores and risk levels listed by examinee ID.
- Results include a simple classification:
 - **At Risk for Dyslexia** or **Not At Risk for Dyslexia**

Step-by-Step Instructions for Administering and Reporting

- The four basic steps for administering and reporting the Shaywitz DyslexiaScreen include the following:
 - Step 1: Prepare teacher for assessment (Qualified user)
 - Step 2: Assign Shaywitz DyslexiaScreen assessment in Q-global (Qualified user)
 - Step 3: Complete on-screen ratings (Teacher)
 - Step 4: Generate reports (Qualified user)

Step 1: Prepare Teacher for Assessment (Qualified user)

1. The qualified user accesses the Teacher's Quick Guide for Item Rating in the Q-global Resource Library (under the Shaywitz DyslexiaScreen folder).
2. Provide the appropriate Quick Guide (Form 1 or Form 2) to the teacher completing the screener.
 - Ensure that teachers understand the instructions and items, and provide additional training as needed.

Step 2: Assign Shaywitz DyslexiaScreen Assessment in Q-global (Qualified user)

1. The qualified user logs into Q-global and creates or selects the examinee (student) who has been referred for screening.
2. User assigns the Shaywitz DyslexiaScreen assessment to the examinee and provides the teacher with access to the assessment using one of two options:
 - **On-screen administration:** The teacher completes the Shaywitz DyslexiaScreen using a computer with Internet access.
 - **Remote on-screen administration:** The teacher is sent an email invitation with a link to launch and complete the Shaywitz DyslexiaScreen at a remote location, using a computer with Internet access.

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Step 3: Complete On-Screen Ratings (Teacher)

- The teacher follows the on-screen instructions to enter ratings for each item.
 - All items are rated using a 5- or 6-point Likert scale.
- Complete 10 (Level 1) or 12 (Level 2) questions

Step 4: Generate Reports (Qualified user)

- After screener is completed, the qualified user may generate an **individual report** immediately.
 - Includes the student's demographic information, a numerical and narrative summary of results and classification level, interpretive information, and recommendations for next steps.
- The user also has the option to generate a **group report**
 - Individual reports for each examinee must be generated before including the examinees in a group report.
 - The group report includes all students' results; a summary of the number and percentage of students at risk or not at risk; and a breakdown of group results by sex, race/ethnicity, and English language learner (ELL) status.

Examinee: Shaywitz DyslexiaScreen

Examinee has given consent to allow his/her de-identified information to be included in the Pearson General Research Database: **No**

Demographics

System ID: 2482507 Account: Adam Scheller
 First Name: Shaywitz Custom Field 1:
 Middle Name: Custom Field 2:
 Last Name: DyslexiaScreen Custom Field 3:
 Birth Date: 01/04/2011 Custom Field 4:
 Age: 5 years 9 months Groups:
 Examinee ID: Legacy ID:
 Gender: Male History data entered: Yes Edit
 Email: Evaluation data entered: No Create New
 Comment: Example K Student for Shaywitz DyslexiaScreen

Assign New Assessment Unassign Assessment(s) Delete Assessment(s) Generate Report

Reset Sort Order 1 Record

Batch ID	Assessment ID	Assessment Name	Admin Date	Delivery	Status
1	3628722	Shaywitz DyslexiaScreen Form 1	10/19/2016	On-Screen	Administrative Ready for Reporting

Revision History
 Created by: Scheller, Adam Modified by: Scheller, Adam
 Created on: 10/19/2016 08:36:15 AM Modified on: 10/19/2016 08:37:44 AM

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Shaywitz DyslexiaScreen Form 1 (Kindergarten)

Individual Report
Sally E. Shaywitz, MD

Student Information		Test Information	
ID:	Shaywitz DyslexiaScreen	Test Date:	10/19/2016
Name:	Shaywitz DyslexiaScreen	School:	Elementary 1
Sex:	Male	Teacher:	Sally Teacher
Birth Date:	01/04/2011	Form:	1
Age:	5:9		
Grade:	K		
Race/Ethnicity:	White		
English Language Learner (ELL/ESL):	No		

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Example of Individual Report

Score Summary

Raw Score	Cut Score	Classification
8	3	At Risk for Dyslexia

Summary Results

The Shaywitz DyslexiaScreen is a teacher rating scale of language and academic risk factors that indicates whether a student may be at risk for dyslexia. The results of the Shaywitz DyslexiaScreen alone are not sufficient to diagnose or rule out dyslexia; however, the results provide a reliable and valid indication of risk for dyslexia based on teacher ratings.

The results of the Shaywitz DyslexiaScreen suggest that Shaywitz is At Risk for Dyslexia.

Explanation of Results

The teacher ratings indicated risk for dyslexia on 8 out of 10 items: 5 items pertaining to language concerns and 3 items pertaining to academic concerns. To be classified as At Risk for Dyslexia, the teacher's ratings must indicate a sufficient level of risk on more than 3 items. The raw score of 8 exceeded the cut score of 3. Therefore, the results of the Shaywitz DyslexiaScreen suggest that Shaywitz is At Risk for Dyslexia.

Scoring



- Automatic in Q-global.
- The raw score is the number of items that meet criteria for the At Risk for Dyslexia classification
 - The raw score is compared to a normative cut score (varies by item)
- Total raw score range for **Form 1** is 0 to 10
 - At Risk for Dyslexia requires a raw score of 4 or greater.
- Total raw score range for **Form 2** is 0 to 12
 - At Risk for Dyslexia requires a raw score of 6 or greater.

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How to Interpret Results

- At Risk for Dyslexia vs. Not At Risk for Dyslexia
 - Intended to be relatively easy to interpret and communicate with parents, teachers, administrators, and other educational professionals.
- However!
 - Qualified users are advised to cross-validate with other sources of data (including other test results, classroom observations, and parent reports).

At Risk vs. Not at Risk

- **At Risk for Dyslexia** considerations may include:
 - Increasing the frequency and duration of interventions
 - Selecting a more intensive intervention program
 - Closely monitoring the student's academic performance
 - Referring the student for a more comprehensive evaluation.
- A student classified as **Not At Risk for Dyslexia**
 - Language and academic skills may be monitored and supported within the general academic setting.
- Should you give SDS more than once per year?

Sample, Reliability, & Validity

Description of the Sample

- 414 Connecticut schoolchildren representative of those students entering public kindergarten in Connecticut in 1983, as well as their parents and teachers, provided data for the Shaywitz DyslexiaScreen norms.
- **In addition, a sample of 115 children between the ages of 5 and 7 ($M = 6.7$, $SD = 0.6$) participated in a national clinical validity study in April through July 2016.**
- All student participants in both samples spoke English as their primary language.

Table 3.1 Demographics of Shaywitz DyslexiaScreen Validity Samples

	Validity sample	CT sample	U.S. census	NE census
<i>N</i>	115	414		
Education				
0–12 years of school, no diploma	3.5	12.1	13.8	7.5
High school diploma or equivalent	14.8	27.5	22.5	20.3
Some college or technical school, associate's degree	41.7	29.0	32.8	29.3
Bachelor's degree	40.0	29.5	30.9	42.9
Race/ethnicity				
African American	0.9	11.8	13.8	8.0
Asian	2.6	0.9	4.7	4.5
Hispanic	13.0	1.9	25.5	16.7
Other	11.3	0.0	6.0	5.9
White	72.2	85.0	50.0	65.0
Sex				
Female	47.8	52.2	48.8	48.1
Male	52.2	47.8	51.2	51.9

Note. Except for sample size (*n*), data are reported as percentages. The mother's education level was not specified for 8 students (2%) in the normative sample. If a child did not live with his or her mother, the father's education level was used. If the child did not live with the mother or father, then the head of household education level was used. Ethnicity was not specified for one student in the normative sample.

Criteria for Identifying Students With Dyslexia in the Longitudinal Sample

- Word recognition, decoding, and reading comprehension skills were assessed every year through Grade 12.
 - Reading Cluster tests (the composite of Letter-Word Identification, Word Attack, and Passage Comprehension) from the Woodcock-Johnson Psycho-Educational Battery (WJ; Woodcock & Johnson, 1977).
- Intellectual functioning was assessed every other year through Grade 12
 - Full Scale battery from the Wechsler Intelligence Scale for Children®–Revised (WISC®–R; Wechsler, 1974).

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Dyslexia ID (cont.)

- Using the WJ and WISC®-R at Grades 2 and 4, students with dyslexia were identified using either a discrepancy criterion, low-achievement criterion, or both.
 - The discrepancy criterion required an observed WJ Reading Cluster score 1.5 standard errors below the score predicted from a student's Full Scale IQ.
 - The low-achievement criterion required a Reading Cluster score below 90 (the 25th percentile).
- These criteria identify children as poor readers, with little evidence of differences between subgroups formed with one criterion versus the other (Shaywitz et al., 1992; Shaywitz et al., 2003).
 - Students who met criteria for dyslexia in Grade 2 and/or Grade 4 were placed in the dyslexia group (DYS).
 - All other students in the sample were placed in the typical group (TYP).

Evidence of Reliability (Based on National Clinical Study)

Table 3.2 Reliability of Shaywitz DyslexiaScreen Validity Study

Shaywitz DyslexiaScreen	Raw scores	Dichotomous items
Form 1	.92	.87
Form 2	.95	.90

Evidence of Validity (Based on National Clinical Study)

Table 3.3 Dyslexia Group Compared to Nonclinical Group

Score	Dyslexia		Nonclinical		Difference	t value	p value	Standard difference
	Mean	SD	Mean	SD				
Shaywitz Form 1 (Kindergarten)	7.3	3.0	10.6	2.5	3.30	3.88	<.01	1.10
Shaywitz Form 2 (Grade 1)	6.9	1.7	10.6	2.4	3.72	4.63	<.01	1.24
WIAT-III								
Early Reading Skills (Kindergarten)	92.0	2.7	105.7	6.6	13.69	6.73	<.01	0.91
Word Reading (Grade 1)	86.8	5.8	110.2	11.3	23.42	5.67	<.01	1.56
Pseudoword Decoding (Grade 1)	83.9	9.0	108.9	11.0	25.04	6.39	<.01	1.67

Classification Accuracy (Based on National Clinical Study)

Table 3.4 Classification Accuracy and ROC Areas, by Form

Shaywitz DyslexiaScreen	Sensitivity	Specificity	PCC	ROC area
National clinical study				
Form 1 (Kindergarten)	.73	.71	.71	.81
Form 2 (Grade 1)	.70	.88	.85	.89
CT clinical study				
Form 1 (Kindergarten)	.69	.72	.71	.74
Form 2 (Grade 1)	.74	.81	.80	.84

Correlation with Tests of Reading (Based on National Clinical Study)

Table 3.5 Correlations With WIAT-III

Shaywitz DyslexiaScreen	WIAT-III			Shaywitz DyslexiaScreen	
	Early Reading Skills	Word Reading	Pseudoword Decoding	Mean	SD
Form 1	.94	—	—	10.0	2.8
Form 2	—	.96	.96	9.9	2.7
WIAT-III					
Mean	103.3	106.4	104.5		
SD	8.0	13.7	14.3		

Test or index score	Subtests/Items	Mean split-half reliability	Dyslexia group mean (SD)	Matched control mean (SD)	Effect size	Estimated administration time
Grades K-12+ and ages 5-25						
KTEA-3 Brief: BA-3 composite	Letter & Word Recognition + Spelling + Math Computation	.98	79.6 (8.4)	102.2 (12.6)	2.11	20 minutes
Grades K-1 and ages 5-7						
Shaywitz DyslexiaScreen: Form 1 (Grade K)	10 items	.90	5.5 (3.5)	2.5 (3.0)	0.96	< 5 minutes
Shaywitz DyslexiaScreen: Form 2 (Grade 1)	12 items	.92	7.7 (3.8)	2.7 (3.3)	1.47	< 5 minutes
KTEA-3 Dyslexia Index 1	Phonological Processing + Letter Naming Facility + Letter & Word Recognition	.92	79.4 (7.4)	98.2 (12.8)	1.79	20 minutes
WIAT-III Dyslexia Index 1	Early Reading Skills + Spelling	.94	82.6 (10.6)	102.2 (12.9)	1.66	12 minutes
Grades 2-12+ and ages 7-25						
KTEA-3 Dyslexia Index 2	Word Recognition Fluency + Nonsense Word Decoding + Spelling	.97	78.2 (6.7)	99.8 (16.0)	1.76	15 minutes
WIAT-III Dyslexia Index 2	Oral Reading Fluency + Pseudoword Decoding + Spelling	.98	78.0 (9.6)	99.2 (13.1)	1.84	15 minutes

Note. Data were derived from age-based standard scores. All scores from the dyslexia groups were significantly ($p < .01$) lower than those of the nonclinical matched control groups. Clinical n counts for the KTEA-3 and WIAT-III Dyslexia Index scores at grades K-1 were insufficient ($n < 20$) for group comparisons; for this reason, group means and effect sizes for the Dyslexia Index 1 scores were based on a sample of students in grades 1-4, ages 6-10 (KTEA-3 $n = 20$; WIAT-III $n = 36$).

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