Dyslexia Validation Study
Professional Colleague Recruitment email

Dear Colleague,

I am conducting a study to learn what types of dyslexia screening tools best predict dyslexia symptoms. Although dyslexia has been a recognized type of learning disability for many years, confusion about its causes, diagnosis, and treatment remained present in U.S. schools. Many school personnel believed that the term dyslexia could not be used in schools, that it required a medical diagnosis, and that school-based treatment was not available. In order to address these persistent misunderstandings, the U.S. Department of Education Office of Special Education and Rehabilitative Services (OSERS) issued a "Dear Colleague" letter in October 2015 which clarified that the term dyslexia can be used in schools, it is a type of specific learning disability, and it can be identified and treated in schools (OSERS, 2015).

In the years since 2015, the vast majority of U.S. states passed or updated statutes and regulations regarding dyslexia (National Center on Improving Literacy). One of the requirements included in many states' recent dyslexia regulations is the requirement to screen for it. Despite 43 states requiring such screening, the actual research based about best practices in dyslexia screening is very small. Instead, there is a much more robust research literature documenting how to conduct diagnostic and comprehensive evaluations for dyslexia. And, there is a strong research based documenting effective ways to conduct general screenings for reading proficiency, especially in kindergarten through grade 3 (National Center on Intensive Intervention).

Universal screening for reading problems typically involves having all students complete brief assessments that measure reading subskills such as phonemic awareness and phonics as well as oral reading fluency. It is likely that some of the reading screeners already in use, also measure indicators of dyslexia, however, virtually no research has examined which screening measures most accurately identify risk for dyslexia. One of the reasons for the limited research is that in order to accurately confirm whether an assessment provides scores indicative of dyslexia, a large number of school-age students with a confirmed dyslexia diagnosis is needed.

There are some specialized schools, programs, and centers that provide reading instruction for students diagnosed with dyslexia. The largest network of such centers is a non-profit program run by the Scottish Rite Masons, known as the Children's Dyslexia Centers (CDC). These centers operate in locations across the U.S. and utilize training and treatment protocols from the International Dyslexia Association (IDA). In order for a student to be eligible for treatment at one of the centers, the student must have a confirmed dyslexia diagnosis. Accepted students are provided with the Orton-Gillingham (OG) instruction program by trained tutors who have completed an accredited OG training program. A widely accepted feature of dyslexia is that it is persistent across the lifespan, even with research-based instruction. The eligibility and treatment protocols used at the Centers mean that students there might provide a strong pool of subjects from which to recruit participants for this study. This study seeks to address the following research questions:
1. What specific reading screening measures are most highly correlated with a diagnosis of dyslexia?
2. How do scores on reading screeners vary in relation to a student's age, grade, and amount of time enrolled in dyslexia treatment?

Method

Participants. Maine school-age students with a prior diagnosis of dyslexia will be recruited. A minimum of 20 students is needed in order to conduct data analysis, however additional subjects will be recruited in order to improve the quality of the resulting data. All procedures will be reviewed and approved by a university IRB prior to study the start of the study.

Instruments. In order to identify the best reading screeners to predict dyslexia risk, a combination of assessments from the Acadience system will be used. These assessments were selected because Acadience has a large number of different types of published reading screeners, allowing comparison of types in relation to the research questions. All of the Acadience reading screeners that will be used in this study have been verified through numerous studies as reliable and valid reading assessments (Acadience Learning, n.d.). The specific measures to be

used include a combination of computer-based and teacher-administered assessments. The following table lists the assessment names, skills measured, and time required for each.

Assessment	Skills	Format	Time
Letter Names	The student says the names for all lowercase and uppercase letters.	Teacher	60 s
Phoneme Segmentation	The teacher says a word with 2, 3, or 4 phonemes and the student says each of the phonemes individually.	Teacher	60 s
Nonsense Words	The student reads CVC pseudowords.	Teacher	60 s
Rapid Automatized Naming (RAN)	The student identifies objects, letters, and numbers.	Teacher	120 s
Oral Reading	The student reads a story out loud for one minute while the teacher records any errors.	Teacher	60 s
Retell	The student tells the teacher details about the story read orally.	Teacher	60 s
Spelling	The student spells up to 10 phonetically regular words with 2 to 5 letters.	Teacher	120s

The order of the assessments will be randomly counter balanced across the following sequences:

Sequence	Order
A	1. Letter names 2. RAN 3. Phoneme Segmentation 4. Nonsense Words 5. Oral Reading + Retell 6. Spelling
B	1. Phoneme Segmentation 2. Spelling 3. Letter Names 4. Nonsense Words 5. Oral Reading + Retell 6. RAN
C	1. Nonsense Words 2. Letter Names 3. Spelling 4. Oral Reading + Retell 5. RAN 6. Phoneme Segmentation

Procedure. The study will involve four steps: (a) recruitment, (b) consent, (c) enrollment, and (d) testing.

Recruitment. In order to recruit subjects in a way that maintains the confidentiality of the students and their parents, the following organizations that work with students with dyslexia in Maine will be asked to distribute information about the study:
1. Children's Dyslexia Center (CDC)
2. Maine Association of School Psychologists
3. Maine Psychological Association
4. Maine Council for Exceptional Children

Those organizations that agree to distribute the study information will distribute the attached recruitment letter via email to their members or clients. The letter provides information about the study's purpose and invites the parents to enroll their children, pending both parent permission and child assent. In order to move on to the consent step, a parent will contact the primarily investigator (PI).

Consent. The consent procedure includes written forms for both the parents and children. Once a parent contacts the PI, the permission and assent forms will be sent to the parent via email or postal service, depending on the parent's preference. The forms will be accompanied by a message from the PI which explains that the permission and assent forms can be returned via email or postal service, or completed during a meeting with the PI at the University.

Enrollment. In order for a subject to be enrolled in this study, the signed parent permission and student assessment forms must be submitted to the PI. In addition, the student's comprehensive evaluation report in which a diagnosis of dyslexia was provided must be submitted to the PI in digital or paper form. Each enrolled subject will assigned a pseudonym. The pseudonym will be used in all study paper forms and online data entry. There will be one paper code key on which the pseudonyms will be recorded with each student's actual name. The paper code key will be in the PI's possession and stored in a locked file at all times. After all participants have completed the testing sessions, the code key will be shredded to protect the subjects' confidential information.

Testing. Upon enrollment, each subject will be scheduled for a testing session. These sessions will be conducted in Bailey Hall on the USM Gorham campus in room. On the testing date, the student and parent will meet the PI in Bailey Hall. Prior to testing, the PI will review and confirm the permission and assent forms with the parent and student. If the dyslexia diagnosis document has not yet been received, it will be collected prior to the testing session. The parent will then wait in an adjoining room while the student is tested.

The testing will occur in Bailey Hall. Due to renovations during summer 2023, the exact space is yet to be determined. Any space selected will have a door with a window that connects the testing space with the parent waiting room. The testing session will include having the student complete the Acadience Assessments described above in one of the three randomly selected orders. The researcher will present paper forms to the student for each test and ask the student questions related to the forms. The student's answers will be recorded on paper forms using an alias name.

Data Analysis. The student's scores on all the assessments will be entered into an online spreadsheet using a unique identification number. For this reason, none of the students' true identity will be known or transferred online. After all subjects' data have been entered into the spreadsheet for analysis, the code key with the student's true names will be destroyed. The spreadsheet used for analysis will include only the unique identification number, thus no identifiable data will be included. The subjects' scores will be aggregated, and measures of central tendency calculated. These aggregated data will be compared with the Acadience norms and benchmarks for same-grade peers in order to determine whether students with dyslexia exhibit significantly different performance.

If you know of students with a prior diagnosis of dyslexia who might be candidates for this study, you are welcome to distribute the attached study description. Thank you for your assistance.