Understanding the Research Behind DIBELS® 8th Edition

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Understanding the Research Behind DIBELS® 8th Edition

DIBELS 8th Edition consists of a set of measures that assess the reading skills of students in Grades K to 8. These measures include Letter Naming Fluency (LNF), Phonemic Segmentation Fluency (PSF), Nonsense Word Fluency (NWF), Word Reading Fluency (WRF), and Oral Reading Fluency (ORF). This brief provides a short overview of research supporting use of DIBELS 8th Edition for screening and progress monitoring purposes.

Research Background

DIBELS 8th Edition was released in 2018. DIBELS 8th Edition was revised to reflect the latest scientific research on reading and on curriculum-based measurement (CBM). It is important to update tests on a regular basis and as science advances because validation is not a single activity that ends once a test is released (Messick, 1995). It is always an on-going process. The technical adequacy of DIBELS 8th Edition is currently being studied in a 2-year investigation. The study, which began in fall 2017, recruited 6,181 participants from 29 schools in 13 states during Year 1. Students represented all four Census regions and were racially and ethnically diverse. Full descriptive statistics of the norming sample are forthcoming. The sections that follow summarize major findings to date on the technical adequacy of DIBELS 8th Edition.

Technical Adequacy

Validity is the extent to which theory and evidence support the interpretation of test scores for a specific use (APA, AERA, NCME, 2014). Important components of validity include reliability (i.e., the relation between different scores from the same test), concurrent validity (i.e., the relation between a test score and a score on a similar test), and predictive validity (i.e., the relation between scores on a test over time). Screening accuracy is a subset of predictive validity with a particular focus on identification procedures.

Reliability

Reliability refers to the extent to which a test score is a consistent and stable measure. Reliability is a necessary, but insufficient component of validity. Two forms of test reliability have been examined for DIBELS 8th Edition: alternate form reliability and test-retest reliability.

Alternate Form Reliability

Alternate form reliability describes the correlation between scores produced with different versions of a test. Generally speaking, strong correlations are desirable because they imply that different versions of the test are capable of generating similar

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scores. To obtain excellent alternate form reliability, strict item writing and form generation guidelines were used. Nonetheless, reliability must be tested empirically to establish validity of a measure for almost any purpose.

To calculate alternate form reliability, different versions of each DIBELS subtest were administered at the beginning, middle, and end of each year in Grades K to 8. Alternate form reliability estimates for LNF ranged from .89 at the beginning of Grade K in to .96 at the end of Grade K. For PSF, reliability estimates ranged from .80 in the beginning of Grade K to .88 at the end of Grade K. For NWF, reliability estimates ranged from .75 in the middle of Grade 2 to .97 at the end of Grade K. For WRF, reliability estimates ranged from .89 in the middle of Grade K to .97 at the middle of Grade 1 and end of Grade K. For ORF, reliability estimates ranged from .92 at the beginning of Grade 8 to greater than .99 at the end of Grades 1 and 6. Tables 1 through 5 in the Appendix provide more detailed information about alternate form reliability. In sum, evidence suggests that DIBELS 8th Edition forms have excellent (.90+) alternate form reliability for LNF, WRF, and ORF, and good reliability (.80+) for PSF and NWF.

Test-Retest Reliability

Test-retest reliability describes the correlation between scores on the same test administered at different points in time to the same test-takers. There are no universally accepted standards for judging the acceptability of test-retest reliability coefficients. The ideal degree of test-retest reliability depends on the purpose of the test, the construct it assesses, and the time between test administrations. In the case of DIBELS 8th Edition, it can be noted that very high levels of reliability, especially for component skills like letter naming and phonemic segmentation are undesirable because these skills develop quite rapidly in the grades in which they are assessed (Paris, 2005). More generally, one should not expect levels of test-retest reliability to be as high as alternate form reliability when the skill measured develops rapidly and time between measurement occasions is sufficient for genuine growth to have occurred.

To calculate test-retest reliability, beginning-of-the-year and middle-of-the-year scores were compared for LNF, WRF, and ORF. Time between fall and winter testing occasions could range from four to 12 weeks. Middle-of-the-year and end-of-the-year scores were compared for PSF and NWF. Time between winter and spring testing occasions could range from eight to 16 weeks. Test-retest reliability for LNF was .82 in Grades K and 1. For PSF test-retest reliability was .71 in Grade K and .64 in Grade 1. For NWF test-retest reliability ranged from a low of .75 in Grade 2 to a high of .87 in Grade 3, and for WRF it ranged from .90 in Grade 1 to .94 in Grade 2. ORF test-retest reliability ranged from .87 in Grade 2 to .94 in Grade 3. Tables 1 through 5 in the Appendix provides more detailed information about test-retest reliability.

Validity

Validity is an argument that hinges on the desired inferences to be made about an individual (Messick, 1995). As such, assuming adequate reliability of scores, different

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forms of validity can serve as evidence for different claims. Concurrent validity is generally seen as a means of validating that the intended construct is being captured by a measure. The more similar the two measures given, the higher the correlation between the scores should be. Thus, for component skills like phonemic segmentation and letter naming, correlations with reading scores are expected to be lower for these subtests than for subtests that are closer to reading (i.e., nonsense word reading, sight word reading, and oral passage reading).

Predictive validity can also be seen as a means of validating that the intended construct has been captured, but also serves as a means of validating the use of a measure for predicting performance at a later period (e.g., often the end of a grade). Predictive validity can include correlations, but when intended uses of measure include identification of subgroups of students, then screening accuracy is the more valuable evidence that a measure is functioning as intended. In the sections below, concurrent and predictive validity correlations are presented followed by screening accuracy results.

Concurrent Validity Correlations

Concurrent validity correlations describe the relation between test scores on one measure and those on a previously established measure of the same construct. Concurrent validity was assessed by comparing scores on DIBELS 8th Edition to DIBELS Next composite scores. For LNF, concurrent validity coefficients ranged from a low of .63 in the spring of Grade 1 to a high of .89 in the spring of Grade K. For PSF, coefficients were generally quite low in Grade 1 and moderate to strong in kindergarten; specifically, they ranged from .14 in the spring of Grade 1 to .62 in the spring of Grade K. For NWF, coefficients ranged from .36 in the fall of Grade K to .85 in the spring of Grade 1; excepting the fall of Grade K, all other correlations were strong. For WRF, coefficients ranged from .57 in the fall of Grade K to .91 in the fall of Grade 2. For ORF, coefficients ranged from .75 in the fall of Grade 1 to .91 in the winter and spring of Grade 1. More detailed information about concurrent validity by grade and occasion is located in the Appendix in Tables 6 through 10.

Predictive Validity Correlations

DIBELS 8th Edition is meant to be used for monitoring the acquisition of reading skills in students Grades K to 8. It can also be used to identify students who are not on-track for meeting reading proficiency standards. Therefore, predictive validity was examined through comparisons of scores from DIBELS 8th Edition to the Iowa Assessment's (Welch & Dunbar, 2012) Total Reading score and the Iowa Assessment's Word Analysis score. It can be noted that although moderate to strong correlations between DIBELS subtests and the Iowa Assessments are desirable, very strong correlations are not expected for all DIBELS subtests. DIBELS 8th Edition measures basic reading skills that are believed to be necessary but insufficient for proficiency on measures of reading

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achievement. Results are summarized briefly, and more detailed information about concurrent validity is located in Appendix Tables 6 through 10.

For LNF, correlation coefficients with the Iowa Assessment Total Reading score ranged from .54 in the spring of Grade 1 to .57 in the fall and winter of Grade 1. Correlation coefficients with the Iowa Assessment Word Analysis score ranged from .46 in the spring of Grade 1 to .57 in the fall of Grade 1.

For PSF, correlation coefficients with the Iowa Assessment Total Reading score ranged from .12 in the fall and spring of Grade 1 to .29 in the winter of Grade 1. Correlation coefficients with the Iowa Assessment Word Analysis score ranged from .02 in the fall of Grade 1 to .23 in the winter of Grade 1.

For NWF, correlation coefficients with the Iowa Assessment Total Reading score ranged from .39 in the winter of Grade 3 to .65 in the spring of Grade 3. Correlation coefficients with the Iowa Assessment Word Analysis score ranged from .51 in the fall of Grade 1 to .79 in the winter of Grade 1.

For WRF, correlation coefficients with the Iowa Assessment Total Reading score ranged from .56 in the spring of Grade 3 to .79 in the spring of Grade 1. Correlation coefficients with the Iowa Assessment Word Analysis score ranged from .32 in the spring of Grade 3 to .67 in the spring of Grade 2.

For ORF, correlation coefficients with the Iowa Assessment Total Reading score ranged from .48 in the winter of Grade 8 to .82 in the spring of Grade 1. Correlation coefficients with the Iowa Assessment Word Analysis score ranged from .45 in the spring of Grade 3 to .69 in the winter of Grade 1.

Screening Accuracy

One of the uses of DIBELS 8th Edition is to identify students who are not on track for meeting reading proficiency standards and those who are at pronounced risk for reading difficulties. To support this use, two types of cut-scores have been provided for classifying students. The first score, called the risk cut-score can be used to classify students who are *at risk* for reading difficulties, including dyslexia. The second score, called the benchmark goal, can be used to classify students who are at *some risk* for not meeting proficiency goals versus those who are on track for meeting proficiency goals.

The cut-scores were calculated using receiver operating characteristic curve (ROC) analyses. ROC analyses describe the relation between true positive rates (i.e., scores that correctly identify students who were not on tracking for attaining proficiency) and false positive rates (i.e., scores that indicate a student was not on-track when they really were). In this case, the ROC results describe whether DIBELS 8th Edition scores correctly predicted performance on a criterion measure of reading: DIBELS Next composite score percentile ranks in kindergarten or Iowa Assessment Total Reading percentile ranks in all other grades. ROC analyses yield an area under the curve (AUC)

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estimate, which describes a test's classification accuracy. An AUC of .5 indicates the test predicts no better than chance. An AUC of 1 indicates that a test has perfect predictive power (Habibzadeh, Habibzadeh, & Yadollahie, 2016).

Overall, PSF in first grade had the lowest AUCs, while other measures tended to have substantially higher and more consistent AUCs. These results indicate that PSF *on its own* is not a sufficient screener for reading risk in first grade. One important reason for the low AUCs in first grade and far better ones in kindergarten has to do with how the measures were validated. Whereas kindergarten AUCs were validated against a composite score that includes a direct measure of phonological awareness, in first grade the criterion measure is a measure of reading comprehension. The score being predicted in the latter case is more distal from phonological awareness.

As in other DIBELS editions, the subtests that had the best AUCs by grade and season DIBELS 8th Edition remained LNF in the fall of kindergarten, NWF from winter of kindergarten through fall of first grade, and ORF from winter of first grade onward. Notably, WRF and ORF often performed about the same as NWF in terms of ROC statistics, but additional analyses suggested they help to capture students at risk who may perform quite well on NWF. Worthy of note is that screening accuracy for ORF remained very strong through eighth grade, suggesting its utility as a universal screener through the end of middle school. Results are described briefly by grade and are reported in more detail in Tables 11 to 16.

In Grade K, the outcome measure was DIBELS Next composite score percentile ranks. For determining risk of reading difficulties including dyslexia (risk cut-score), AUCs ranged from .86-.98 for PSF to .89-.94 for LNF. Risk cut-score sensitivity ranged from .80-.99 for PSF to .88-.99 for WRF, and specificity ranged from .83-.96 for PSF to .81-.83 for LNF. For the benchmark goals in kindergarten, AUCs ranged from .79-.88 for PSF to .90-.96 for LNF. Benchmark goal sensitivity ranged from .76-.91 for PSF to .83-.99+ for WRF, and specificity ranged from .76-.91 for PSF to .81-.86 for LNF.

In Grade 1 and all subsequent grades, the outcome measure was percentile ranks for the Total Reading score of the Iowa Assessment. For determining risk of reading difficulties including dyslexia (risk cut-score), AUCs ranged from .53-.66 for PSF to .88-.90 for WRF; NWF and ORF had AUCs similar to WRF. Risk cut-score sensitivity ranged from .54-.62 for PSF to .85-.88 for ORF, and specificity ranged from .55-.66 for PSF to .85-.89 for ORF. For the benchmark goals, AUCs ranged from .54-.61 for PSF to .94-.97 for ORF. Benchmark goal sensitivity ranged from .52-.57 for PSF to .88-.92 for WRF, and specificity ranged from .51-.58 for PSF to .90-.97 for ORF.

In Grade 2, for determining risk of reading difficulties including dyslexia (risk cut-score), AUCs ranged from .79-.87 for NWF to .89-.93 for ORF. Risk cut-score sensitivity ranged from .70-.76 for NWF to .87-.92 for ORF, and specificity ranged from .72-.82 for NWF to .81-.93 for WRF. For the benchmark goals, AUCs ranged from .82-.84 for NWF to .86-.91 for ORF. Benchmark goal sensitivity was exceedingly similar across measures

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ranging from .79-.82 for WRF to .77-.90 for ORF, and specificity ranged from .73-.83 for NWF to .81-.85 for ORF.

In Grade 3, for determining risk of reading difficulties including dyslexia (risk cut-score), AUCs ranged from .71-.77 for NWF to .82-.91 for ORF. Risk cut-score sensitivity ranged from .65-.70 for NWF to .75-.99 for ORF, and specificity ranged from .63-.74 for NWF to .77-.86 for ORF. For the benchmark goals, AUCs ranged from .71-.75 for NWF to .77-.84 for ORF. Benchmark goal sensitivity ranged from .65-.73 for NWF to .72-.74 for ORF, and specificity ranged from .63-.65 for NWF to .71-.82 for ORF.

In Grade 4, for determining risk of reading difficulties including dyslexia (risk cut-score), AUCs were .80-.84 for ORF depending on time of year. Risk cut-score sensitivity was .71-.83, and specificity was .69-.78. For the benchmark goals, AUCs were .75-.82 depending on time of year. Benchmark goal sensitivity was .68-.77, and specificity was .71-.73.

In Grade 5, for determining risk of reading difficulties including dyslexia (risk cut-score), AUCs were .82-.86 depending on time of year. Risk cut-score sensitivity was .72-.78, and specificity was .74-.82. For the benchmark goals, AUCs were .80-.89 with sensitivity of .65-.72 and specificity of .68-.84.

In Grade 6, for determining risk of reading difficulties including dyslexia (risk cut-score), AUCs were .77-.82 depending on time of year. Risk cut-score sensitivity was .74-.79, and specificity was .72-.82. For the benchmark goals, AUCs were .82-.84 with sensitivity of 70-.74 and specificity of .79-.86.

In Grade 7, for determining risk of reading difficulties including dyslexia (risk cut-score), AUCs were .75-.80 depending on time of year. Risk cut-score sensitivity were .69-.85 and specificity was .68-.72. For the benchmark goals, AUCs .76 to .83 with sensitivity of .71-.79 and specificity of .72-.76.

In Grade 8, for determining risk of reading difficulties including dyslexia (risk cut-score), AUCs were .73-.82. Risk cut-score sensitivity was .64-.75, and specificity was .66-.73. For the benchmark goals, AUCs were .81-.89 with sensitivity of .78-.87 and specificity of .80-.86.

Conclusion

In-progress research has generated initial evidence that DIBELS 8th Edition can be a useful tool for monitoring the acquisition of reading skills in elementary and secondary students. Test-users should be mindful that some estimates reported here are liable to change as additional data are collected. Specifically, in cases where cut-scores or correlations are based on a small sample size, estimates are likely to change. An update of technical adequacy evidence will be released in winter 2019, and research on DIBELS 8th Edition will be ongoing.

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References

Welch, C. & Dunbar, S. (2012). Iowa Assessments. Boston: Houghton Mifflin Harcourt.

Habibzadeh, F., Habibzadeh, P., & Yadollahie, M. (2016). On determining the most appropriate test cut-off value: the case of tests with continuous results. Biochemia Medica, 297–307. https://doi.org/10.11613/BM.2016.034

Messick, S. (1995). Validity of psychological assessment: Validation of inferences from persons' responses and performances as scientific inquiry into score meaning. American Psychologist, 50(9), 741–749. https://doi.org/10.1037/0003-066X.50.9.741

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Appendix

Table 1

Reliability Coefficients for DIBELS 8th Edition Letter Naming Fluency

	Alternate form			Test-retest
	Beginning	Middle	End	Beginning-Middle
Kindergarten	.89	.91	.96	.82
Grade 1	-	-	-	.82

Table 2

Reliability Coefficients for DIBELS 8th Edition Phonemic Segmentation Fluency

	Alternate form			Test-retest
	Beginning	Middle	End	Beginning-Middle
Kindergarten	.80	.88	.86	.71*
Grade 1	-	-	-	.64

* Test-retest reliability for kindergarten is between middle-of-year and end-of-year scores.

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Table 3

Reliability Coefficients for DIBELS 8th Edition Nonsense Word Fluency

	Alternate form			Test-retest
	Beginning	Middle	End	Beginning-Middle
Kindergarten	.95	.92	.97	.84
Grade 1	.95	.89	.85	.81
Grade 2	.93	.94	.94	.75
Grade 3	-	.75	.92	.87*

* Test-retest reliability for grade 3 was computed with correlation between middle-of-year and end-of-year scores.

Table 4

Reliability Coefficients for DIBELS 8th Edition Word Reading Fluency

	Alternate form			Test-retest
	Beginning	Middle	End	Beginning-Middle
Kindergarten	-	.89	.97	.92
Grade 1	-	.97	.96	.90
Grade 2	.95	.95	.96	.94
Grade 3	.94	.96	.95	.93

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Table 5

Reliability Coefficients for DIBELS 8th Edition Oral Reading Fluency

	Alternate form			Test-retest
Grade	Beginning	Middle	End	Beginning-Middle
1	.97	.98	> .99	.92
2	.97	.97	.96	.87
3	.96	.97	.95	.94
4	.96	.95	.95	.91
5	.96	.96	.95	.91
6	.97	.99	> .99	.91
7	.93	.96	.98	.90
8	.92	.99	.94	.91

Table 6

Concurrent and Predictive Validity Coefficients for DIBELS 8th Edition Letter Naming Fluency

Grade	Season	DIBELS Next Composite	Iowa Total Reading	Iowa Word Analysis
Kindergarten	Fall	.70 (n = 128)	NA	NA
	Winter	.80 (n = 156)	NA	NA
	Spring	.89 (n = 98)	NA	NA
Grade 1	Fall	.65 (n = 144)	.57 (n = 80)	.57 (n = 80)
	Winter	.70 (n = 163)	.57 (n = 115)	.52 (n = 117)
	Spring	.63 (n = 163)	.54 (n = 117)	.46 (n = 119)

Note. DIBELS Next Composite scores always serve as measures of concurrent validity. Iowa Total Reading and Iowa Word Analysis serve as measures of predictive validity in fall and winter, but concurrent validity in spring. NA = Data are not available.

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Table 7

Concurrent and Predictive Validity Coefficients for DIBELS 8th Edition Phonemic Segmentation Fluency

Grade	Season	DIBELS Next Composite	Iowa Total Reading	Iowa Word Analysis
Kindergarten	Fall	.47 (n = 75)	NA	NA
	Winter	NA	NA	NA
	Spring	.62 (n = 95)	NA	NA
Grade 1	Fall	.27 (n = 141)	.12 (n = 79)	.02 (n = 79)
	Winter	.17 (n = 161)	.29 (n = 113)	.23 (n = 115)
	Spring	.14 (n = 163)	.12 (n = 117)	.14 (n = 119)

Note. DIBELS Next Composite scores always serve as measures of concurrent validity. Iowa Total Reading and Iowa Word Analysis serve as measures of predictive validity in fall and winter, but concurrent validity in spring. NA = Data are not available.

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Table 8

Concurrent and Predictive Validity Coefficients for DIBELS 8th Edition Nonsense Word Fluency

Grade	Season	DIBELS Next Composite	Iowa Total Reading	Iowa Word Analysis
Kindergarten	Fall	.36 (n = 92)	NA	NA
	Winter	.68 (n = 133)	NA	NA
	Spring	.82 (n = 109)	NA	NA
Grade 1	Fall	.73 (n = 163)	.55 (n = 153)	.51 (n = 153)
	Winter	.80 (n = 185)	.60 (n = 197)	.79 (n = 199)
	Spring	.85 (n = 186)	.65 (n = 198)	.54 (n = 200)
Grade 2	Fall	.80 (n = 115)	NA	NA
	Winter	.62 (n = 107)	.56 (n = 76)	NA
	Spring	.74 (n = 112)	.62 (n = 84)	NA
Grade 3	Fall	NA	NA	NA
	Winter	.71 (n = 109)	.39 (n = 89)	NA
	Spring	.71 (n = 97)	.50 (n = 90)	NA

Note. DIBELS Next Composite scores always serve as measures of concurrent validity. Iowa Total Reading and Iowa Word Analysis serve as measures of predictive validity in fall and winter, but concurrent validity in spring. NA = Data are not available.

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Table 9

Concurrent and Predictive Validity Coefficients for DIBELS 8th Edition Nonsense Word Fluency-Word Read Correctly

Grade	Season	DIBELS Next Composite	Iowa Total Reading	Iowa Word Analysis
Kindergarten	Fall	.60 (n = 76)	NA	NA
	Winter	.66 (n = 130)	NA	NA
	Spring	.74 (n = 108)	NA	NA
Grade 1	Fall	.61 (n = 163)	.51 (n = 153)	.50 (n = 153)
	Winter	.79 (n = 185)	.58 (n = 197)	.51 (n = 199)
	Spring	.86 (n = 186)	.63 (n = 198)	.56 (n = 200)
Grade 2	Fall	.80 (n = 115)	NA	NA
	Winter	.62 (n = 107)	.56 (n = 76)	NA
	Spring	.74 (n = 112)	.62 (n = 84)	NA
Grade 3	Fall	NA	NA	NA
	Winter	.71 (n = 109)	.39 (n = 89)	NA
	Spring	.71 (n = 97)	.50 (n = 90)	NA

Note. DIBELS Next Composite scores always serve as measures of concurrent validity. Iowa Total Reading and Iowa Word Analysis serve as measures of predictive validity in fall and winter, but concurrent validity in spring. NA = Data are not available.

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Table 10

Concurrent and Predictive Validity Coefficients for DIBELS 8th Edition Word Reading Fluency

Grade	Season	DIBELS Next Composite	Iowa Total Reading	Iowa Word Analysis
Kindergarten	Fall	.57 (n = 89)	NA	NA
	Winter	.63 (n = 124)	NA	NA
	Spring	.75 (n = 92)	NA	NA
Grade 1	Fall	.69 (n = 144)	.65 (n = 80)	.59 (n = 80)
	Winter	.88 (n = 163)	.74 (n = 115)	.63 (n = 117)
	Spring	.88 (n = 163)	.79 (n = 117)	.67 (n = 119)
Grade 2	Fall	.91 (n = 151)	NA	NA
	Winter	.87 (n = 138)	.72 (n = 77)	NA
	Spring	NA	.62 (n = 87)	.60 (n = 89)
Grade 3	Fall	.85 (n = 138)	NA	NA
	Winter	.85 (n = 154)	.59 (n = 89)	NA
	Spring	.84 (n = 97)	.56 (n = 90)	NA

Note. DIBELS Next Composite scores always serve as measures of concurrent validity. Iowa Total Reading and Iowa Word Analysis serve as measures of predictive validity in fall and winter, but concurrent validity in spring. NA = Data are not available.

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Table 11

Concurrent and Predictive Validity Coefficients for DIBELS 8th Edition Oral Reading Fluency

Grade	Season	Composite	Total Reading	Word Analysis
1	Fall	.75 (n = 154)	NA	NA
	Winter	.91 (n = 196)	.79 (n = 115)	.69 (n = 117)
	Spring	.91 (n = 163)	.82 (n = 116)	.67 (n = 118)
2	Fall	.84 (n = 131)	.63 (n = 137)	.55 (n = 129)
	Winter	.87 (n = 130)	.74 (n = 163)	.64 (n = 137)
	Spring	NA	.71 (n = 87)	.60 (n = 89)
3	Fall	NA	NA	NA
	Winter	.83 (n = 128)	.69 (n = 132)	.50 (n = 96)
	Spring	.88 (n = 116)	.66 (n = 90)	.45 (n = 96)
4	Fall	NA	NA	NA
	Winter	NA	NA	NA
	Spring	NA	.61 (n = 91)	NA
5	Fall	NA	.63 (n = 128)	NA
	Winter	NA	.69 (n = 99)	NA
	Spring	NA	NA	NA
6	Fall	NA	NA	NA
	Winter	NA	.65 (n = 86)	NA
	Spring	NA	.67 (n = 82)	NA
7	Fall	NA	NA	NA
	Winter	NA	.57 (n = 101)	NA
	Spring	NA	.54 (n = 91)	NA
8	Fall	NA	NA	NA
	Winter	NA	48 (n = 85)	NA
	Spring	NA	.59 (n = 77)	NA

Note. DIBELS Next Composite scores always serve as measures of concurrent validity. Iowa Total Reading and Iowa Word Analysis serve as measures of predictive validity in fall and winter, but concurrent validity in spring. NA = Data are not available.

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Table 12

Concurrent and Predictive Validity Coefficients for DIBELS 8th Edition Oral Reading Fluency-Accuracy

Grade	Season	Composite	Total Reading	Word Analysis
1	Fall	.76 (n = 154)	NA	NA
	Winter	.78 (n = 196)	.78 (n = 115)	.72 (n = 117)
	Spring	.76 (n = 163)	.61 (n = 116)	.60 (n = 118)
2	Fall	.63 (n = 131)	.61 (n = 137)	.46 (n = 129)
	Winter	.68 (n = 130)	.51 (n = 163)	.54 (n = 137)
	Spring	NA	.48 (n = 87)	.33 (n = 89)
3	Fall	NA	NA	NA
	Winter	.68 (n = 128)	.53 (n = 132)	.44 (n = 96)
	Spring	.55 (n = 96)	.36 (n = 90)	NA
4	Fall	NA	NA	NA
	Winter	NA	NA	NA
	Spring	NA	.37 (n = 91)	NA
5	Fall	NA	.46 (n = 128)	NA
	Winter	NA	.41 (n = 99)	NA
	Spring	NA	NA	NA
6	Fall	NA	NA	NA
	Winter	NA	.53 (n = 86)	NA
	Spring	NA	.49 (n = 82)	NA
7	Fall	NA	NA	NA
	Winter	NA	.36 (n = 101)	NA
	Spring	NA	.29 (n = 91)	NA
8	Fall	NA	NA	NA
	Winter	NA	.23 (n = 85)	NA
	Spring	NA	.43 (n = 77)	NA

Note. DIBELS Next Composite scores always serve as measures of concurrent validity. Iowa Total Reading and Iowa Word Analysis serve as measures of predictive validity in fall and winter, but concurrent validity in spring. NA = Data are not available.

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Table 13

DIBELS 8th Edition AUCs for At Risk Status

	Outcome	LNF	PSF	NWF	WRF	ORF	Maze
K	DIBELS Next percentiles	.89-.94	.86-.98	.73-.90	.81-.95	–	–
1	Iowa Reading percentiles	.77-.83	.53-.66	.83-.88	.88-.90	.87-.91	–
2	Iowa Reading percentiles	–	–	.79-.87	.88-.93	.89-.93	Winter ‘19
3	Iowa Reading percentiles	–	–	.71-.77	.80-.83	.82-.91	Winter ‘19
4	Iowa Reading percentiles	–	–	–	–	.80-.84	Winter ‘19
5	Iowa Reading percentiles	–	–	–	–	.82-.86	Winter ‘19
6	Iowa Reading percentiles	–	–	–	–	.77-.82	Winter ‘19
7	Iowa Reading percentiles	–	–	–	–	.75-.80	Winter ‘19
8	Iowa Reading percentiles	–	–	–	–	.73-.82	Winter ‘19

Note. Fall data for Grade 3 NWF is not available.

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Table 14

DIBELS 8th Edition Sensitivity for At Risk Status

	Outcome	LNF	PSF	NWF	WRF	ORF	Maze
K	DIBELS Next percentiles	.79-.90	.80-.99+	.77-.83	.88-.99+	–	–
1	Iowa Reading percentiles	.69-.76	.54-.62	.75-.86	.83-.88	.85-.88	–
2	Iowa Reading percentiles	–	–	.70-.76	.83-.91	.87-.92	Winter ‘19
3	Iowa Reading percentiles	–	–	.65-.70	.69-.70	.75-.99+	Winter ‘19
4	Iowa Reading percentiles	–	–	–	–	.71-.83	Winter ‘19
5	Iowa Reading percentiles	–	–	–	–	.72-.78	Winter ‘19
6	Iowa Reading percentiles	–	–	–	–	.74-.79	Winter ‘19
7	Iowa Reading percentiles	–	–	–	–	.69-.85	Winter ‘19
8	Iowa Reading percentiles	–	–	–	–	.64-.75	Winter ‘19

Note. Fall data for Grade 3 NWF is not available.

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Table 15

DIBELS 8th Edition Specificity for At Risk Status

	Outcome	LNF	PSF	NWF	WRF	ORF	Maze
K	DIBELS Next percentiles	.81-.83	.83-.96	.70-.84	.62-.83	–	–
1	Iowa Reading percentiles	.68-.82	.55-.66	.75-.81	.80-.88	.85-.89	–
2	Iowa Reading percentiles	–	–	.72-.82	.81-.93	.82-.85	Winter ‘19
3	Iowa Reading percentiles	–	–	.63-.74	.67-.75	.77-.86	Winter ‘19
4	Iowa Reading percentiles	–	–	–	–	.69-.78	Winter ‘19
5	Iowa Reading percentiles	–	–	–	–	.74-.82	Winter ‘19
6	Iowa Reading percentiles	–	–	–	–	.72-.82	Winter ‘19
7	Iowa Reading percentiles	–	–	–	–	.68-.72	Winter ‘19
8	Iowa Reading percentiles	–	–	–	–	.66-.73	Winter ‘19

Note. Fall data for Grade 3 NWF is not available.

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Table 16

DIBELS 8th Edition AUCs for Some Risk Status

	Outcome	LNF	PSF	NWF	WRF	ORF	Maze
K	DIBELS Next percentiles	.90-.96	.79-.88	.73-.93	.86-.94	–	–
1	Iowa Reading percentiles	.78-.82	.54-.61	.79-.87	.93-.96	.94-.97	–
2	Iowa Reading percentiles	–	–	.82-.84	.84-.90	.86-.91	Winter ‘19
3	Iowa Reading percentiles	–	–	.71-.75	.79-.80	.77-.84	Winter ‘19
4	Iowa Reading percentiles	–	–	–	–	.75-.82	Winter ‘19
5	Iowa Reading percentiles	–	–	–	–	.80-.89	Winter ‘19
6	Iowa Reading percentiles	–	–	–	–	.82-.84	Winter ‘19
7	Iowa Reading percentiles	–	–	–	–	.76-.83	Winter ‘19
8	Iowa Reading percentiles	–	–	–	–	.81-.89	Winter ‘19

Note. Fall data for Grade 3 NWF is not available.

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Table 17

DIBELS 8th Edition Sensitivity for Some Risk Status

	Outcome	LNF	PSF	NWF	WRF	ORF	Maze
K	DIBELS Next percentiles	.86-.94	.76-.91	.78-.84	.83-.99+	–	–
1	Iowa Reading percentiles	.69-.72	.52-.57	.73-.83	.88-.92	.88-.92	–
2	Iowa Reading percentiles	–	–	.78-.86	.79-.82	.77-.90	Winter '19
3	Iowa Reading percentiles	–	–	.65-.73	.71-.71	.72-.74	Winter '19
4	Iowa Reading percentiles	–	–	–	–	.68-.77	Winter '19
5	Iowa Reading percentiles	–	–	–	–	.65-.72	Winter '19
6	Iowa Reading percentiles	–	–	–	–	.70-.74	Winter '19
7	Iowa Reading percentiles	–	–	–	–	.71-.79	Winter '19
8	Iowa Reading percentiles	–	–	–	–	.78-.87	Winter '19

Note. Fall data for Grade 3 NWF is not available.

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Table 18

DIBELS 8th Edition Specificity for Some Risk Status

	Outcome	LNF	PSF	NWF	WRF	ORF	Maze
K	DIBELS Next percentiles	.81-.86	.76-.91	.69-.87	.71-.85	–	–
1	Iowa Reading percentiles	.72-.76	.51-.58	.71-.82	.84-.90	.90-.97	–
2	Iowa Reading percentiles	–	–	.73-.83	.81-.83	.81-.85	Winter '19
3	Iowa Reading percentiles	–	–	.63-.65	.70-.80	.71-.82	Winter '19
4	Iowa Reading percentiles	–	–	–	–	.71-.73	Winter '19
5	Iowa Reading percentiles	–	–	–	–	.68-.84	Winter '19
6	Iowa Reading percentiles	–	–	–	–	.79-.86	Winter '19
7	Iowa Reading percentiles	–	–	–	–	.72-.76	Winter '19
8	Iowa Reading percentiles	–	–	–	–	.80-.86	Winter '19

Note. Fall data for Grade 3 NWF is not available.

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