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Diagnostic Online Reading Assessment (DORA) & DORA Spanish (EDELL) - *Evaluación Diagnostica Español de Lectura en Línea* Technical Manual

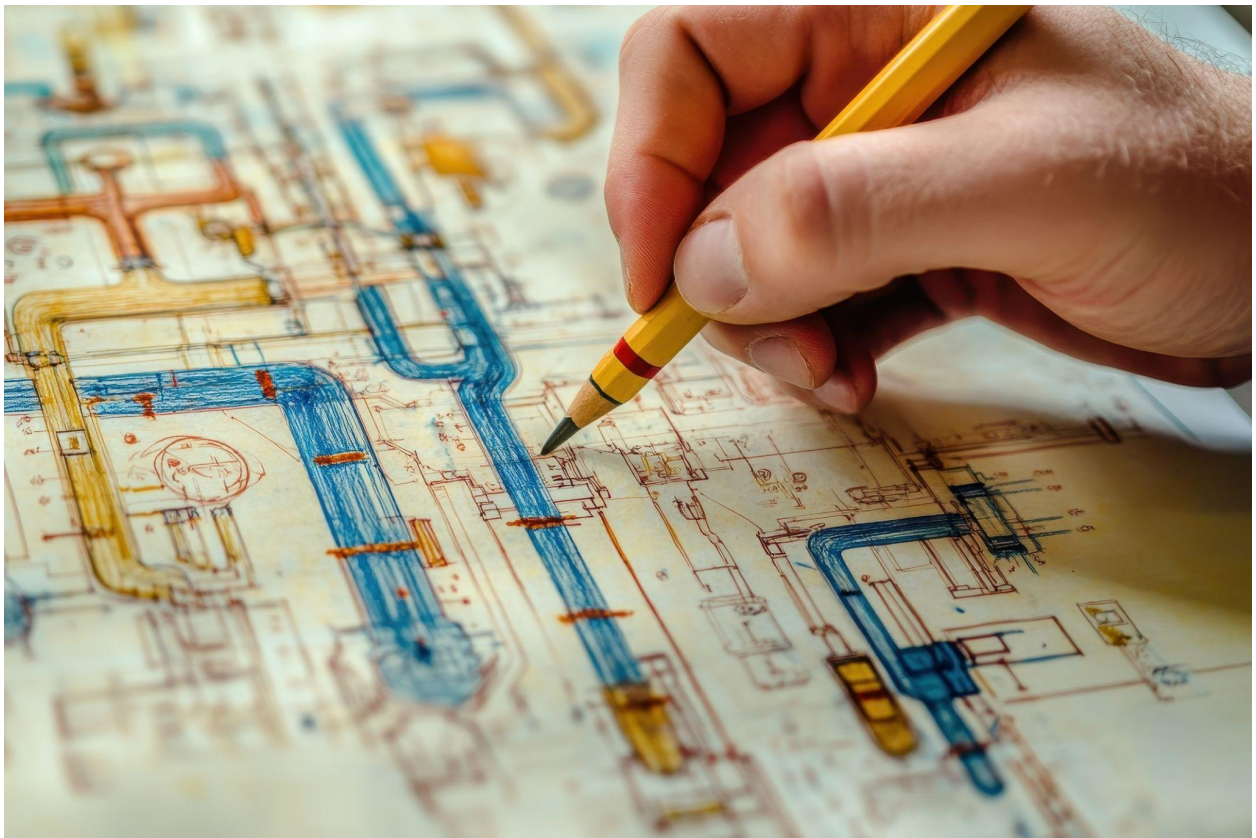


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Introduction

In response to a growing need to increase the literacy achievement of their students, most schools today have adopted programs that utilize a traditional, teacher-centered, whole-class approach, while others have opted to work with small groups and still others have employed one-on-one tutoring for select students. Prior studies have shown that a variation on the latter approach -- individualized instruction based on diagnostic assessment information -- is an ideal way to prevent reading failure and accelerate the literacy development of low-achieving students (Juel, 1996; Shanahan & Barr, 1995; Wasik & Slavin, 1998; McCallum, et al., 2000). Let's Go Learn's Diagnostic Online Reading Assessment and LGL Edge instructional programs were created to provide teachers and parents with individualized reading assessment and instruction. The theoretical, pedagogical, and curricular dimensions of the program were based on best practices developed by reading specialists who worked directly with struggling readers in the Cal Reads program at UC Berkeley and who studied under Dr. Richard McCallum, the director of the Advanced Reading and Language Leadership Program at the Graduate School of Education at UC Berkeley.

Although much research has been conducted on the importance of individualized and comprehensive reading instruction, current models of individualized instruction are typically limited to serving only a fraction of the students in need, while the pool of trained professionals necessary to implement these programs is small. Let's Go Learn has developed a solution to provide individualized literacy assessment and instruction to all students and a way for teachers to manage each student's reading progress and apply individualized computer-based activities to authentic classroom practices. Let's Go Learn's assessment, DORA (Diagnostic Online Reading Assessment), and individualized online instructional program, LGL Edge, were modeled after Cal Reads, a successful program developed by Dr. McCallum at UC Berkeley. In his tutoring program non-credentialed tutors guided by reading specialists in training, Dr. McCallum had shown that consistent, individualized reading assessment and instruction could raise literacy skills of struggling readers by approximately two years within a school year as compared to a control group of

similar students (McCallum et al., 2000). Furthermore, a study examining the effects of the proposed reading program (Learning Today, 2003) on the reading achievement levels of Title 1/Limited English Proficient (LEP) students in Belle Glade, Florida showed significant grade-level gains in their sight words, phonics, vocabulary, and reading comprehension skills after 12 weeks in the program when compared to the grade-level gains of students in a control group. These measurable and significant gains have been repeated many times over in classrooms and special education programs across the country over the past 24+ years that Let's Go Learn has been supporting school districts, schools, students, and families. The question of this approach is really no longer in doubt, yet implementation barriers and old classroom habits still plague schools and districts. Thus, student outcomes in reading are still a big concern across the United States especially for at-risk student populations.

The Science of Reading and DORA

The diagnostic approach of Let's Go Learn and its DORA assessment predates the popularization of "The Science of Reading." This is because effective literacy instruction has always required a foundation of objective, accurate diagnostic data to identify and address students' unique needs. At its core, the Science of Reading emphasizes research-based practices that are proven to support student success.

DORA embodies these principles by systematically breaking down the reading process into measurable components while minimizing testing bias. These sub-tests align seamlessly with the Science of Reading framework, providing educators with actionable insights to guide their instruction in evidence-based ways.

For a deeper understanding of how DORA supports this instructional approach, see the section titled "[*The Science of Reading and DORA in the Classroom*](#)." There, you'll find practical examples of how DORA's data can empower teachers to implement Science of Reading practices effectively.

Diagnostic Online Reading Assessment Specifications

Because a single standardized assessment gives only a small picture of a student's reading ability and provides little formative information to guide instructional practices, DORA was created with the idea of obtaining information from multiple sources and vantage points to more accurately paint a picture of an individual's reading strategies across multiple measures which follow a constructivist perspective of the reading process (Flores et al., 1991). The most effective way to characterize a child's reading ability is to assess his or her reading skills across a set of criterion-referenced categories that are important to the reading process. Modeled after the battery of reading measures used by Cal Reads and reading specialists as outlined in various reading methods books (Gillet & Temple, 1994; Ruddell, 1999), the eight reading skills measured by Let's Go Learn are: 1) High Frequency Words, 2) Phonemic Awareness, 3) Phonics, 4) Word Recognition, 5) Vocabulary, 6) Spelling, 7) Silent Reading Comprehension, and 8) Fluency.

High-Frequency Words Sub-Test

This sub-test assesses children's ability to automatically recognize words that have been identified as frequently occurring in books, newspapers, and other texts. This sub-test uses words from Edward B. Fry's 300 sight words as test items which have been broken down into three general levels of difficulty (Fry, Kress, & Fountoukidis, 2004). A child's response time in identifying these sight words is recorded and factored into the scoring of the child's performance on the assessment. High-Frequency Word subtest consists of 72 criterion-referenced words, with 24 words per grade from 1st to 3rd grade.

Phonics Sub-Test

In addition to having an awareness of the discrete sounds in words, it is important that children have a mastery of how sounds and words are represented in English. This is important because children need to be able to effortlessly decode and recognize familiar and unfamiliar words to help facilitate the process of negotiating the meaning behind the text (Adams, 1990; Snow, Burns, & Griffin, 1998). The phonics sub-test assesses a child's ability to recognize basic English phonetic principles of high utility (Pressley & Woloshyn,

1995). These phonetic principles include: 1) beginning sounds, 2) short vowel sounds, 3) blends, 4) the silent E rule, 5) consonant digraphs, 6) vowel digraphs, 7) r-controlled vowels, 8) diphthongs, and 9) syllabification. The Phonics subtest consists of 80 criterion-referenced words, with 20 words per grade, from 1st to 4th grade.

Word Recognition Sub-Test

As in many informal reading inventories such as the Qualitative Reading Inventory (Leslie & Caldwell, 1994), the Basic Reading Inventory (Johns, 2001) and the Diagnostic Assessment of Reading (Roswell & Chall, 1992), DORA's Word Recognition sub-test assesses a learner's ability to recognize leveled lists of words. In this sub-test, children are presented with a number of increasingly difficult words until they reach a level at which they "frustrate" or stop recognizing the words presented to them. The final outcome of the assessment gives teachers an idea of the grade-level ability of a child to recognize words out of context. This assessment is important in identifying how well an individual can use what he or she knows about text to recognize words outside the context of a sentence and of increasing difficulty. The Word Recognition sub-test consists of 120 criterion-referenced words, with 10 words per grade from 1st to 12th grade.

Vocabulary Sub-Test

A learner's knowledge of words and what they mean is an important part of the reading process, as knowledge of word meanings affects the extent to which the learner comprehends what he or she reads (National Reading Panel, 2000). The vocabulary sub-test assesses a child's understanding of words. The words from this sub-test were selected by teachers and reading specialists to reflect the types of words children learn in various disciplines at different grade levels and in various stages of their lives. Similar to the Peabody Picture Vocabulary Test (Dunn, 1959), in the vocabulary sub-test children are asked to select the picture which correctly corresponds to a word they hear. The program continues to present children with increasingly difficult words until they make a certain number of errors. This sub-test provides information about a child's level of oral vocabulary. The Oral Vocabulary subtest consists of 60 criterion-referenced words, with 5 words per grade, ranging from 1st to 12th grade.

Spelling Sub-Test

The process of spelling involves a number of cognitive processes. While each person uses different strategies for spelling words, these strategies usually have in common a familiarity with a particular word (i.e., familiarity with its meaning and visual exposure to the word), letter-sound matching, and confirmation of how the word “looks” (Bear et al., 2000; Ruddell, 1999; Gillet & Temple, 1994). Because spelling is also a generative process (as opposed to a decoding and meaning-making process in reading), it is natural for young readers’ spelling abilities to lag a few months behind their reading abilities. DORA’s Spelling sub-test tries to capture the nuances of the different processes children use to spell words by employing target words with increasing difficulty in different domains. In the process of creating the items for the DORA Spelling sub-test, reading specialists created a list of recommended target spelling words by examining words commonly encountered in or taught at particular grade levels. The difficulty of the recommended words changes in these general domains in the following ways: 1) number of syllables in a word, 2) regular phonetic patterns within the words, 3) irregular phonetic patterns within the words, 4) vocabulary level, and 5) a child’s expected familiarity with a word based on his or her grade level. In the first through third grade spelling lists, for instance, while most of the words are phonetically regular, the number of syllables increases with each grade level and the phonetic patterns within each word become increasingly difficult. The way the difficulty increases per grade level varies. Studies of how students perform on the spelling test have been used to eliminate words that are too easy or too difficult for a particular grade level, resulting in a test that possesses the ability to better distinguish students who spell well on one list of words as opposed to another.

This sub-test is important in providing insight about a learner’s orthography skills--that is, a learner’s ability to take what he or she knows about letters and sounds and represent it in words and ability to represent words with irregular spelling patterns. This sub-test measures a child’s conventional spelling ability as well as provides teachers with information about the errors their students make. The program invites children to correctly spell a series of words that becomes increasingly difficult. The program stops administering words when a child consistently spells words incorrectly. Items from this sub-test were chosen by reading specialists and classroom teachers to approximate the

kinds of words children of a particular age would see in their classroom instruction. The Spelling subtest consists of 60 criterion-referenced words, with 5 words per grade, ranging from 1st to 12th grade.

Silent Reading Comprehension Sub-Test

The silent reading comprehension sub-test forms the crux of DORA, which attempts to provide a window into the semantic domain of a learner's reading abilities. The content of each silent reading passage is expository and written to reflect the subject areas that students of a particular grade level would encounter. In a variation on protocols for some informal reading inventories (Gillet & Temple, 1994; Leslie & Caldwell, 1994), children silently read passages of increasing difficulty and answer questions about each passage immediately after they read it. The questions for each passage are broken up into three factual questions, two inferential questions, and one contextual vocabulary question. The program stops administering passages and questions once a student misses a certain number of questions on a passage. It provides teachers with information about a child's comprehension level. For complete technical specifications on the leveled passages, please see Appendix A: Silent Reading Leveled Passages Design Specifications and Appendix B: Grade Level Justifications and Parallels for DORA Silent Reading Leveled Passages. The Reading Comprehension subtest consists of 12 Flesch-Kincaid leveled passages with 6 questions per passage. There is one passage per grade, with three sets of comprehension passages used. Students cycle through A, B, and C passages on subsequent assessments.

Fluency Sub-Test

In this sub-test, children read aloud to teachers short leveled passages with increasing syntactic complexity. Teachers time children's reading of these passages and record their errors and speed, accuracy, and expression to reflect the findings of the 2018 National Assessment of Educational Progress (NAEP) oral reading fluency study.

The Science of Reading and DORA in the Classroom

The Science of Reading emphasizes using diagnostic data to guide individualized instruction, addressing each student’s specific strengths and weaknesses. DORA provides teachers with a detailed breakdown of key reading components, enabling them to align instruction with evidence-based best practices. Below, we demonstrate how DORA data can be applied in the classroom using the profiles of three 8th-grade students. These students—John, Ann, and Able—are real individuals who faced significant reading challenges. While their names have been changed to protect their privacy, their data reflects the specific struggles they encountered and how targeted instruction helped them succeed.

Name	Grade	HF	WR	PH	PA	SP	VO	CO
John	8	3.83*	6.17	2.17	50%	2.5	6.83	3.17
Ann	8	3.83*	5.17	0.83	33%	1.83	7.5	0.5
Able	8	2.5	11.5	4.83*	NT	1.5	9.83	1.5

Key:

- HF: High-Frequency Words
- WR: Word Recognition
- PH: Phonics
- PA: Phonemic Awareness
- SP: Spelling
- VO: Oral Vocabulary
- CO: Comprehension Strategies
- *Indicates the maximum score for that sub-test

John: Maximum High-Frequency Words, Low Phonics

John has achieved the **maximum score (3.83)** in High-Frequency Words, indicating excellent recognition of commonly used sight words. His word recognition (WR 6.17) and

oral vocabulary (VO 6.83) are also strong. However, his phonics (PH 2.17) score reveals significant decoding weaknesses, suggesting he struggles with unfamiliar or complex words.

Instructional Focus for John:

- **Phonics Intervention:** Focus on foundational decoding skills such as consonant blends and vowel digraphs.
- **Decodable Texts:** Use texts emphasizing phonetic patterns to strengthen his ability to decode new words.
- **Spelling Integration:** Reinforce phonics concepts with spelling practice to solidify his understanding of letter-sound relationships.

Ann: Maximum High-Frequency Words, Low Phonics and Comprehension

Ann has also achieved the **maximum score (3.83)** in High-Frequency Words, showing her ability to recognize common sight words. However, her phonics (PH 0.83), phonemic awareness (PA 33%), and comprehension (CO 0.5) scores indicate serious challenges in foundational decoding and understanding what she reads.

Instructional Focus for Ann:

- **Phonemic Awareness and Phonics:** Begin with phonemic awareness activities, such as blending and segmenting sounds, and progress to basic phonics instruction focusing on short vowels and consonant sounds. Low phonemic awareness on DORA for an eighth-grade student could also suggest an underlying auditory processing impairment. The teacher should consider recommending an additional evaluation to determine whether further support or interventions are needed. In this case with the real student “Ann,” she did indeed have an auditory processing impairment and was referred to special education for additional support.
- **High-Frequency Word Fluency:** Strengthen her ability to use high-frequency words within context to boost reading fluency.
- **Comprehension Strategies:** Introduce scaffolded reading with simple texts that match her decoding level to build comprehension skills gradually.

Able: Maximum Phonics, Low Comprehension

Able has achieved the **maximum score (4.83)** in Phonics, demonstrating mastery of decoding skills and letter-sound relationships. He also has exceptionally high word recognition (WR 11.5) and oral vocabulary (VO 9.83). However, his comprehension (CO 1.5) is well below grade level, indicating difficulty with applying meaning to what he reads.

Instructional Focus for Able:

- **Comprehension Strategies:** Teach summarizing, inferencing, and identifying main ideas to improve reading comprehension.
- **Oral Reading Practice:** Pair reading with guided discussion to help bridge the gap between decoding and comprehension.
- **Contextual Vocabulary Development:** Focus on understanding nuanced meanings of words in context to enhance overall comprehension.

Using DORA to Support the Science of Reading

DORA equips teachers with the data needed to implement a Science of Reading approach by isolating and measuring individual reading skills. For students like John, Ann, and Able, DORA highlights areas of need and provides a roadmap for tailored, evidence-based instruction. By addressing foundational gaps while building on strengths, educators can ensure that every student progresses toward reading success.

DORA – Spanish/EDELL (Evaluación Diagnostica Español de Lectura en Línea) Specifications

Concern about the lack of access to available tools in Spanish from many educators of English Language Learners prompted the development of DORA Spanish/EDELL. As the number of language minority students in school rises, so does the number of language minority students who fall further and further behind their English-speaking peers. To start addressing the needs of Spanish-speaking English Language Learners in their schools, educators have recognized the need to identify both L1 and L2 competencies of Spanish-speaking children to provide the best instructional placement for these children.

According to the National Literacy Panel on Language-Minority Children and Youth (2006), “Language minority students are not blank slates. They enter classroom rooms with varying degrees of oral proficiency and literacy in their first language. There is clear evidence that tapping into first-language literacy can confer advantage.” Tapping into the first-language literacy proficiencies of Spanish-speaking English language learners is the goal of DORA Spanish. It utilizes the same underlying principles as English DORA; that is, reading in Spanish involves similar cognitive strategies and attention to similar sets of domains (albeit with different parameters) when reading and negotiating the meaning of text. As such, to characterize a child’s Spanish reading profile, DORA Spanish examines a child’s reading abilities across similar domains in Spanish: 1) High Frequency Words, 2) Phonemic Awareness, 3) Phonics, 4) Word Recognition, 5) Vocabulary, 6) Spelling, and 7) Silent Reading Comprehension. DORA Spanish takes results from these seven subskills and reports a quantitative and qualitative account of the child’s Spanish reading abilities, just as it does in English.

DORA Spanish/EDELL is a powerful tool that should be used to help educators make better instructional decisions for their Spanish-speaking students. DORA Spanish will be especially useful in tapping into and capitalizing upon the L1 knowledge of students so that teachers can help accelerate the development of L2 while children maintain fluency in their first language. As the National Literacy Panel on Language-Minority Children and Youth reports, “Research indicates that instructional programs work when they provide

opportunities for students to develop proficiency in their first language.” DORA Spanish/EDELL is a powerful tool that will help children become truly bi-literate.

Analyzing Sub-tests: Reports and Instructional Connections

After a child completes an assessment, teachers can immediately retrieve a report which details his or her reading profile in a quantitative and qualitative fashion and provides important instructional recommendations specific to that child’s reading profile.

There are multiple components of a teacher’s report on a child’s reading assessment. The first section includes a quantitative summary of the child’s performance on each of the sub-tests. In this section of the report, areas of low performance are flagged to make teachers aware that that particular reading skill is of high priority to that child. The next section of the report includes a qualitative summary of the child’s reading profile. The overall summary explains the child’s strengths and weaknesses in decoding. Each section uses evidence from the sub-tests listed above to qualify the profile made of the student’s reading abilities, including scores and, where appropriate, a description of the child’s errors relative to the target item.

The third section of the report is a summary of different kinds of evidence-based instructional strategies which would best accelerate the child’s reading development. The instructional strategies draw from the child’s successes and known abilities to help build the areas of weakness identified by DORA. The last section of the report provides other detailed instructional strategies and tips in teaching reading that would be helpful to all students in the classroom.

To facilitate the use of reading assessment information in meaningful and formative ways, Let’s Go Learn’s DORA provides teachers with an online management system. This online management system allows teachers to sort assessment information in order to group children with similar profiles, monitor individual and classroom progress, and quickly view individual assessment summaries. The online management system assists teachers in their various instructional decisions, including grouping and selecting appropriate reading activities and materials.

All of the sub-tests, except for the fluency sub-test, are conducted online. With DORA, a teacher has the capability of assessing her whole classroom in one trip to the school's computer laboratory. Unlike other assessments, which often require multiple teachers, reading specialists, or elaborate management setups for a period of weeks to assess individual students, DORA provides individualized, diagnostic, and comprehensive reading assessments coupled with a powerful data management and reporting system that helps teachers make appropriate instructional decisions for their classrooms and provides progress information on every child.

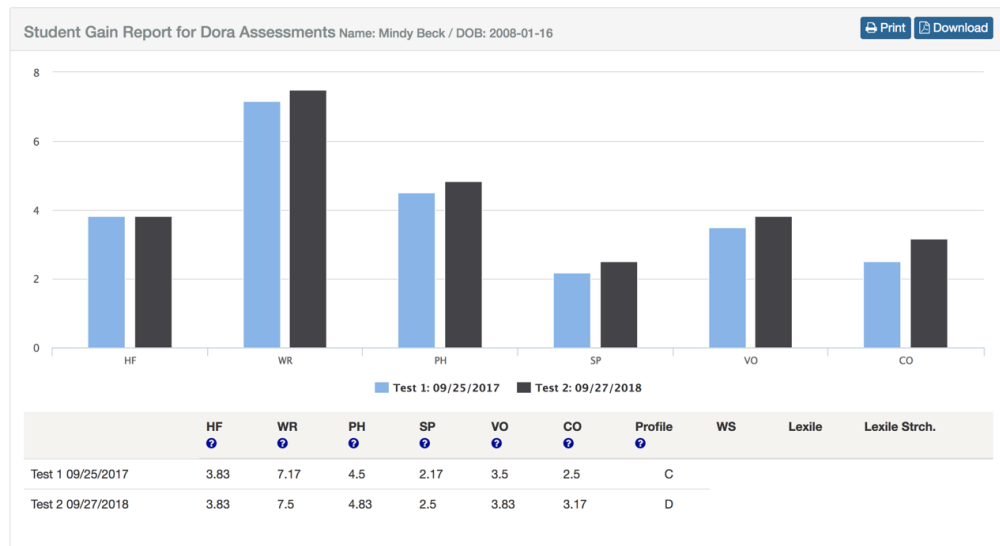
DORA Internal Growth Model Structure

DORA is a K-12 multiple measured criterion-referenced assessment. DORA consists of 7 subtests that address key foundational skills in reading & ELA. DORA's subtests employ grade-leveled word lists, phonics principals, or passages grouped by readability. These leveled skills are aligned with instructional grade-level content standards. DORA, by design, uses an interval scale given that it is aligned to grade-level skills that span grades K-12. DORA scores are reported as grade level scores, with partial year growth also noted.

A single adaptive DORA assessment is used for all grade level students. The adaptive nature of DORA was designed so that DORA identifies the zone of proximal development (ZPD) of each student regardless of the student's actual grade level. The K-12 focus of DORA allows teachers and administrators to identify gaps in student learning (previous year's standards that have not been met) as well as identify those who are working above their grade level.

DORA employs a gains score, or trajectory, model for student growth. Our gain score model captures the grade level progress on a particular scale or subscale between time 1 and time 2. The model is represented as: $GL(s)2 - GL(s)1$. Where GL = grade level, and where (s) denotes the particular scale or subscale.

The combination of an interval scale design with a K-12 set-item range allows DORA to measure growth of students' ability either within a single school year or across students' entire K-12 experience. DORA scores can be used both to diagnose student needs and to track student growth over time. The model provides higher accuracy since growth is not predicted, it is measured definitely skill by skill and concept by concept. The only error will exist in the test-takers determination to take an assessment with their best effort.



In this sample graph above, a single student's growth is graphed from fall of one year to the fall of the next year. These grade-level scores are scores native to the software algorithms underlying the DORA assessment. No translation or scaling has to occur. This supports DORA for use as a student growth measurement tool with interval scaled scores that are understandable by students, teachers, parents, and administrators.

DORA National Norms for Grade K-12

Let's Go Learn offers a range of solutions designed to improve student achievement. The company's initial efforts led to two diagnostic assessments: (1) Diagnostic Online Reading Assessment (DORA) and (2) Adaptive Diagnostic Assessment of Mathematics (ADAM). These comprehensive assessment tools were designed to provide students, educators, and families with clear, actionable data related to student performance through testing across an academic year. Each assessment consists of sub-tests that assess areas such as vocabulary and reading comprehension or numbers and operations, to develop a complete picture of student ability and opportunities for growth so that teachers can direct their instruction accordingly. This section of the technical manual summarizes the establishment of national norms for DORA to supplement the criterion-referenced data already provided.

What are norms?

Norms take advantage of large datasets containing thousands of scores at different points in the school year (the “sample”). The goal is to establish “normal” performance on the diagnostic based on the performance of thousands of students with varying abilities. Norms allow educators to compare a given student’s score to the national sample and understand that student’s performance level relative to students contained in the sample.

The words “norms” and “percentiles” compare a student’s score to the representative sample of students from across the country. These students completed the same assessment, at the same grade level, at the same point in the school year.

How do educators use norms?

Using the total score from either DORA or ADAM, an educator can plot the score in the norming table to determine that student’s performance compared to the national sample. For example, if the student’s score aligns with the 85th percentile, that student’s score is better than an estimated 85% of students in the national sample.

Sometimes a specific test score will correspond to multiple percentile ranks. For example, a score might appear next to three consecutive percentile ranks (i.e., a student’s score is 17 and it corresponds to the 66th, 67th, and 68th percentile). In this case, you can choose to report the percentile as any of the three numbers, or simply report the range. For consistency, use whichever method you adopt each time you encounter this type of situation with the norming table.

Where did the norms come from?

The norming tables available for DORA and ADAM were made possible through national data from students using Let’s Go Learn during the 2018-2019 school year. These scores represent students of all abilities from large urban districts in five different states. Let’s Go Learn programs are most frequently used with low-performing students. Therefore, it should be noted that the national sample is influenced by this trend.

Do norms differ based on time of year?

Scores are identified by testing windows falling within either the beginning, middle, or end (fall, winter, spring) of the school year.

- Fall consists of scores from tests taken between August 1 and November 30, 2018
- Winter consists of scores from tests taken between December 1, 2018 and February 28, 2019
- Spring consists of scores from tests taken between March 1 and June 30, 2019

Sample sizes for each grade level and testing window are reported within the norming tables.

Will the norms be updated?

As the national sample of DORA and ADAM continues to grow, updates to the norming data will be accomplished. However, due to COVID-19, data from the 2019-20 and 2020-21 school years aren't comparable. Since the 2018-19 school year was the most recent "normal" school operation year, we have used those scores for this initial effort.

See Appendix F for DORA National Norms for Grades K-12.

DORA Content Validity

The validity of an assessment instrument refers to its ability to support valid assessment inferences. That is, do test results support a valid conclusion about a student's level of knowledge or skill? Building a valid test begins with accurate definitions of the content (i.e., the knowledge domains and skills) to be assessed. If the assessment activities in a test (i.e., the test items) tap into the constructs that the test is designed to assess, then the test has content validity. Although additional factors affect overall test validity, construct validity is the basic logical bedrock of any test.

The content validity of Let's Go Learn's reading assessments derives from the most current research-based and classroom-proven models of reading sub-skill acquisition and

diagnostic reading assessment. These models are based on the work of Richard McCallum, Ph.D., a recognized expert in using diagnostic assessment to tailor instructional interventions precisely to students' individual profiles of reading sub-skill performance. Dr. McCallum is a co-founder of Let's Go Learn and is the company's Chief Educational Architect.

Richard McCallum has many years' of experience training graduate students as reading specialists at Saint Mary's College and at UC Berkeley. During this period, he and his teams of classroom intervention specialists have also trained hundreds of elementary, middle and high school teachers to diagnose sub-skill deficiencies and to turn their at-risk students into strategic readers. He has conducted lectures and training seminars on reading instruction and assessment for district administrators and principals. Dr. McCallum combines superb scholarly and academic credentials with many years of practical experience in implementing extremely effective classroom instructional intervention. He is uniquely suited to guide and integrate Let's Go Learn's pioneering efforts in creating and expanding an online educational environment based on valid assessment and effective instruction.

DORA Construct Validity

Tahoe-Truckee Unified Schools (2002) Initial One-on-One Correlation Study

In its first comparison to one-on-one paper-and-pencil assessments performed by CAL Reads live reading specialists, Let's Go Learn achieved high correlations with statistical significance beyond the $\alpha = .01$ level, indicating another measure of assessment validity ($n=20$). This study was conducted in the Tahoe/Truckee Unified School District in California in February 2002. Students were tested both by CAL Reads reading specialists and online using Let's Go Learn within a three-week time period. The Word Analysis subtests were not compared because of incompatible methods with which CAL Reads and Let's Go Learn reported their final results. See our paper, SBIR U.S. Department of Education Pilot Results for more information surrounding this pilot.

CAL Reads reading specialists used the following assessments in their one-on-one assessments with the students in the study:

Sight-word familiarity: Fry's high-frequency word list

Word recognition: Diagnostic Assessments of Reading (DAR) published by Riverside Publishing

Word meaning: Diagnostic Assessments of Reading (DAR) published by Riverside Publishing

Spelling: Diagnostic Assessments of Reading (DAR) published by Riverside Publishing

Silent Reading: Qualitative Reading Inventory (QRI) published by Pearson, Allyn & Bacon.

- Sight-word familiarity $r = .89$
- Word recognition $r = .81$
- Word meaning $r = .60^*$
- Spelling $r = .78$
- Silent reading $r = .89$

Lower correlation results in Word Meanings were traced to two confusing items in this initial study. Shortly after this initial study, the Word Meaning component of DORA was modified to improve its correlation.

Item Analysis Major Revision (2003)

Item analysis was performed across all LGL assessment systems. A pool of 1,000 students was used. Items across all six sub-tests with more than 75% of students answering correctly or fewer than 25% answering correctly were flagged. These extreme values represent errors that are outside the range for which the items were designed. Subsequent subtest modifications and item revisions were then made.

Example 1: "and" received an unusually high error rate. The word "an" was a distracter that was selected with a high percentage. Conclusion: The audios of "and" and "an" are too similar. Students might not be hearing the /d/ sound and thus may think the target word is "an."

Example 2: Target vocabulary word: "Caravan." Overall the error rate was too high for this particular word.

Re-Comparison to Nationally-Normed Paper-and-Pencil Assessments (2003)

Following the item revisions in early 2003, subtest correlation studies were again conducted. Students (grade range: 2-6) were assessed within one week's time on DORA and the following paper-and-pencil tests.

- DORA HFW subtest and the Slosson Oral Reading Test
- DORA WR subtest and the Woodcock Word Identification Test
- DORA WA subtest and the Woodcock Word Attack

High levels of correlation help to demonstrate criterion validity of the LGL Reading Assessment.

- Correlation (HFW & SORT): $r=0.95$ $SE=0.073$ ($n=21$)
- Correlation (WR & WI-W): $r=0.92$ $SE=0.088$ ($n=21$)
- Correlation (WA & W-WA): $r=0.91$ $SE=0.097$ ($n=21$)

Recalculation of April SP and SR results & New Tests (2003)

LGL SP subtest and the WRAT LGL SR subtest and the Gray Oral Reading Test Correlation (SP & WRAT): $r=0.85$ $SE=0.210$ ($n=21$) Correlation (SR & GORT):* $r=0.65$ $SE=0.250$ ($n=21$)

Medium to high correlations demonstrate concurrent validity of the LGL Reading Assessment. *Lower correlations to the GORT are attributed to a high variability observed in the GORT results. Students inconsistently tested well above their grade levels on the GORT. Subsequent SR comparisons with more consistent paper-and-pencil assessments was recommended.

Concurrent Validity

Correlations between DORA and State Assessments

Let's Go Learn's diagnostic online Reading/ELA assessment series aligns to a rigorous, research-based scope and sequence that dynamically correlates to state standards. This allows us to align to a state's set end goals for different grade levels. Most states have revised, updated, or rewritten their standards since 2010 and the development of Common Core State Standards, which were part of a bipartisan reform movement to raise academic standards. LGL's database is dynamic, which allows us to maintain our alignment.

DORA has been correlated to the SBAC and PARCC tests using data from multiple states from 2017, 2018, and 2019. Overall results from these studies demonstrate consistent high correlations meaning that gains in the overall score of DORA, Weighted Score, is a reliable indicator of predictive gains in state accountability measures.

Initially, in the first tables below, the DORA Weighted Score was compared to the California Smarter Balanced Summative Assessment for English/Language Arts/Literacy Scaled Scores.

Overall correlations for grades 3 to 8 and 11 ranged from 0.652 to 0.793. These all represent very high correlations. In addition, these correlations remained high across all demographics.

DORA Correlations to SBAC

DORA Weighted Score to California Smarter Balanced English/Language Arts Scaled Scores (2020 analysis)

Sample Demographics

Category	<i>n</i>	%
Total	10,106	100.0

SPED %	980	9.7
EL %	3,015	29.8
Race		
American Indian or Alaska Native	43	.4
Asian Indian	10	.1
Black or African American	19	.2
Cambodian	5	.0
Chinese	74	.7
Filipino	36	.4
Hispanic or Latino	9,698	96.0
Japanese	26	.3
Korean	8	.1
Native Hawaiian	3	.0
Other Asian	14	.1
Other Pacific Islander	7	.1
Samoan	1	.0
Vietnamese	25	.2
White	130	1.3
Not indicated	7	.1

All Students—English/Language Arts

Grade	<i>N</i>	<i>r</i>	sig
Overall	10,106	.832	.000

Grade	<i>n</i>	<i>r</i>	sig
3	1,391	.779	.000
4	2,427	.775	.000

5	2,103	.779	.000
6	1,254	.740	.000
7	1,322	.742	.000
8	1,407	.707	.000
11	158	.710	.000

English Learner Comparison—English/Language Arts

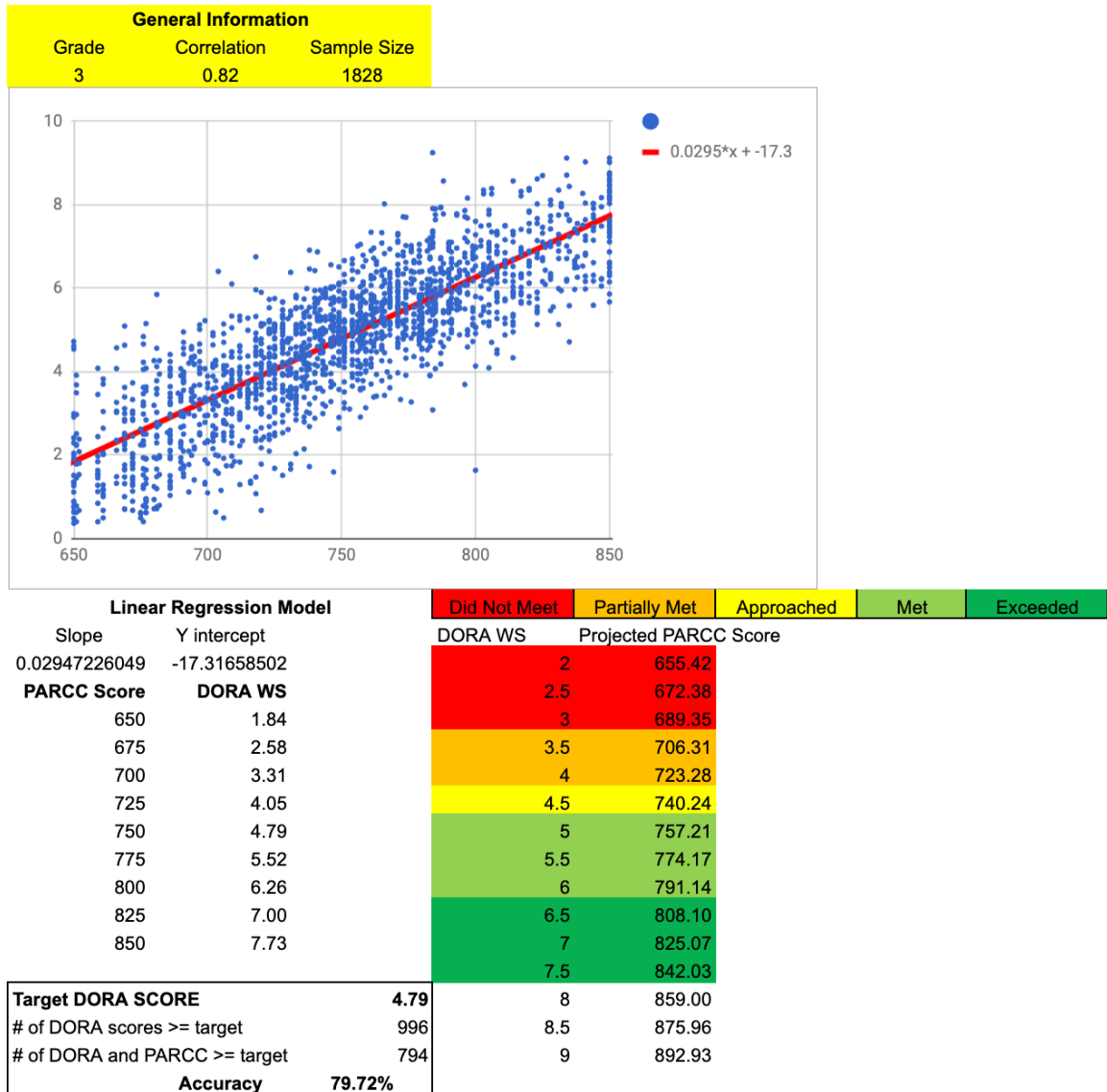
Grade	Non-EL			EL		
	<i>n</i>	<i>r</i>	<i>sig</i>	<i>n</i>	<i>r</i>	<i>sig</i>
3	738	.793	.000	653	.721	.000
4	1,463	.772	.000	964	.652	.000
5	1,496	.738	.000	607	.606	.000
6	995	.717	.000	259	.383	.000
7	1,066	.696	.000	256	.547	.000
8	1,183	.652	.000	224	.545	.000
11	125	.635	.000	33	.191	ns

Special Education Learner Comparison—English/Language Arts

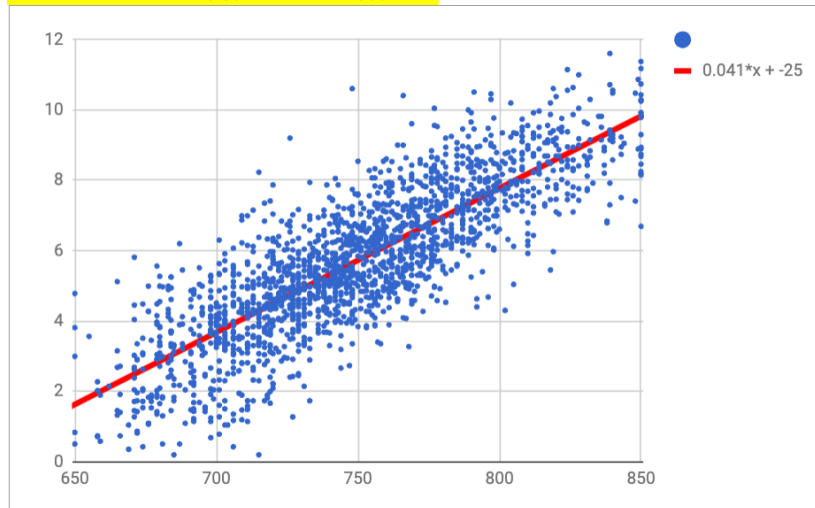
Grade	Non-SPED			SPED		
	<i>n</i>	<i>r</i>	<i>sig</i>	<i>n</i>	<i>r</i>	<i>sig</i>
3	1,238	.770	.000	153	.587	.000
4	2,159	.755	.000	268	.668	.000
5	1,901	.760	.000	202	.632	.000
6	1,137	.720	.000	117	.708	.000
7	1,215	.716	.000	107	.578	.000

8	1,284	.677	.000	123	.628	.000
11	151	.711	.000	7	.700	ns

Below are the breakout by grade between the DORA Weighted Score and the PARCC Scaled Score analyzed using 2018 data. High correlations are present across all grades. See Appendix D for an additional correlational study on 2017 SBAC and DORA data.

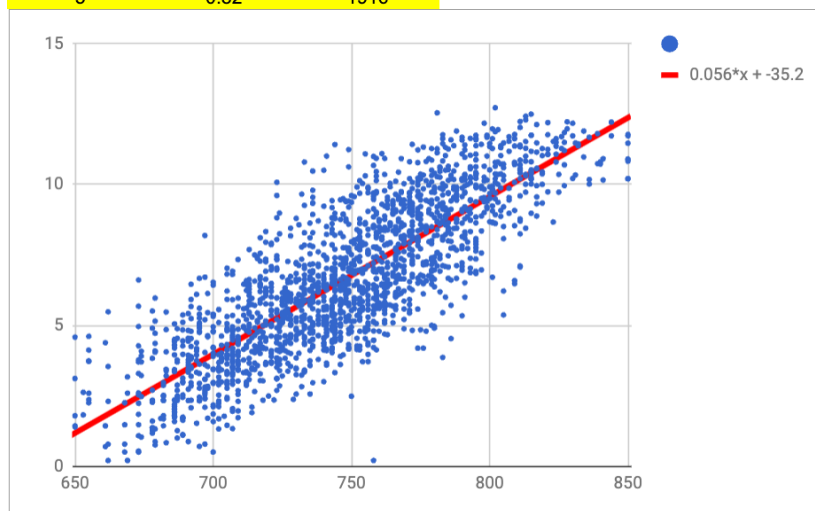


General Information		
Grade	Correlation	Sample Size
4	0.83	1905



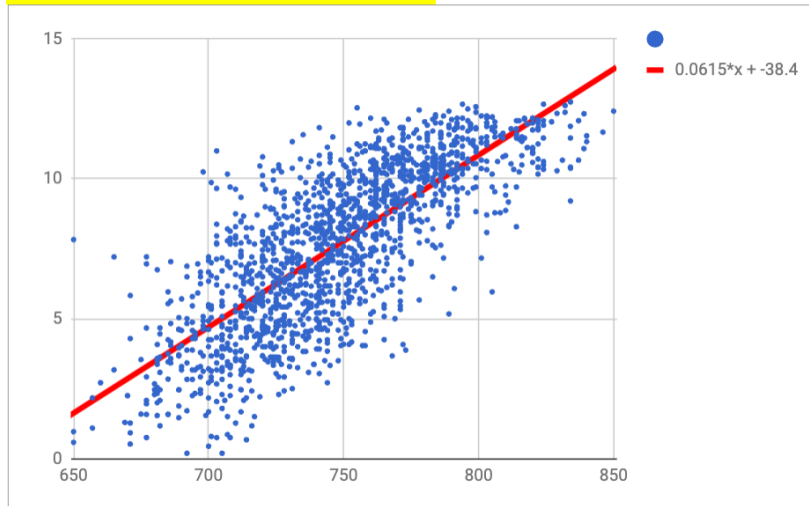
Linear Regression Model			Did Not Meet	Partially Met	Approached	Met	Exceeded
Slope	Y intercept		DORA WS		Projected PARCC Score		
0.04100519282	-25.02826504		2		659.14		
PARCC Score	DORA WS		2.5		671.34		
650	1.63		3		683.53		
675	2.65		3.5		695.72		
700	3.68		4		707.92		
725	4.70		4.5		720.11		
750	5.73		5		732.30		
775	6.75		5.5		744.50		
800	7.78		6		756.69		
825	8.80		6.5		768.88		
850	9.83		7		781.08		
			7.5		793.27		
Target DORA SCORE	5.73		8		805.47		
# of DORA scores >= target	915		8.5		817.66		
# of DORA and PARCC >= target	752		9		829.85		
Accuracy	82.19%		9.5		842.05		
			10		854.24		

General Information		
Grade	Correlation	Sample Size
5	0.82	1916



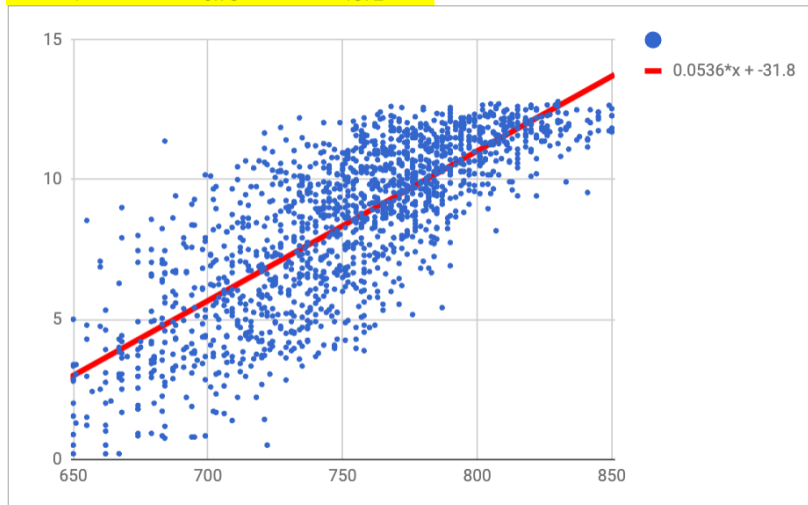
Linear Regression Model		Did Not Meet	Partially Met	Approached	Met	Exceeded
Slope	Y intercept	DORA WS				
0.05600628578	-35.23095185	Projected PARCC Score				
PARCC Score	DORA WS	2	3	4	5	6
650	1.17	664.76	682.62	700.47	718.33	736.18
675	2.57					
700	3.97					
725	5.37					
750	6.77					
775	8.17					
800	9.57					
825	10.97					
850	12.37					
Target DORA SCORE		6.77				
# of DORA scores >= target		863				
# of DORA and PARCC >= target		717				
Accuracy		83.08%				

General Information		
Grade	Correlation	Sample Size
6	0.77	1624



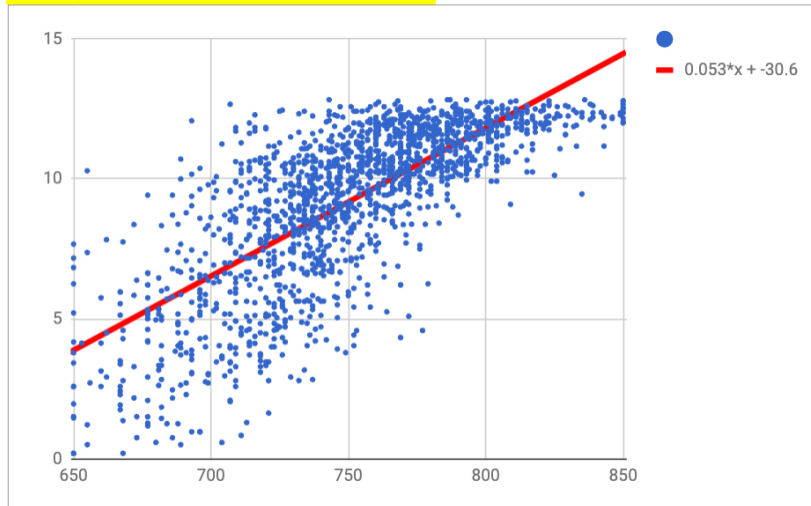
Linear Regression Model		Did Not Meet	Partially Met	Approached	Met	Exceeded
Slope	Y intercept	DORA WS Projected PARCC Score				
0.06151498769	-38.36015464					
PARCC Score	DORA WS					
650	1.62					
675	3.16					
700	4.70					
725	6.24					
750	7.78					
775	9.31					
800	10.85					
825	12.39					
850	13.93					
Target DORA SCORE		7.78				
# of DORA scores >= target		835				
# of DORA and PARCC >= target		633				
Accuracy		75.81%				

General Information		
Grade	Correlation	Sample Size
7	0.78	1572



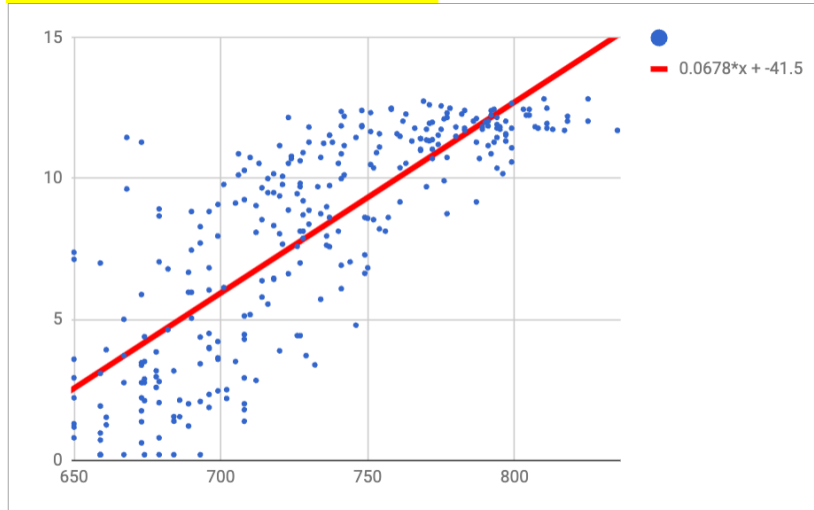
Linear Regression Model		Did Not Meet	Partially Met	Approached	Met	Exceeded
Slope	Y intercept	DORA WS Projected PARCC Score				
0.05356084099	-31.82531177					
PARCC Score	DORA WS					
650	2.99					
675	4.33					
700	5.67					
725	7.01					
750	8.35					
775	9.68					
800	11.02					
825	12.36					
850	13.70					
Target DORA SCORE		8.35				
# of DORA scores >= target		934				
# of DORA and PARCC >= target		764				
Accuracy		81.80%				

General Information		
Grade	Correlation	Sample Size
8	0.74	1661



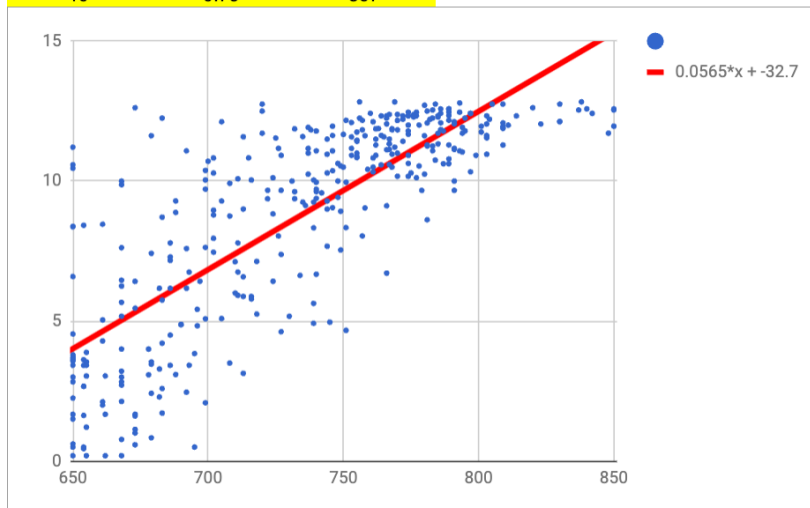
Linear Regression Model		Did Not Meet	Partially Met	Approached	Met	Exceeded
Slope	Y intercept	DORA WS				
0.05299829966	-30.57237782	Projected PARCC Score				
PARCC Score	DORA WS	2	614.59			
650	3.88	3	633.46			
675	5.20	4	652.33			
700	6.53	5	671.20			
725	7.85	6	690.07			
750	9.18	7	708.94			
775	10.50	8	727.80			
800	11.83	9	746.67			
825	13.15	10	765.54			
850	14.48	11	784.41			
Target DORA SCORE 9.18 # of DORA scores >= target 1000 # of DORA and PARCC >= target 754 Accuracy 75.40%		12	803.28			
		13	822.15			
		14	841.02			
		15	859.88			

General Information		
Grade	Correlation	Sample Size
9	0.80	294



Linear Regression Model			Did Not Meet	Partially Met	Approached	Met	Exceeded
Slope	Y intercept		DORA WS				
0.06780652734	-41.52666193		Projected PARCC Score				
PARCC Score	DORA WS		2	3	4	5	6
650	2.55		4	5	6	7	8
675	4.24		5	6	7	8	9
700	5.94		6	7	8	9	10
725	7.63		7	8	9	10	11
750	9.33		8	9	10	11	12
775	11.02		9	10	11	12	13
800	12.72		10	11	12	13	14
825	14.41		11	12	13	14	15
850	16.11		12	13	14	15	16
Target DORA SCORE	9.33		13	14	15	16	17
# of DORA scores >= target	144		14	15	16	17	
# of DORA and PARCC >= target	96		15	16	17		
Accuracy	66.67%		16	17			

General Information		
Grade	Correlation	Sample Size
10	0.79	367



Linear Regression Model			Did Not Meet	Partially Met	Approached	Met	Exceeded
Slope	Y intercept		DORA WS Projected PARCC Score				
0.05652237458	-32.72639252			2	614.38		
PARCC Score	DORA WS			3	632.08		
650	4.01			4	649.77		
675	5.43			5	667.46		
700	6.84			6	685.15		
725	8.25			7	702.84		
750	9.67			8	720.54		
775	11.08			9	738.23		
800	12.49			10	755.92		
825	13.90			11	773.61		
850	15.32			12	791.30		
Target DORA SCORE	9.67			13	809.00		
# of DORA scores >= target	210			14	826.69		
# of DORA and PARCC >= target	157			15	844.38		
Accuracy	74.76%			16	862.07		
				17	879.76		



New York City Schools - Correlation Study

Note, this is an older study. In a second comparison to one-on-one paper-and-pencil assessments performed by literacy specialists, Let's Go Learn again achieved high correlations with statistical significance, indicating another measure of assessment validity. This study was conducted in an ethnically diverse urban New York City school in October 2009, with a sample size of 915 students. Students were tested both using the Fountas and Pinnell Benchmark Assessment and online using Let's Go Learn DORA assessment within a two-week time period. Due to the nature of the Fountas and Pinnell Benchmark Assessment and its focus on providing a single reading level as opposed to identifying

diagnostic reading skills, a DORA composite score was used, an average of the Vocabulary and Comprehension sub-tests of DORA, for the correlation to the Fountas and Pinnell score.

The correlation of the average of the DORA Vocabulary and Comprehension sub-tests to the F&P score resulted in a correlation of 0.730, which was statistically significant ($p < .01$). This high correlation between the two assessments once again provides construct validity, particularly to the subtests of vocabulary and comprehension.

Ault-Highland Schools (2010) Hierarchical Linear Modeling

In order to examine the predictive relationship between DORA subtests and the Colorado state reading achievement testing, a hierarchical linear model was developed. The relationship between an online formative assessment program, the Diagnostic Online Reading Assessment (DORA), and a state test in reading was examined in one school district ($n = 208$) using a Two-Level Time-Varying Covariate Hierarchical Linear Growth Model. It was found that all DORA sub-tests were significantly and positively related to state reading test growth. See Appendix C for the complete results of this study.

Jersey City Schools (2013) Correlation and Regression Analysis

In 2013, a study was conducted in Jersey City (NJ) with a sample of K-12 students ($n = 4,877$). Two analyses were conducted, a correlation study and a regression analysis. The initial correlation between the New Jersey Statewide Assessment (NJ) and an average of the DORA Vocabulary and Comprehension sub-tests showed a high level of correlation ($r = .642$) that was statistically significant ($p < .01$).

Further regression analysis examined the predictability of DORA subtests to the NJ State Achievement Assessment. After accounting for gender, ethnicity, and SES, DORA Comprehension scores are a significant predictor of NJ ELA achievement ($F = 3256.228$, $df = 1, 4872$, $p < .001$). After accounting for control variables as well as DORA Comprehension, Vocabulary scores are also a significant predictor of NJ ELA achievement ($F = 96.294$, $df = 1, 4871$, $p < .001$).

In summary, the final model does account for a statistically significant portion of the variance in NJ ELA achievement scores. DORA Comprehension and DORA Vocabulary are significant predictors of and contribute significantly to a student's overall NJ ELA achievement. The model indicates that there is a strong connection between success on the DORA subtests of Comprehension and Vocabulary and a student's overall scaled score performance on the ELA test of the NJ. For full analysis results, please see Appendix E of this document.

DORA Internal-Consistency Reliability Study

Introduction

According to Allen & Yen (1979), reliability can be defined as the consistency between the observed scores on an assessment and the true scores. There are multiple methods of assessing the reliability of an assessment. One way is the test-retest method, comparing the consistency between one administration and a subsequent second administration of the same assessment. Another method of determining reliability is by using internal consistency, a measure of the consistency of results of items within one test. This report will present the internal consistency results for Diagnostic Online Reading Assessment (DORA) (Let's Go Learn, Inc.).

Methods

Let's Go Learn, Inc., a developer of online diagnostic reading and math assessments, has created an online diagnostic assessment to evaluate students' reading abilities, Diagnostic Online Reading Assessment (DORA). DORA assesses students across seven different subskills of reading: High Frequency Words, Word Recognition, Phonics, Phonemic Awareness, Oral Vocabulary, Spelling, and Comprehension. Further, the assessment is built on an adaptive-logic platform, limiting the number of items seen by each student by both determined start point and by early termination. For each sub-test except Comprehension, there is one version of the assessment; the comprehension sub-test cycles through three versions (A, B, & C).

In order to evaluate the reliability of DORA, the Rasch model was used to evaluate overall model fit for each sub-test. A sample of 17,856 students in grades K- 12 taken from schools nationwide (6 districts from California, Colorado, Hawaii, and Virginia) was used.

Analysis

Analysis showed overall unidimensionality of each sub-test as well as good overall model fit. Reliability levels were strong (see Table 1).

Table 1*DORA Sub-test Reliability (α)*

Sub-test	Reliability (α)
High Frequency Words	.74
Word Recognition	.89
Phonics	.75
Phonemic Awareness	.45 to 0.67*
Oral Vocabulary	.94
Spelling	.96
Comprehension	
A	.87**
B	.92***
C	.89****

* $n = 4878$

** $n = 3420$

*** $n = 10534$

**** $n = 1596$

Conclusions

For most high-stakes assessments, a reliability of .7 or higher is considered a reasonable level for strong reliability. Since DORA is a formative assessment, the levels indicated for all sub-tests, with the exception of Phonemic Awareness, more than demonstrate a high level of reliability. The discrepancy on the reliability score for the Phonemic Awareness sub-test can be attributed to a number of factors. First of all, since Phonemic Awareness is only administered to K-2 students or any student meeting certain adaptive criteria in grades 3-12, the sample size for the Phonemic Awareness analysis was much smaller. At these lower grades following audio manipulation task instructions becomes a source of error. In addition, the Phonemic Awareness subset is designed as a screener and consists of only 9 items, a much smaller sub-test than any of the others; it is not unexpected to see reliability levels decrease as the number of items assessed decreases. However, when looking at 8th graders only the reliability value of 0.67 is attained. Furthermore, in this type of assessment, there is the issue of missing data, which will affect the reliability levels. Since no one student ever takes all test items, there is always missing data. The missing data there serves to restrict variability even further, in turn increasing the standard error as well as the mean square error.

DORA Spanish Internal-Consistency Reliability Study

Introduction

According to Allen & Yen (1979), reliability can be defined as the consistency between the observed scores on an assessment and the true scores. There are multiple methods of assessing the reliability of an assessment. One way is the test-retest method, comparing the consistency between one administration and a subsequent second administration of the same assessment. Another method of determining reliability is by using internal consistency, a measure of the consistency of results of items within one test. This report will present the internal consistency results for Diagnostic Online Reading Assessment Spanish (DORA Spanish) (Let's Go Learn, Inc.).

Methods

Let's Go Learn, Inc., a developer of online diagnostic reading and math assessments, has created an online diagnostic assessment to evaluate Spanish-speaking students' reading abilities, Diagnostic Online Reading Assessment Spanish (DORA Spanish). DORA Spanish assesses students across seven different subskills of reading: High Frequency Words, Word Recognition, Phonics, Phonemic Awareness, Oral Vocabulary, Spelling, and Comprehension. Further, the assessment is built on an adaptive-logic platform, limiting the number of items seen by each student by both determined start point and by early termination.

In order to evaluate the reliability of DORA Spanish, the Rasch model was used to evaluate overall model fit for each sub-test. A sample of 6,244 students in grades K- 12 taken from schools nationwide was used.

Analysis

Analysis showed overall unidimensionality of each sub-test as well as good overall model fit. Reliability levels were strong (see Table 1).

Table 1*DORA Sub-test Reliability (α)*

Sub-test	Reliability (α)
High Frequency Words	.94
Word Recognition	.94
Phonics	.77
Phonemic Awareness	.44-0.67
Word Meaning	.61
Spelling	.86
Comprehension	.84

n = 6,244

Conclusions

For most high-stakes assessments, a reliability of .7 or higher is considered a reasonable level for strong reliability. Since DORA Spanish is a formative assessment, without high-stakes outcomes, the levels indicated for all sub-tests, with the exception of Phonemic Awareness, more than demonstrate a high level of reliability. The discrepancy on the reliability score for the Phonemic Awareness sub-test can be attributed to a number of factors. First of all, since Phonemic Awareness is only administered to K-2 students or any

student meeting certain adaptive criteria in grades 3-12, the sample size for the Phonemic Awareness analysis was much smaller. In addition, the Phonemic Awareness subset is designed as a screener and consists of only 9 items, a much smaller sub-test than any of the others; it is not unexpected to see reliability levels decrease as the number of items assessed decreases. Furthermore, in this type of assessment, there is the issue of missing data, which will affect the reliability levels. Since no one student ever takes all test items, there is always missing data. The missing data there serves to restrict variability even further, in turn increasing the standard error as well as the mean square error.

DORA Test-Retest Reliability Study (2003)

Test-Retest is the ability of a test to be taken once and then immediately again and have similar results, offering another measure of test reliability. Let's Go Learn undertook a second test-retest study in Q3 of 2003. This data was added to an earlier study performed in Q1 of 2003 in order to provide a larger sampling and to reduce the margin of error. The combined results were once again excellent. Variability was low, meaning that the LGL Reading Assessment is very precise and can be re-administered with low bias. Sample size: n=225

Grade level deltas are calculated by first taking the absolute value of the change (or delta) between each test and retest subtest score. Next the mean is calculated from these deltas. All scores are in grade levels, so a grade level delta of 0.5 means one half of a grade level. SE is standard error for mean delta in grade levels.

- High-Frequency Words - Grade level delta: 0.39 SE=0.11
- Word Recognition - Grade level delta: 0.19 SE=0.12
- Word Analysis - Grade level delta : 0.16 SE=0.07
- Word Meaning - Grade level delta: 0.60 SE=0.19
- Spelling - Grade level delta: 0.27 SE=0.10
- Silent Reading - Grade level delta: 0.35 SE=0.13

DORA Phonemic Awareness: Validity, Reliability, and Correlation Studies

DORA PA Sub-test Specifications:

DORA PA assesses students across nine skill areas of phonemic awareness, including: 1) addition, 2) deletion, 3) substitution, 4) identification, 5) categorization, 6) blending, 7) segmenting, 8) isolation, and 9) rhyming. The test is made up of 50 items, presented either orally or with pictures only, requiring no reading skills. Results are reported in three general categories: Early Phonemic Awareness, which includes word number, rhyming, and identity skills (13 items total); Phoneme Segmentation (15 items total); and Phoneme Manipulation Auditory Analysis Tasks (MAAT), which includes blending, addition, deletion, and substitution (22 items total).

DORA PA Reliability:

DORA PA Overall
Person Reliability:85
DORA PA Cronbach
Alpha:87

DORA PA is built on an adaptive-logic platform, limiting the number of items seen by each student by both grade level skin and early termination. Three grade-level skins are in place (Skin A for students in grades K-2, Skin B for students in grades 3-5, or Skin C for students in grades 6+). The following table indicates the items administered to each skin:

Table 1

DORA PA Question ranges per skin

Skin	Items Administered
A	1-23; 29-33; 39-40; 43-44; 47-48
B	6-35; 39-50
C	6-50

In addition to the predetermined questions administered based on the skin appropriate to the grade level of the student, the Let's Go Learn assessment platform adjusts to the responses of the student, terminating any given cluster of items early when a student has reached non-mastery. There are eight clusters of items. With both the initial skin selection by grade level and the adaptive logic of the assessment, no one student will ever be administered all 50 test items.

In order to evaluate the reliability of DORA PA, the Rasch model was used to evaluate overall model fit for the full assessment, the grade-level skins, and the fit of each of the three reporting groups, as well as to identify any misfitting test items. A sample of 766 students in grades K- 12, taken from schools nationwide (23 school districts from Arizona, California, Colorado, Hawaii, Kansas, Missouri, New York, North Carolina, Ohio, and Texas, as well as numerous homeschooling parents) was used, with 499 students in grades K-2 (skin A), 179 students in grades 3-5 (skin B), and 88 students in grades 6 and above.

Analysis

Overall, the assessment appears to be uni-dimensional in nature, with a strong level of person reliability of 0.85 (as well as a Cronbach alpha of 0.87). The real person separation level is 2.35, with a model separation level of 2.41. Further, there is virtually no discrepancy between real RMSE (0.44) and model RMSE (0.43), indicating very few misfit problems.

Each of the grade-level skins, when functioning independently, also demonstrates a high level of reliability and a strong fit to the Rasch model. When the items for Skin A are examined as an independent model, there are no misfitting items. The overall model fit is still strong (real person reliability = 0.82, Cronbach alpha = 0.85, real separation = 2.14).

When the items for skin B are examined as an independent model, the reliability again drops slightly (0.82), as does the separation (2.18), but still remains quite strong overall, as does the Cronbach alpha (0.90).

Finally, when the items for skin C are examined independently, the reliability drops again very slightly (from 0.85 to 0.83), as does the separation (from 2.35 to 2.19), still indicating a strong fit. The Cronbach alpha level increases to 0.9.

Further, the three reported subskills were examined independently. When Early Phonemic Awareness was assessed independently, it had a lower level of reliability (0.59) and a low level of separation (1.21). There were, however, no misfitting items, and items in the sequence appear to be ordered by difficulty.

In the Segmentation section of the assessment, the person reliability was 0.60, with a separation of 1.21, but the Cronbach alpha was 0.85, indicating internal consistency within this sub-section. There are no misfitting items within this section. Items within this section also appear to be sequenced from easier to hardest.

Finally, in the MAAT section of the assessment, the person reliability is 0.66, with a separation of 1.41 and a Cronbach alpha of 0.8.

Conclusions

In summary, the DORA PA assessment demonstrates a high level of reliability in the overall assessment model, as well as for all three grade-level skins. Reliability levels for individual subskills, however, are not as high. For diagnostic purposes, and in creating a profile of student strengths and weaknesses, the reliability levels demonstrated by the individual subskills are still high enough to indicate a confident level of test reliability. It should further be considered, however, that these subskills are not individual testing sections but only reporting sections.

There are a number of explanations as to why the reliability of the subskill sets decreased when examined separately. First of all, it is not unexpected to see reliability levels decrease as the number of items assessed decreases. For the skins, we were evaluating between 34 and 45 items, but when the subskills are examined individually, there may be as few as 13 items in the set. When the subskill sets are small, there is less variability in the student responses. As the SD levels rise, the reliability levels fall. Further, there is the issue of

missing data, which will affect the reliability levels. Since no one student ever takes all test items, there is always missing data. In the reliability of the overall assessment, the missing data is less of a factor than in the reliability of the individual subskills, due again to the smaller number of items being measured. The missing data there serves to restrict variability even further, in turn increasing the standard error and increasing the mean square error as well.

DORA PA Test-Retest Study (September 2009):

Let's Go Learn conducted a test-retest analysis of kindergarten and first grade students (n = 98) at an elementary school in rural Colorado in September 2009. Grade-level deltas were calculated by first taking the absolute value of the change (or delta) between each test and retest sub-test score. Next, the mean was calculated from these deltas. All scores are in grade levels, so a grade level delta of 0.5 means one half of a grade level. SD is standard deviation for mean delta in grade levels.

- Overall Phonemic Awareness: Grade-level Delta = 0.1212, SD = 0.0952
- Early Phonemic Awareness Sub-test: Grade-level Delta = 0.1645, SD = 0.1376
- Phonemic Segmentation Sub-test: Grade-level Delta = 0.2500, SD = 0.2146
- MAAT Sub-test: Grade-level Delta = 0.1756, SD = 0.1528

Overall grade-level deltas are low, indicating a high level of test-retest validity. Further, these tests indicate the appropriateness of DORA PA for use as a pre/post assessment measure.

DORA PA Correlation Studies: CTOPP and Yopp-Singer

Let's Go Learn conducted a correlation analysis of kindergarten and first grade students tested within a one-week window using both DORA PA and two nationally recognized assessments of phonemic awareness, the Yopp-Singer Test of Phonemic Segmentation and the Comprehensive Test of Phonological Processing (CTOPP), Phonological Awareness Quotient.

-
- DORA PA and CTOPP Correlation: 0.625 (n = 52, p < 0.001)
 - DORA PA and Yopp-Singer Correlation: 0.507 (n = 98, p < 0.001)

Both of these tests indicate a statistically significant positive correlation, with a strong effect size (Cohen suggests using r as effect size, with a standard of $r > 0.5$ indicating strong effect size).

While these correlation scores are lower than might have been expected, it is important to note that there is a significant level of variability in assessing students, particularly at this grade level (Roskos, 2004). Also important to note is the fact that the validity of formative assessments, such as the teacher-administered CTOPP and Yopp-Singer, must account for factors that are not usually considered in test validity, such as personal relevance, articulation of task, and feedback from the testing administrator (Johnson and Costello, 2005). Finally, the variability introduced by a teacher-mediated assessment, including non-standardized administration (Wilde et al., 2003), will contribute to a slightly lower level of correlation. Taking into account all of the additional complexities introduced by assessing much younger children, these levels of correlation do indeed indicate a strong relationship between the testing of DORA PA and other commercially available and validated methods of assessing phonemic awareness.

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Appendix A: Silent Reading Leveled Passages Design Specifications

Fact v. Fiction

The Let's Go Learn silent reading passages are all non-fiction passages, an intentional design choice. When students are taught to read in the primary grades, they are often taught using primarily fictional passages, in which a more predictable story structure and vocabulary can support them as they master word identification skills. Roughly at the beginning of fourth grade, instruction begins to focus more heavily on reading for the sake of learning new factual information. Often this transition takes place quite suddenly when students are asked to read content area textbooks in addition to stories. Many of the self-extending strategies that children develop for comprehending narrative text are less useful in approaching non-fiction, and additional new strategies are needed to help them make sense of non-fiction passages. Yet students often do not receive explicit instruction in how to read non-fiction. As a result, reading performance may show a sudden, marked "decline" at the point of transition to non-fiction texts, when in fact what has significantly and abruptly changed is the nature of the task demands.

DORA is structured to avoid this trap by using only factual passages and no fiction. The reasons for choosing non-fiction over fiction, even at the lower grade levels, are twofold. First, we believe that children should have opportunities to encounter non-fiction (and to learn the relevant strategies for unpacking it) from early on in school; we reject the simplistic notion that "reading to learn" should begin only at the intermediate grade levels.

Our second reason for selecting non-fiction over fiction passages is that assessment results for non-fiction passages are generally a more conservative measure of comprehension. While a student who excels in reading fiction may have much greater difficulty with non-fiction passages, it is far more rare to encounter a student whose non-fiction reading level is higher than her/his fiction reading level. Assessing a child on a fiction passage could result in a misleadingly high score that masks areas where the child would benefit from additional opportunities and support for her/his reading development. By using non-fiction passages, Let's Go Learn is able to provide a score that – while it may be lower than what

the child could do on fiction passages – offers diagnostic information about the child's reading ability on the type of material that he or she may encounter most in further schooling and in "real life."

Topics

The DORA silent reading passages draw on material set out in major content standards from different states. Passages for each grade level are based on selected topics from the social studies, fine arts, and science standards for that grade level. The topics were chosen for multiple reasons. First, the topics were narrowed from a list of possible choices to those likely to be of greatest interest to students near that grade level. Second, the topics were chosen that would most likely be part of all schools' curriculum for that grade level; obscure topics that might not be addressed in detail were eliminated. Finally, topics were chosen that were not so obscure that children near that grade level would be unlikely to have sufficient background knowledge to be able to make sense of the passages.

Stylistic Design

Passages are written in a journalistic format. The passages stylistically most resemble a newspaper or encyclopedia article in format. They begin with an introductory paragraph that presents the main idea of the passage, often in a manner designed to get the reader's attention--for example, via a leading question or a reference to common phrases or occurrences.

The rest of each passage is written in organized, sequential paragraphs. There is not a concluding summative paragraph on most passages as such paragraphs are not typical in this genre. The style is designed to be as similar to textbook or authentic informational writing as possible.

Comprehension Questions

The DORA comprehension sub-test provides information both on students' knowledge acquisition through what they read and on students' ability to analyze and apply that knowledge in a variety of ways. The questions are divided into two main categories: factual

questions and higher-level, extending questions. Questions that are factual require the student to report on information that was explicitly stated in the text. Extending questions require students to take information from the text and apply it--to their own lives, to other things they know about the world, or in order to draw conclusions.

In most classrooms, the majority of questions asked about a reading passage are factual. This may be adequate for assessing simple comprehension of sentences, but in order to assess students' deeper comprehension of text, higher-level questioning strategies must be employed.¹ DORA looks at both dimensions in order to provide a more complete assessment of a student's comprehension.

Each passage is followed by 6 questions. Three of these are factual questions, which assess knowledge acquisition on a basic level – can the student read and obtain information from an informational passage? There are also three extending questions.

One of these extending questions requires the student to define a vocabulary word from the text. Since words are selected that are unlikely to be within most children's active or passive vocabulary at the targeted grade level, these questions assess a student's ability to find a meaning for an unfamiliar word in the context of the passage. This is considered an extending question because it not only requires students to use knowledge from the text, but it also requires them to draw on previous word knowledge in order to draw conclusions.

The final two questions are extending questions that require students to do one of several tasks. They might ask a student to answer "how" or "why" questions about facts in the text; they might ask students to apply the facts to their own lives or experiences; or they might ask students to think of similar situations to those described in the text.

All DORA comprehension questions are designed to assess the students' understanding of the passage in a way that does not confound their comprehension with their knowledge of language arts terminology such as "main idea" or "simile." Assessments that rely on such terms are substantially dependent on student understanding of the terms themselves and thus function more as vocabulary assessments than as assessments of comprehension. A

¹ For more information about authentic questioning strategies, please reference Robert Ruddell's *Becoming an Influential Teacher*.

student may be able to identify the main idea of a passage without knowing that it is called a “main idea.” Or a child may be able to summarize brilliantly when asked “What was this passage about?” but be shut down and flummoxed by a question that asks for a “summary.” By avoiding questions that rely on knowledge of language arts jargon, DORA questions reduce inaccurate comprehension scores that are likely when the student understands a passage well but does not know the terminology. We minimize the use of jargon in order to provide a less filtered, purer assessment of the underlying comprehension.

Appendix B: Grade Level Justifications and Parallels for DORA Silent Reading Levelled Passages

The Let's Go Learn silent reading passages (versions A-C as of 9/2007) are evaluated across several different categories to ensure that the results of testing remain the same, regardless of which passage is used. Attached is a spreadsheet detailing exact data ranges for all categories that are considered during passage leveling.

Passage grade leveling is dependent on several different factors, including passage length, sentence length, sentence complexity, and vocabulary. There are several different measures and standards available for leveling. Let's Go Learn employs the Flesh-Kincaid leveling system, modified with considerations for sentence complexity and vocabulary. If a leveling system such as Flesh-Kincaid is used exclusively, it does not take into account whether the level determined is based more on vocabulary or on sentence complexity (as F-K levels use both). A fourth grade passage that is level 4.0 because of vocabulary is very different from a passage that is level 4.0 because of sentence structure. By using F-K to obtain a numerical value and then aligning passages to Let's Go Learn standards using a variety of data points, it is assured that the passages are consistent in terms of both vocabulary and structure across each grade level and from one grade level to the next. The data point score ranges are kept narrow, and further passages are leveled into the already-established score ranges.

Passage Length and Paragraphing

The length of DORA silent reading passages increases steadily as the level increases. First grade passages begin at 100-125 words per passage (wpp) and increase by 25-50 wpp per grade, to as many as 395-415 wpp at the 12th grade level. By not dipping below 100 wpp, even at the first grade level, the passage is long enough to provide detailed miscue analysis. Another concern for length is test exhaustion: passages more than 500 words long could lead to assessment data reflecting test exhaustion rather than ability (especially if a student must read multiple passages).

Paragraph length also expands because of increases in sentence length and complexity. The number of sentences per passage (spp) also increases slowly by grade level (12-20 at

first grade; 28-30 by seventh grade), until the seventh grade level, at which time the rate of spp begins to decrease as the complexity of sentences markedly increases.

Sentence Length and Complexity

The length of sentences per passage (spp) increases steadily as the grade level increases. At the first grade level, the average sentence length ranges from 6.5 – 8.5 words per sentence (wps). By the seventh grade level, the average has increased to 12.1-14.7 wps. At the twelfth grade level, the average sentence length has increased to 20.8-21.8 wps.

Along with sentence length, sentence complexity is also considered. Data is taken for each passage to show the percentage of simple, compound, complex, and compound-complex sentences. The percentage of simple sentences per passage declines steadily as the percentage of other varieties of sentences increases. While compound sentences are slightly harder to read, complex sentences increase difficulty even more as they complicate independent clauses with a dependent clause variable.

At the first grade level, the percentage of simple sentences ranges from 82-85%, with only 5-12% compound sentences and 2-12% complex sentences. There are no compound-complex sentences at the first grade level. By the seventh grade level, the percentage of simple sentences has decreased to 64-79%, with 0-15% compound sentences and 7-32% complex sentences. At the seventh grade level 0-4% of the sentences may be compound-complex. Finally, by the twelfth grade level, the range of simple sentences is 21-68% (a slightly larger range, due to the overall complexity of writing at this level), with 5-32% compound sentences and 16-37% complex sentences. At this level there may be as many as 5-16% compound-complex sentences. As evidenced by these examples, the overall range of simple sentences declines substantially while the range of compound sentences increases slightly, and the range of complex and compound-complex sentences increases noticeably.

Other considerations in the complexity of sentence structure are the rate of prepositional phrases per sentence and the rate of verbals (gerunds, infinitives, and participles) per sentence. Prepositional phrases increase the difficulty of a sentence by adding information that could have been presented in its own independent clause as a phrase attached to an independent clause. The rate of prepositional phrases per sentence increases steadily by

grade level as well. At the first grade level the average number of prepositional phrases per sentence is 0.2-0.6 per sentence. By seventh grade that rate had increased to 0.85-1.9 prepositional phrases per sentence. Finally, by the twelfth grade, the average increases to 2.2-2.6 prepositional phrases per sentence, an overall increase of 2 phrases per sentence from the first grade.

Verbals increase sentence difficulty by presenting a verb in the position of a noun or adjective. This often confuses students--who are used to seeing these words as the actions in the sentence--and may create comprehension problems for those students who actively use syntactic cues when reading. The rate of verbals per sentence also increases gradually (as verbals in general are not used with the frequency of other grammatical structures, like prepositional phrases). At the first grade level, the rate of verbals per sentence is very low, only 0.05-0.25 verbals per sentence. At the seventh grade level, the average has risen slightly to 0.5-0.6 verbals per sentence. By the twelfth grade the average is 0.58-0.84 verbals per sentence.

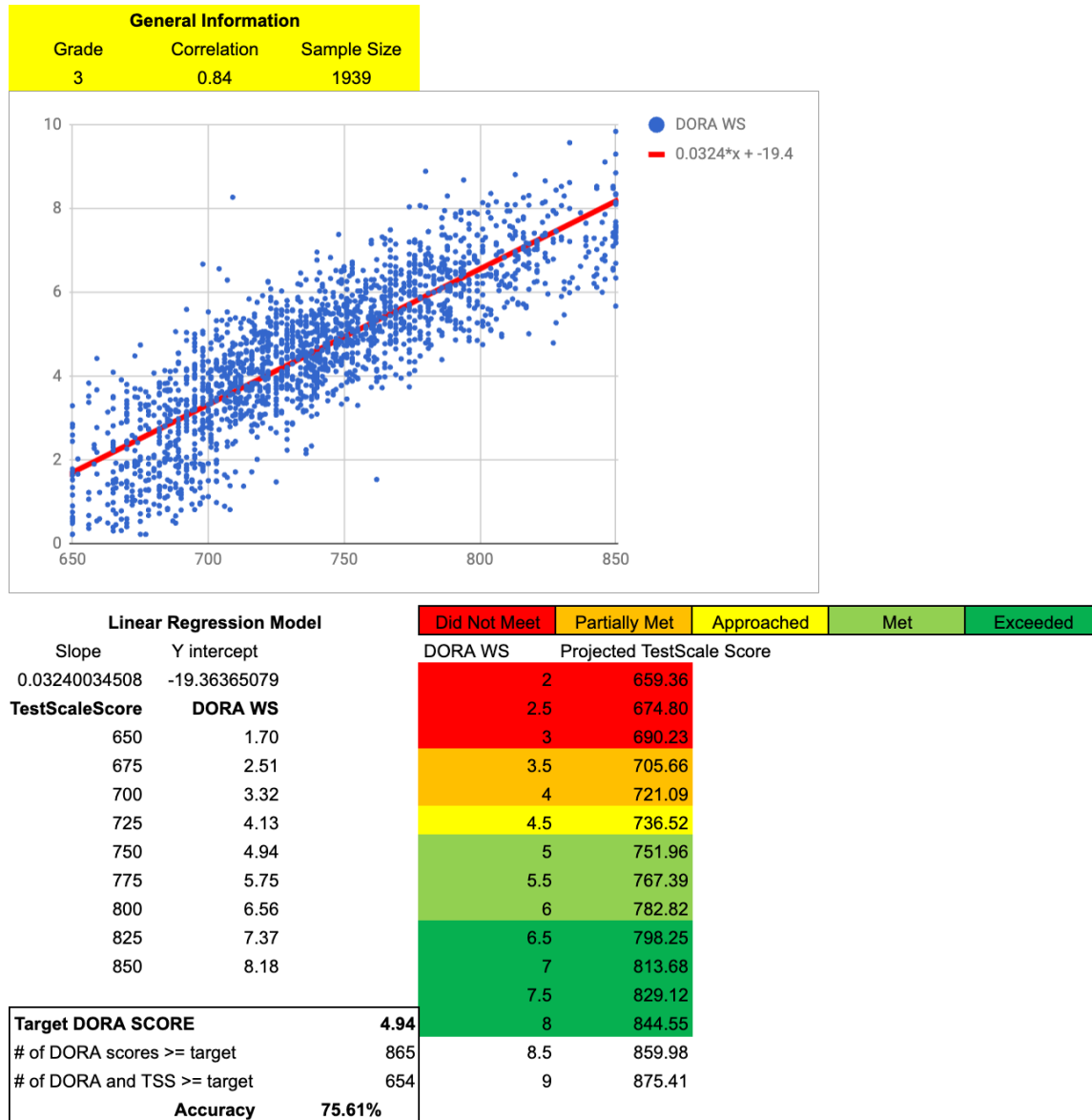
Vocabulary

One large concern when leveling passages is the complexity of vocabulary. This becomes even more of an issue when writing non-fiction passages because of course, there are terms that must be introduced that are specific to each topic. These elements of specialized vocabulary can complicate a leveling system, as they often increase the reading level dramatically. The LGL silent reading passages continue to use terminology and specialized vocabulary in the leveled passages but complement these more complicated, unfamiliar terms with other, easier vocabulary, thus keeping the leveling patterns consistent for each grade level, regardless of the specialized vocabulary.

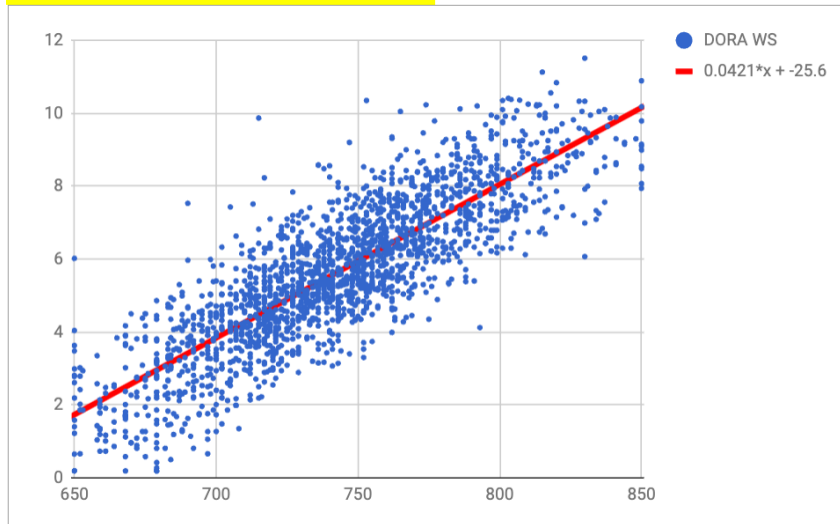
That being said, the difficulty of vocabulary overall can be understood by looking at the average number of syllables per word (spw). This range increases steadily by grade level also. At the first grade level, there are few polysyllabic words (only 10-20%), and the average number of syllables is only 1.1-1.2 spw. By the seventh grade, the number of polysyllabic words has increased (now 31-35%), and the average number of syllables has increased to 1.4-1.5 spw. Finally, by the twelfth grade level, polysyllabic words are commonplace (35-45%), and the average number of syllables is 1.56-1.73 spw.

The introduction of polysyllabic words of more than 3 syllables is also an indication of vocabulary complexity. Two-syllable words only increase in frequency until roughly the sixth grade level, at which point the rate becomes more consistent as the rate of polysyllabic words of 3 syllables or more increases. Four-syllable and 5-syllable words are not introduced in the text with any notable frequency until between grades 5 and 7. At that time, their use is minimal and increases only slightly until the twelfth grade (when their rates are 3-6% and 1-2%, respectively). In general, as the grade level of the passage increases, the number of single-syllable words decreases, and the number of more complex polysyllabic words increases.

Appendix C: Breakout by Grade between DORA Weighted Score and the PARCC Scaled Score (2018)



General Information		
Grade	Correlation	Sample Size
4	0.84	2011



Linear Regression Model

Slope: 0.04210439996
Y intercept: -25.63366184

TestScaleScore	DORA WS
650	1.73
675	2.79
700	3.84
725	4.89
750	5.94
775	7.00
800	8.05
825	9.10
850	10.16

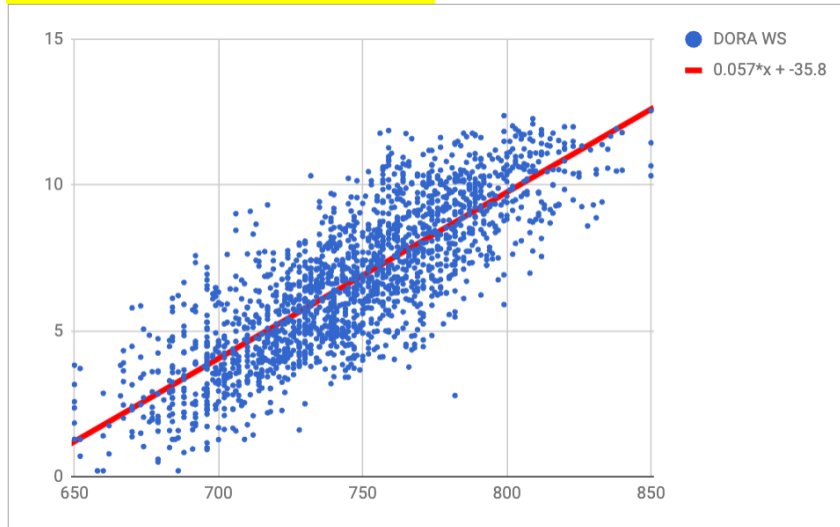
Target DORA SCORE	5.94
# of DORA scores >= target	882
# of DORA and TSS >= target	701
Accuracy	79.48%

Did Not Meet	Partially Met	Approached	Met	Exceeded
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DORA WS Projected TestScale Score

2	656.31
2.5	668.19
3	680.06
3.5	691.94
4	703.81
4.5	715.69
5	727.56
5.5	739.44
6	751.31
6.5	763.19
7	775.07
7.5	786.94
8	798.82
8.5	810.69
9	822.57
9.5	834.44
10	846.32
10.5	858.19
11	870.07

General Information		
Grade	Correlation	Sample Size
5	0.81	1870



Linear Regression Model

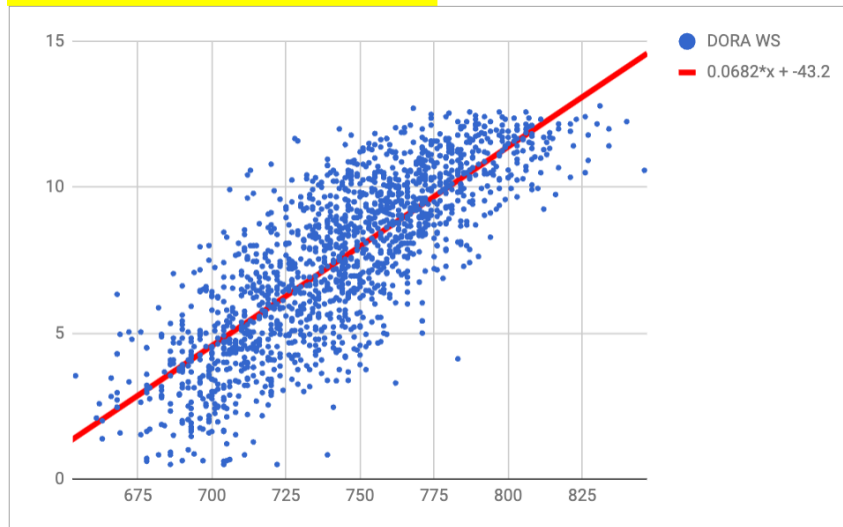
Slope: 0.05699246618
Y intercept: -35.84098842

TestScaleScore	DORA WS
650	1.20
675	2.63
700	4.05
725	5.48
750	6.90
775	8.33
800	9.75
825	11.18
850	12.60

Target DORA SCORE	6.90
# of DORA scores >= target	869
# of DORA and TSS >= target	708
Accuracy	81.47%

	Did Not Meet	Partially Met	Approached	Met	Exceeded
DORA WS	Projected TestScale Score				
	2	663.96			
	2.5	672.74			
	3	681.51			
	3.5	690.28			
	4	699.06			
	4.5	707.83			
	5	716.60			
	5.5	725.38			
	6	734.15			
	6.5	742.92			
	7	751.70			
	7.5	760.47			
	8	769.24			
	8.5	778.01			
	9	786.79			
	9.5	795.56			
	10	804.33			
	10.5	813.11			
	11	821.88			
	11.5	830.65			
	12	839.43			

General Information		
Grade	Correlation	Sample Size
6	0.80	1604



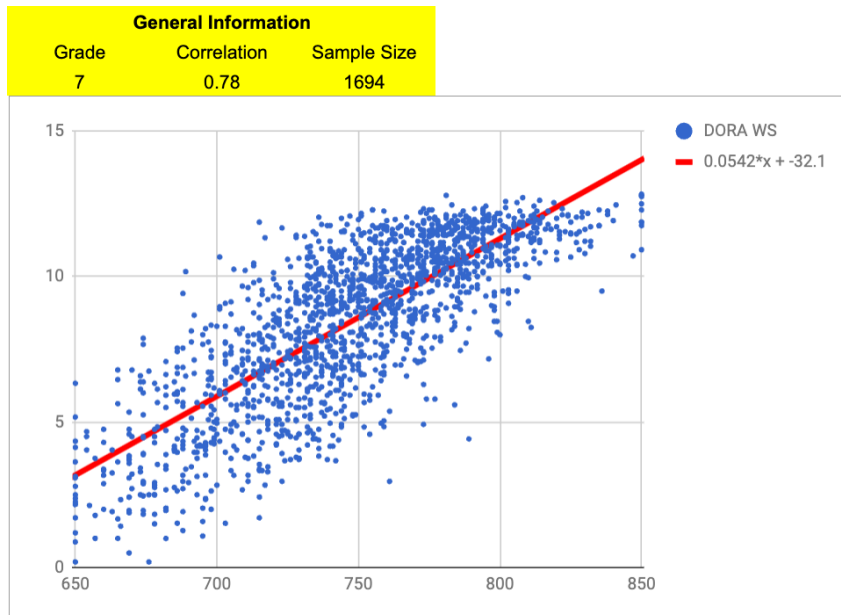
Linear Regression Model

Slope: 0.0682071254
Y intercept: -43.1779302

TestScaleScore	DORA WS
650	1.16
675	2.86
700	4.57
725	6.27
750	7.98
775	9.68
800	11.39
825	13.09
850	14.80

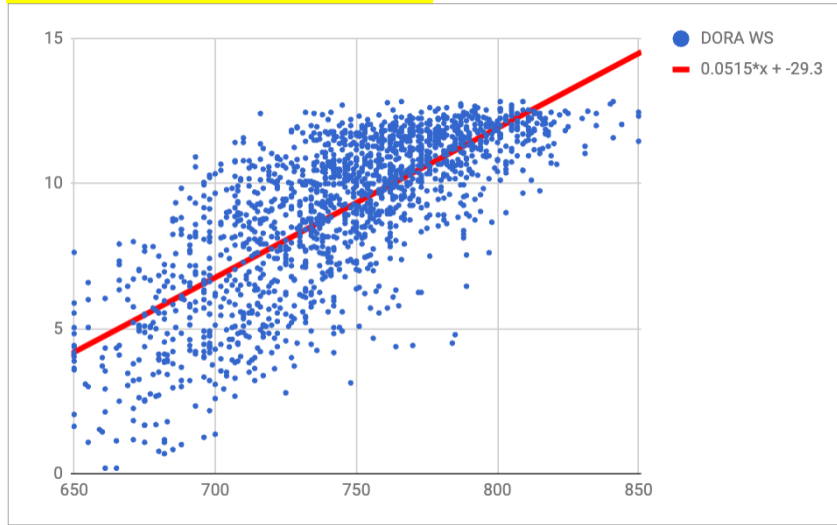
Target DORA SCORE	7.98
# of DORA scores >= target	782
# of DORA and TSS >= target	592
Accuracy	75.70%

Did Not Meet	Partially Met	Approached	Met	Exceeded
DORA WS		Projected TestScale Score		
Did Not Meet		2	662.36	
		2.5	669.69	
		3	677.03	
		3.5	684.36	
		4	691.69	
		4.5	699.02	
Partially Met		5	706.35	
		5.5	713.68	
		6	721.01	
Approached		6.5	728.34	
		7	735.67	
		7.5	743.00	
Met		8	750.33	
		8.5	757.66	
		9	764.99	
		9.5	772.32	
		10	779.65	
Exceeded		10.5	786.98	
		11	794.31	
		11.5	801.65	
		12	808.98	
		12.5	816.31	
		13	823.64	



Linear Regression Model			Did Not Meet	Partially Met	Approached	Met	Exceeded
Slope	Y intercept		DORA WS		Projected TestScale Score		
0.05419803455	-32.05531489				3	646.80	
TestScaleScore	DORA WS				3.5	656.03	
650	3.17				4	665.25	
675	4.53				4.5	674.48	
700	5.88				5	683.70	
725	7.24				5.5	692.93	
750	8.59				6	702.15	
775	9.95				6.5	711.38	
800	11.30				7	720.60	
825	12.66				7.5	729.83	
850	14.01				8	739.05	
					8.5	748.28	
Target DORA SCORE	8.59				9	757.51	
# of DORA scores >= target	943				9.5	766.73	
# of DORA and TSS >= target	725				10	775.96	
Accuracy	76.88%				10.5	785.18	
					11	794.41	
					11.5	803.63	
					12	812.86	
					12.5	822.08	
					13	831.31	
					13.5	840.53	
					14	849.76	

General Information		
Grade	Correlation	Sample Size
8	0.74	1683



Linear Regression Model

Slope: 0.05151848588
Y intercept: -29.29888887

TestScaleScore	DORA WS
650	4.19
675	5.48
700	6.76
725	8.05
750	9.34
775	10.63
800	11.92
825	13.20
850	14.49

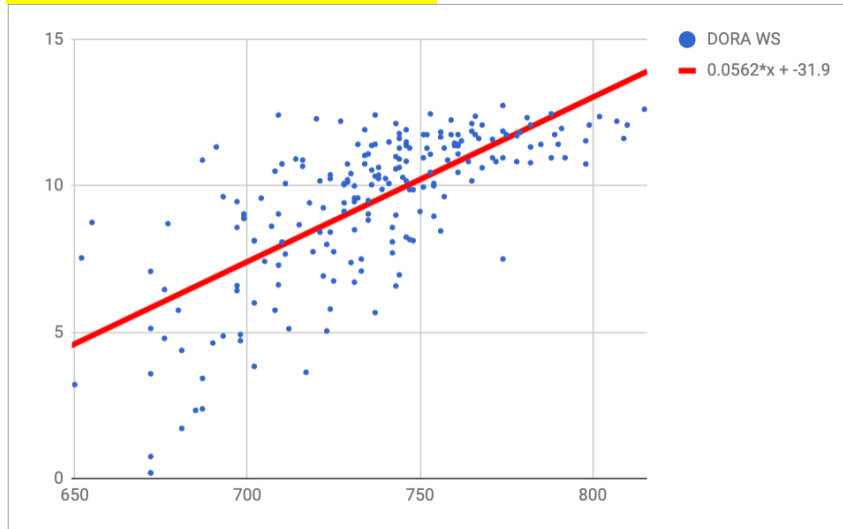
Target DORA SCORE	9.34
# of DORA scores >= target	935
# of DORA and TSS >= target	685
Accuracy	73.26%

Did Not Meet	Partially Met	Approached	Met	Exceeded
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DORA WS Projected TestScale Score

4	646.35
4.5	656.05
5	665.76
5.5	675.46
6	685.17
6.5	694.87
7	704.58
7.5	714.29
8	723.99
8.5	733.70
9	743.40
9.5	753.11
10	762.81
10.5	772.52
11	782.22
11.5	791.93
12	801.63
12.5	811.34
13	821.04
13.5	830.75
14	840.45
14.5	850.16
15	859.86

General Information		
Grade	Correlation	Sample Size
9	0.71	204



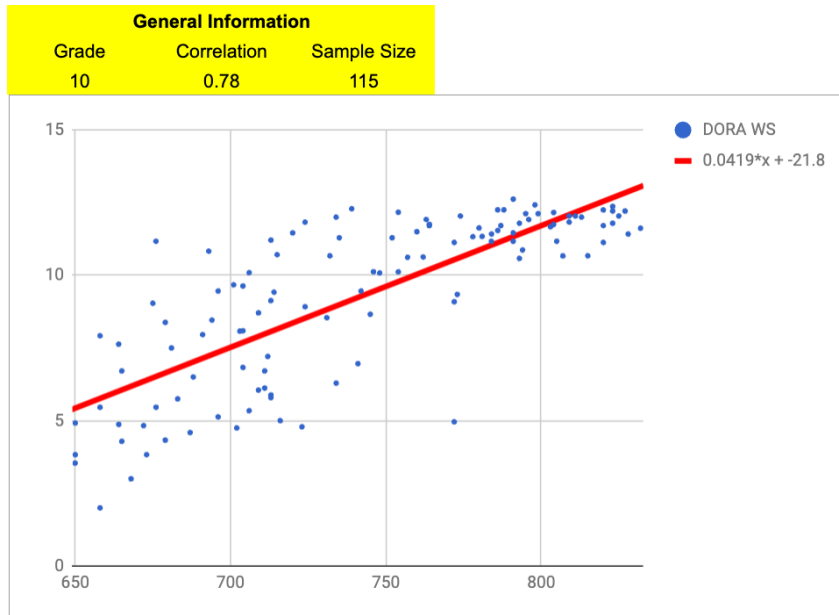
Linear Regression Model

Slope 0.05617411544
Y intercept -31.91264255

TestScaleScore	DORA WS
650	4.60
675	6.00
700	7.41
725	8.81
750	10.22
775	11.62
800	13.03
825	14.43
850	15.84

Target DORA SCORE	10.22
# of DORA scores >= target	102
# of DORA and TSS >= target	58
Accuracy	56.86%

Did Not Meet	Partially Met	Approached	Met	Exceeded
DORA WS	Projected TestScale Score			
4.5	648.21			
5	657.11			
5.5	666.01			
6	674.91			
6.5	683.81			
7	692.71			
7.5	701.62			
8	710.52			
8.5	719.42			
9	728.32			
9.5	737.22			
10	746.12			
10.5	755.02			
11	763.92			
11.5	772.82			
12	781.72			
12.5	790.62			
13	799.53			
13.5	808.43			
14	817.33			
14.5	826.23			
15	835.13			
15.5	844.03			



Linear Regression Model		Did Not Meet	Partially Met	Approached	Met	Exceeded
Slope	Y intercept	DORA WS				
0.04185399865	-21.77584534	Projected TestScale Score				
TestScaleScore	DORA WS	5	5.5	6	6.5	7
650	5.43	639.74	663.64	687.53	711.42	735.31
675	6.48	651.69	675.58	699.48	723.37	747.26
700	7.52	663.64	687.53	701.43	725.38	749.27
725	8.57	675.58	699.48	713.32	737.22	761.11
750	9.61	687.53	711.42	725.16	749.06	772.95
775	10.66	699.48	723.37	737.00	760.90	784.79
800	11.71	711.42	735.31	748.84	772.74	796.63
825	12.75	723.37	747.26	760.68	784.58	808.47
850	13.80	735.31	759.21	772.52	796.42	820.31
Target DORA SCORE		9.61	10.5	11	11.5	12
# of DORA scores >= target	65	771.15	783.10	795.05	806.99	818.94
# of DORA and TSS >= target	50	806.99	818.94	830.88	842.83	854.78
Accuracy		76.92%	854.78	866.72		

Appendix D: Correlations to SBAC

DORA Weighted Score to California Smarter Balanced English/Language Arts Scaled Scores

Sample Demographics

Category	<i>n</i>	%
Total	10,106	100.0
SPED %	980	9.7
EL %	3,015	29.8
Race		
American Indian or Alaska Native	43	.4
Asian Indian	10	.1
Black or African American	19	.2
Cambodian	5	.0
Chinese	74	.7
Filipino	36	.4
Hispanic or Latino	9,698	96.0
Japanese	26	.3
Korean	8	.1
Native Hawaiian	3	.0

Other Asian	14	.1
Other Pacific Islander	7	.1
Samoan	1	.0
Vietnamese	25	.2
White	130	1.3
Not indicated	7	.1

All Students—English/Language Arts

Grade	<i>N</i>	<i>r</i>	sig
Overall	10,106	.832	.000

Grade	<i>n</i>	<i>r</i>	sig
3	1,391	.779	.000
4	2,427	.775	.000
5	2,103	.779	.000
6	1,254	.740	.000
7	1,322	.742	.000
8	1,407	.707	.000
11	158	.710	.000

English Learner Comparison—English/Language Arts

Grade	<i>Non-EL</i>			<i>EL</i>		
	<i>n</i>	<i>r</i>	<i>sig</i>	<i>n</i>	<i>r</i>	<i>sig</i>
3	738	.793	.000	653	.721	.000

4	1,463	.772	.000	964	.652	.000
5	1,496	.738	.000	607	.606	.000
6	995	.717	.000	259	.383	.000
7	1,066	.696	.000	256	.547	.000
8	1,183	.652	.000	224	.545	.000
11	125	.635	.000	33	.191	ns

Special Education Learner Comparison—English/Language Arts

Grade	Non-SPED			SPED		
	<i>n</i>	<i>r</i>	<i>sig</i>	<i>n</i>	<i>r</i>	<i>sig</i>
3	1,238	.770	.000	153	.587	.000
4	2,159	.755	.000	268	.668	.000
5	1,901	.760	.000	202	.632	.000
6	1,137	.720	.000	117	.708	.000
7	1,215	.716	.000	107	.578	.000
8	1,284	.677	.000	123	.628	.000
11	151	.711	.000	7	.700	ns

Appendix E: The Predictive Values of DORA Scores in New Jersey Statewide Assessment

Study Design:

In order to examine the predictive value of the subtest scores of Let's Go Learn's Diagnostic Online Reading Assessment (DORA) on the English/Language Arts scaled scores of the New Jersey Statewide Assessment (NJ), a regression analysis was performed. Data was gathered district-wide from the Jersey City Public Schools, with a final sample size of 4,877 students. DORA scores were gathered in the spring of 2013, and NJ scores were obtained also during 2013.

Analysis Summary:

Previous DORA research has suggested that the subtests of Comprehension and Vocabulary are often more strongly predictive of state testing scores in English/Language Arts (Karpinski, 2010). For this reason, and because these two subtests were of greatest interest to the study, these were the two independent variables included in the analysis.

In addition to the two variables of study interest, variables for gender, ethnicity, and socio-economic status were also included as control variables. Gender was coded 1 for male, 0 for female; ethnicity was coded 1 for minority status, 0 for white/Caucasian; and socio-economic status was coded 1 for free and/or reduced lunch eligibility, 0 otherwise.

The dependent variable in this study is the student scaled score from the 2013 NJ English/Language Arts (ELA) test.

Analysis and Conclusions

The means and standard deviations of both the independent and dependent variable are shown in Table 1.

Table 1

Descriptive Statistics of Variables in the DORA/ NJ model

Variable	Mean	SD
NJ ELA	197.05	26.610
Gender	.50	.500
Ethnicity	.91	.293
SES	.80	.398
Comprehension (CO)	5.196	3.782
Vocabulary (VO)	5.263	2.018

Note. $N = 4877$

The model for this analysis was derived using a forced-entry syntax with a forward selection logic. Control variables were entered first as a block, then study variables were entered by their highest correlation with the dependent variable: first Comprehension (.638), followed by Vocabulary (.502).

The correlation matrix was also examined to look for evidence of possible multicollinearity. There was, indeed, a statistically significant correlation between both of the independent variables of study interest, Vocabulary and Comprehension. Further examination of the collinearity diagnostics indicate that none of the variables had a tolerance of less than .25, nor a condition index of greater than 30, while there is no variable loading on more than one dimension, suggesting that multicollinearity is not a problem for this model.

Further, the scatterplot between observed and predicted math scores appears to be both linear and positive, indicating a strong model and meeting the assumption of linearity between Y and $\hat{Y}$. The assumption of homoscedasticity appears reasonable, as the plot appears evenly distributed, with no fan, funnel, or bow-tie-shaped data. From examining a histogram of the residuals, it appears that the residuals are normally distributed. The P-P Plot of the Residuals demonstrates little variance from 45° , suggesting that the assumption of normally distributed residuals appears to have been met as well.

The final model included all three control variables, as well as the two variables of study interest, with the following parameter estimates:

$$\hat{Y} = 176.229 - 5.787(\text{gender}) - 5.543(\text{ethnicity}) - 1.911(\text{SES}) + 3.750(\text{CO}) + 1.877(\text{VO})$$

The null hypothesis that the model does not provide any significant explanation is rejected at the .05 level of significance. The model is statistically significant ($F = 746.225$, $df = 5$, 4871 , $p < .001$).

After accounting for gender, ethnicity, and SES, DORA Comprehension scores are a significant predictor of NJ ELA achievement ($F = 3256.228$, $df = 1$, 4872 , $p < .001$). After accounting for control variables as well as DORA Comprehension, Vocabulary scores are also a significant predictor of NJ ELA achievement ($F = 96.294$, $df = 1$, 4871 , $p < .001$).

The total proportion of variance explained by the final model is $R^2 = .433$, indicating that 43.3% of the total variability in Jersey City NJ ELA achievement is accounted for by the model. After controlling for gender, ethnicity, and SES differences in NJ ELA scores within our sample, the addition of DORA Comprehension scores to the model increased the amount of variability accounted for by 38.6%, from 3.6% to 42.2%. Additionally, after controlling for differences in both DORA Comprehension scores, the addition of DORA Vocabulary scores to the model increased the amount of variability accounted for by an additional 1.1%.

The variable with the largest proportion of unique explained variance in NJ ELA achievement is DORA Comprehension, with 39.6% of the variance uniquely explained by the variable. The part correlation of DORA Vocabulary scores shows that 10.6% of the variance is uniquely explained by reading scores.

The variable with the largest proportion of remaining variance, after controlling for the effects of Vocabulary and demographic controls, was also DORA Comprehension scores, with 46.6% accounted for, after partialing out the effects of the other variables. After controlling for the effects of Comprehension and demographic variables, the remaining variance accounted for by DORA Vocabulary scores was 13.9%, after partialing out the effects of the other variables. Overall, this indicates that Comprehension scores contribute more than three times that of Vocabulary scores to the variance accounted for in the model, with a small amount of additional variance accounted for by the control variables.

Results/Conclusions:

In summary, the final model does account for a statistically significant portion of the variance in NJ ELA achievement scores. DORA Comprehension and DORA Vocabulary are significant predictors of and contribute significantly to a student's overall NJ ELA achievement. The model indicates that there is a strong connection between success on the DORA subtests of Comprehension and Vocabulary and a student's overall scaled score performance on the ELA test of the NJ achievement scores.

Appendix F: DORA National Norms for Grades K-12

Samples by grade and time of year

Grade	Beginning	Middle	End
K	3,950	3,953	7,568
1	10,804	9,133	12,362
2	12,227	10,219	13,661
3	12,260	10,119	13,191
4	12,030	9,538	12,178
5	12,637	9,571	12,991
6	11,584	8,173	10,658
7	7,922	5,212	6,731
8	7,481	5,479	6,326
9	4,129	1,790	2,937
10	2,682	1,235	1,552
11	1,983	883	1,066
12	1,476	594	718



Diagnostic Online Reading Assessment (DORA)

&

Adaptive Diagnostic Assessment of Mathematics (ADAM)

Norming Tables

Published by Let's Go Learn, Inc.

Revised August 2021

DORA & ADAM: National Norms for Grades K-12

August 2021

Let's Go Learn offers a range of solutions designed to improve student achievement. Founded in 2000, the company's initial efforts led to two diagnostic assessments: (1) *Diagnostic Online Reading Assessment (DORA)* and (2) *AdaptiveDiagnostic Assessment of Mathematics (ADAM)*. These comprehensive assessment tools were designed to provide students, educators, and families with clear, actionable data related to student performance through testing across an academic year. Each assessment consists of sub-tests that assess areas such as vocabulary and reading comprehension or numbers and operations, to develop a complete picture of student ability and opportunities for growth so that teachers can direct their instruction accordingly.

This report summarizes an effort to establish national norms for both *DORA* and *ADAM*.

What are norms?

Norms take advantage of large datasets containing thousands of scores at different points in the school year (the "sample"). The goal is to establish "normal" performance on the diagnostic based on the performance of thousands of students with varying abilities. Norms allow educators to compare a given student's score to the national sample and understand that student's performance level relative to students contained in the sample.

The words "norms" and "percentiles" compare a student's score to the representative sample of students from across the country. These students completed the same assessment, at the same grade level, at the same point in the school year.

How do educators use norms?

Using the total score from either *DORA* or *ADAM*, an educator can plot the score in the norming table to determine that student's performance compared to the national sample. For example, if the student's score aligns with the 85th percentile, that student's score is better than an estimated 85% of students in the national sample.

Sometimes a specific test score will correspond to multiple percentile ranks. For example, a score might appear next to three consecutive percentile ranks (i.e., a student's score is 17 and it corresponds to the 66th, 67th, and 68th percentile). In this case, you can choose to report the percentile as any of the three numbers, Or simply report the range. For consistency, use whichever method you adopt each time you encounter this type of situation with the norming table.

Where did the norms come from?

The norming tables available for *DORA* and *ADAM* were made possible through national data from students using Let's Go Learn during the 2018-2019 school year. These scores represent students of all abilities from large urban districts in five different states. Let's Go Learn programs are most frequently used with low-performing students. Therefore, it should be noted that the national sample is influenced by this trend.

Do norms differ based on time of year?

Scores are identified by testing windows falling within either the beginning, middle, or end (fall, winter, spring) of the school year.

- Fall consists of scores from tests taken between August 1 and November 30, 2018
- Winter consists of scores from tests taken between December 1, 2018 and February 28, 2019
- Spring consists of scores from tests taken between March 1 and June 30, 2019

Sample sizes for each grade level and testing window are reported within the norming tables.

Will the norms be updated?

As the national sample of *DORA* and *ADAM* continues to grow, updates to the norming data will be accomplished. However, due to COVID-19, data from the 2019-20 and 2020-21 school years isn't comparable. Since the 2018-19 school year was the most recent "normal" school operation year, we have used those scores for this initial effort.

Appendix A: DORA National Norms for Grades K-12

Samples by grade and time of year

Grade	Beginning	Middle	End
K	3,950	3,953	7,568
1	10,804	9,133	12,362
2	12,227	10,219	13,661
3	12,260	10,119	13,191
4	12,030	9,538	12,178
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9	4,129	1,790	2,937
10	2,682	1,235	1,552
11	1,983	883	1,066
12	1,476	594	718

Sample Size	3,950	3,953	7,568
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Percentile	Total Score			HF			CO			PH			VO			WR			SP		
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End
1	0.20	0.20	0.20	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
2	0.20	0.20	0.21	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
3	0.20	0.21	0.22	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
4	0.20	0.21	0.22	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
5	0.20	0.21	0.23	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
6	0.21	0.21	0.24	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
7	0.21	0.22	0.25	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
8	0.21	0.22	0.26	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
9	0.21	0.22	0.27	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
10	0.21	0.23	0.29	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
11	0.21	0.23	0.30	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	1.17	0.50	0.50	0.50	0.00	0.00	0.00
12	0.21	0.24	0.31	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	1.17	0.50	0.50	0.50	0.00	0.00	0.00
13	0.21	0.25	0.31	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	1.17	0.50	0.50	0.50	0.00	0.00	0.00
14	0.22	0.26	0.32	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	1.17	0.50	0.50	0.50	0.00	0.00	0.00
15	0.22	0.26	0.32	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	1.17	0.50	0.50	0.50	0.00	0.00	0.00
16	0.22	0.27	0.33	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	1.50	0.50	0.50	0.50	0.00	0.00	0.00
17	0.22	0.28	0.33	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.17	1.83	0.50	0.50	0.50	0.00	0.00	0.00
18	0.22	0.29	0.34	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.17	1.83	0.50	0.50	0.50	0.00	0.00	0.00
19	0.22	0.30	0.35	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.17	1.83	0.50	0.50	0.50	0.00	0.00	0.00
20	0.23	0.30	0.35	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.17	1.83	0.50	0.50	0.50	0.00	0.00	0.00
21	0.23	0.31	0.36	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.17	1.83	0.50	0.50	0.50	0.00	0.00	0.00
22	0.23	0.31	0.37	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.17	1.83	0.50	0.50	0.50	0.00	0.00	0.00
23	0.23	0.32	0.37	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.17	1.83	0.50	0.50	0.50	0.00	0.00	0.00
24	0.24	0.32	0.38	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.50	1.83	0.50	0.50	0.50	0.00	0.00	0.00
25	0.24	0.32	0.39	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.83	1.83	0.50	0.50	0.50	0.00	0.00	0.00
26	0.25	0.33	0.39	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.83	1.83	0.50	0.50	0.50	0.00	0.00	0.00
27	0.25	0.33	0.40	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.83	1.83	0.50	0.50	0.50	0.00	0.00	0.00
28	0.26	0.34	0.40	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.83	1.83	0.50	0.50	0.50	0.00	0.00	0.00
29	0.26	0.35	0.41	0.50	0.50																

First

Sample Size	10,804	9,133	12,362
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Percentile	Total Score			HF			CO			PH			VO			WR			SP		
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End
1	0.25	0.26	0.26	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
2	0.26	0.27	0.28	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
3	0.27	0.31	0.32	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
4	0.27	0.39	0.39	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
5	0.28	0.46	0.47	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
6	0.30	0.47	0.50	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.17	1.17	0.50	0.50	0.50	0.00	0.00	0.00
7	0.32	0.49	0.54	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.17	1.50	0.50	0.50	0.50	0.00	0.00	0.00
8	0.36	0.51	0.59	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.50	1.83	0.50	0.50	0.50	0.00	0.00	0.00
9	0.38	0.54	0.62	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.83	1.83	0.50	0.50	0.50	0.00	0.00	0.00
10	0.39	0.56	0.64	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	1.17	1.83	1.83	0.50	0.50	0.50	0.00	0.00	0.00
11	0.42	0.58	0.67	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	1.17	1.83	1.83	0.50	0.50	0.50	0.00	0.00	0.00
12	0.46	0.60	0.70	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	1.17	1.83	1.83	0.50	0.50	0.50	0.00	0.00	0.00
13	0.46	0.62	0.73	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	1.17	1.83	1.83	0.50	0.50	0.50	0.00	0.00	0.00
14	0.47	0.63	0.75	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	1.50	1.83	1.83	0.50	0.50	0.50	0.00	0.00	0.00
15	0.48	0.64	0.76	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.17	1.83	1.83	1.83	0.50	0.50	0.50	0.00	0.00	0.00
16	0.48	0.66	0.79	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.17	1.83	1.83	2.17	0.50	0.50	0.50	0.00	0.00	0.00
17	0.50	0.67	0.80	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	1.83	1.83	2.17	0.50	0.50	0.50	0.00	0.00	0.00
18	0.50	0.69	0.82	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.17	1.83	1.83	2.17	0.50	0.50	0.50	0.00	0.00	0.00
19	0.51	0.70	0.84	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.50	1.83	1.83	2.50	0.50	0.50	0.50	0.00	0.00	0.00
20	0.52	0.71	0.87	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.50	1.83	2.17	2.50	0.50	0.50	0.50	0.00	0.00	0.00
21	0.54	0.73	0.89	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.17	0.50	1.83	2.17	2.50	0.50	0.50	0.50	0.00	0.00	0.00
22	0.55	0.74	0.91	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.17	0.50	1.83	2.17	2.50	0.50	0.50	0.50	0.00	0.00	0.00
23	0.57	0.75	0.93	0.50	0.50	0.50	0.00	0.00	0.50	0.00	0.17	0.50	1.83	2.17	2.50	0.50	0.50	0.50	0.00	0.00	0.50
24	0.58	0.76	0.95	0.50	0.50	0.50	0.00	0.00	0.50	0.00	0.17	0.50	1.83	2.50	2.50	0.50	0.50	0.50	0.00	0.00	0.50
25	0.58	0.78	0.96	0.50	0.50	0.50	0.00	0.00	0.50	0.00	0.17	0.50	1.83	2.50	2.50	0.50	0.50	0.50	0.00	0.00	0.50
26	0.59	0.79	0.99	0.50	0.50	0.50	0.00	0.00	0.50	0.00	0.17	0.50	1.83	2.50	2.50	0.50	0.50	0.50	0.00	0.00	0.50
27	0.60	0.80	1.01	0.50	0.50	1.17	0.00	0.00	0.50	0.00	0.50	0.50	1.83	2.50	2.50	0.50	0.50	0.50	0.00	0.00	0.50
28	0.60	0.81	1.03	0.50	0.50	1.17	0.00	0.00	0.50	0.00	0.50	0.50	1.83	2.50	2.83	0.50	0.50	0.50	0.00	0.00	0.50
29	0.62	0.83	1.05	0.50	0																

Second

Sample Size 12,227 10,219 13,661

Percentile	Total Score			HF			CO			PH			VO			WR			SP		
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End
1	0.27	0.31	0.32	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
2	0.33	0.45	0.48	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
3	0.41	0.52	0.55	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.17	1.50	0.50	0.50	0.50	0.00	0.00	0.00
4	0.45	0.56	0.62	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	1.17	1.83	1.83	0.50	0.50	0.50	0.00	0.00	0.00
5	0.48	0.60	0.68	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	1.83	1.83	1.83	0.50	0.50	0.50	0.00	0.00	0.00
6	0.52	0.65	0.73	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.17	1.83	1.83	1.83	0.50	0.50	0.50	0.00	0.00	0.00
7	0.54	0.68	0.79	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.17	1.83	1.83	2.17	0.50	0.50	0.50	0.00	0.00	0.00
8	0.56	0.73	0.86	0.50	0.50	0.50	0.00	0.00	0.50	0.00	0.17	0.50	1.83	1.83	2.17	0.50	0.50	0.50	0.00	0.00	0.50
9	0.59	0.77	0.92	0.50	0.50	0.50	0.00	0.00	0.50	0.00	0.17	0.50	1.83	2.17	2.50	0.50	0.50	0.50	0.00	0.00	0.50
10	0.61	0.81	0.98	0.50	0.50	1.17	0.00	0.00	0.50	0.00	0.50	0.50	1.83	2.17	2.50	0.50	0.50	0.50	0.00	0.00	0.50
11	0.63	0.86	1.03	0.50	0.50	1.17	0.00	0.50	0.50	0.00	0.50	0.50	1.83	2.50	2.50	0.50	0.50	0.50	0.00	0.50	0.50
12	0.65	0.91	1.09	0.50	0.50	1.17	0.00	0.50	0.50	0.00	0.50	0.50	2.17	2.50	2.50	0.50	0.50	0.50	0.00	0.50	0.50
13	0.67	0.95	1.14	0.50	0.50	1.17	0.00	0.50	0.50	0.00	0.50	0.50	2.17	2.50	2.50	0.50	0.50	0.50	0.00	0.50	1.17
14	0.69	0.99	1.19	0.50	1.17	1.17	0.00	0.50	0.50	0.17	0.50	0.83	2.17	2.50	2.83	0.50	0.50	0.50	0.00	0.50	1.17
15	0.71	1.03	1.23	0.50	1.17	1.50	0.00	0.50	0.50	0.17	0.50	0.83	2.50	2.50	2.83	0.50	0.50	0.50	0.00	0.50	1.17
16	0.74	1.07	1.28	0.50	1.17	1.50	0.00	0.50	0.50	0.17	0.50	0.83	2.50	2.50	2.83	0.50	0.50	0.50	0.00	0.50	1.17
17	0.76	1.11	1.34	0.50	1.17	1.50	0.00	0.50	0.50	0.50	0.50	0.83	2.50	2.50	2.83	0.50	0.50	0.50	0.00	1.17	1.17
18	0.79	1.15	1.38	0.50	1.17	1.83	0.00	0.50	0.50	0.50	0.50	0.83	2.50	2.83	2.83	0.50	0.50	0.50	0.00	1.17	1.17
19	0.82	1.18	1.43	0.50	1.17	1.83	0.00	0.50	0.50	0.50	0.83	0.83	2.50	2.83	2.83	0.50	0.50	0.50	0.00	1.17	1.17
20	0.85	1.21	1.48	0.50	1.17	1.83	0.00	0.50	0.50	0.50	0.83	0.83	2.50	2.83	2.83	0.50	0.50	1.17	0.00	1.17	1.50
21	0.87	1.24	1.53	0.50	1.50	1.83	0.50	0.50	0.50	0.50	0.83	0.83	2.50	2.83	2.83	0.50	0.50	1.17	0.50	1.17	1.50
22	0.90	1.27	1.59	0.50	1.50	1.83	0.50	0.50	0.50	0.50	0.83	0.83	2.83	2.83	2.83	0.50	0.50	1.17	0.50	1.17	1.50
23	0.93	1.30	1.65	0.50	1.50	2.17	0.50	0.50	0.50	0.50	0.83	1.17	2.83	2.83	3.17	0.50	0.50	1.17	0.50	1.17	1.50
24	0.95	1.33	1.70	0.50	1.50	2.17	0.50	0.50	0.50	0.50	0.83	1.17	2.83	2.83	3.17	0.50	0.50	1.50	0.50	1.17	1.50
25	0.98	1.37	1.77	0.50	1.83	2.17	0.50	0.50	0.50	0.50	0.83	1.50	2.83	2.83	3.17	0.50	0.50	1.50	0.50	1.17	1.50
26	1.01	1.40	1.82	1.17	1.83	2.17	0.50	0.50	0.50	0.50	0.83	1.50	2.83	2.83	3.17	0.50	0.50	1.83	0.50	1.50	1.50
27	1.03	1.43	1.88	1.17	1.83	2.50	0.50	0.50	1.17	0.50	0.83	1.83	2.83	2.83	3.17	0.50	1.17	1.83	0.50	1.50	1.50
28	1.06	1.47	1.94	1.17	1.83	2.50	0.50	0.50	1.17	0.50	0.83	2.17	2.83	3.17	3.17	0.50	1.17	2.17	0.50	1.50	1.50
29	1.09	1.50	2.00	1.17	1.83	2.50	0.50	0.50	1.17	0.83	0.83	2.50	2.83	3.17	3.17	0.50	1.17	2.17	0.50	1.50	1.50
30	1.11	1.54	2.06	1.17	1.83	2.50	0.50	0.50	1.17	0.83	0.83	2.50	2.83	3.17	3.17	0.50	1.17	2.50	1.17	1.50	1.50
31	1.14	1.58	2.12	1.17	1.83	2.50	0.50	0.50	1.17	0.83	1.17	2.50	2.83	3.17	3.50	0.50	1.17	2.50	1.17	1.50	1.50
32	1.17	1.62	2.18	1.17	2.17	2.50	0.50	0.50	1.17	0.83	1.17	2.83	2.83	3.17	3.50	0.50	1.17	2.50	1.17	1.50	1.50
33	1.19	1.67	2.23	1.17	2.17	2.83	0.50	1.17	1.17	0.83	1.50	2.83	2.83	3.17	3.50	0.50	1.50	2.83	1.17	1.50	1.50
34	1.21	1.72	2.28	1.17	2.17	3.17	0.50	1.17	1.17	0.83	1.50	2.83	3.17	3.17	3.50	0.50	1.50	2.83	1.17	1.50	1.83
35	1.24	1.76	2.33	1.50	2.17	3.17	0.50	1.17	1.17	0.83	1.50	2.83	3.17	3.17	3.50	0.50	1.83	2.83	1.17	1.50	1.83
36	1.26	1.81	2.38	1.50	2.17	3.17	0.50	1.17	1.50	0.83	1.50	2.83	3.17	3.17	3.50	0.50	1.83	2.83	1.17	1.50	1.83
37	1.29	1.86	2.42	1.50	2.50	3.17	0.50	1.17	1.50	0.83	1.83	3.17	3.17	3.50	3.50	0.50	1.97	3.17	1.17	1.50	1.83
38	1.32	1.91	2.47	1.50	2.50	3.17	0.50	1.17	1.50	0.83	2.17	3.17	3.17	3.50	3.83	0.50	2.17	3.17	1.17	1.50	1.83
39	1.35	1.96	2.51	1.50	2.50	3.17	0.50	1.17	1.50	0.83	2.50	3.50	3.17	3.50	3.83	0.50	2.17	3.17	1.17	1.50	1.83
40	1.38	2.01	2.55	1.83	2.50	3.17	0.50	1.17	1.50	0.83	2.50	4.17	3.17	3.50	3.83	0.50	2.50	3.17	1.50	1.50	1.83
41	1.41	2.06	2.60	1.83	2.50	3.50	0.50	1.17	1.50	0.83	2.50	4.17	3.17	3.50	3.83	1.17	2.50	3.17	1.50	1.50	1.83
42	1.44	2.11	2.64	1.83	2.50	3.50	0.50	1.17	1.50	0.83	2.83	4.17	3.17	3.50	3.83	1.17	2.50	3.50	1.50	1.50	1.83
43	1.48	2.15	2.68	1.83	2.50	3.50	0.50	1.17	1.50	0.83	2.83	4.17	3.17	3.50	3.83	1.17	2.50	3.50	1.50	1.83	1.83
44	1.51	2.19	2.72	1.83	2.83	3.50	0.50	1.50	1.50	1.17	2.83	4.17	3.50	3.50	3.83	1.17	2.50	3.50	1.50	1.83	1.83
45	1.55	2.24	2.76	1.83	3.17	3.50	0.50	1.50	1.83	1.17	2.83	4.17	3.50	3.83	3.83	1.17	2.83	3.83	1.50	1.83	1.83
46	1.59	2.29	2.80	1.83	3.17	3.50	0.50	1.50	1.83	1.17	2.83	4.17	3.50	3.83	3.83	1.17	2.83	3.83	1.50	1.83	1.83
47	1.63	2.34	2.84	1.83	3.17	3.50	0.50	1.50	1.83	1.50	2.83	4.50	3.50	3.83	3.83	1.50	2.83	3.83	1.50	1.83	1.83
48	1.67	2.38	2.87	2.17	3.17	3.50	1.17	1.50	1.83	1.50	3.17	4.50	3.50	3.83	3.83	1.50	2.83	3.83	1.50	1.83	1.83
49	1.72	2.42	2.91	2.17	3.17	3.50	1.17	1.50	1.83	1.50	3.17	4.50	3.50	3.83	3.83	1.50	3.17	3.83	1.50	1.83	1.83
50	1.76	2.46	2.95	2.17	3.17	3.50	1.17	1.50	1.83	1.83	3.50	4.50	3.50	3.83	3.83	1.83	3.17	3.83	1.50	1.83	1.83
51	1.81	2.50	2.98	2.17	3.17	3.50	1.17	1.50	2.17	2.17	3.50	4.50	3.50	3.83	3.83	1.83	3.17	4.17	1.50	1.83	2.17
52	1.85	2.54	3.01	2.17	3.50	3.83	1.17	1.50	2.17	2.17	4.17	4.50	3.83	3.83	3.83	2.17	3.17	4.50	1.50	1.83	2.17
53	1.90	2.58	3.05	2.50	3.50	3.83	1.17	1.50	2.17	2.50	4.17	4.50	3.83	3.83	3.83	2.17	3.17	4.50	1.50	1.83	2.17
54	1.95	2.61	3.09	2.50	3.50	3.83	1.17	1.50	2.17	2.50	4.17	4.50	3.83	3.83	3.83	2.17	3.50	5.17	1.50	1.83	2.17
55	2.00	2.65	3.13	2.50	3.50	3.83	1.17	1.50	2.17	2.63	4.17	4.50	3.83	3.83	3.83	2.50	3.50	5.17	1.50	1.83	2.17
56	2.04	2.69	3.16	2.50	3.50	3.83	1.17	1.83	2.17	2.83	4.17	4.50	3.83	3.83	3.83	2.50	3.50	5.50	1.50	1.83	2.17
57	2.09	2.72	3.20	2.50	3.50	3.83	1.17	1.83	2.17	2.83	4.17	4.50	3.83	3.83	3.83	2.50	3.83	5.83	1.50	1.83	2.17
58	2.14	2.76	3.24	2.50	3.50	3.83	1.17	1.83	2.17	2.83	4.50	4.50	3.83	3.83	3.83	2.50	3.83	5.83	1.50	1.83	2.17
59	2.19	2.80	3.27	2.50	3.50	3.83	1.50	1.83	2.17	2.83	4.50	4.50	3.83	3.83	3.83	2.83	3.83	6.17	1.50	1.83	2.17
60	2.23	2.84	3.30	2.83	3.50	3.83	1.50	1.83	2.50	2.83</											

Third

Percentile	Total Score			HF			CO			PH			VO			WR			SP		
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End
1	0.22	0.40	0.40	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
2	0.43	0.57	0.63	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	1.83	1.50	0.50	0.50	0.50	0.00	0.00	0.00
3	0.54	0.70	0.78	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	1.50	1.83	1.83	0.50	0.50	0.50	0.00	0.00	0.00
4	0.62	0.84	0.97	0.50	0.50	1.17	0.00	0.00	0.50	0.00	0.17	0.17	1.83	1.83	1.83	0.50	0.50	0.50	0.00	0.00	0.50
5	0.67	1.01	1.15	0.50	1.17	1.17	0.00	0.50	0.50	0.00	0.50	0.50	1.83	1.83	1.83	0.50	0.50	0.50	0.00	0.50	0.50
6	0.75	1.16	1.29	0.50	1.17	1.50	0.00	0.50	0.50	0.00	0.50	0.50	1.83	2.17	2.17	0.50	0.50	0.50	0.00	0.50	0.50
7	0.82	1.28	1.40	0.50	1.50	1.83	0.00	0.50	0.50	0.17	0.50	0.50	1.83	2.50	2.50	0.50	0.50	0.50	0.00	0.50	1.17
8	0.94	1.38	1.51	0.50	1.50	1.83	0.50	0.50	0.50	0.17	0.50	0.83	2.17	2.50	2.50	0.50	0.50	0.50	0.50	1.17	1.17
9	1.03	1.48	1.63	0.50	1.83	1.83	0.50	0.50	0.50	0.50	0.83	0.83	2.50	2.50	2.50	0.50	0.50	0.50	0.50	1.17	1.17
10	1.13	1.59	1.75	1.17	1.83	1.83	0.50	0.50	0.50	0.50	0.83	0.83	2.50	2.83	2.83	0.50	0.50	1.17	0.50	1.17	1.17
11	1.21	1.69	1.87	1.17	1.83	2.17	0.50	0.50	0.50	0.50	0.83	0.83	2.50	2.83	2.83	0.50	0.50	1.17	0.50	1.17	1.50
12	1.27	1.79	1.98	1.17	1.83	2.17	0.50	0.50	0.50	0.50	0.83	1.17	2.50	2.83	2.83	0.50	1.17	1.50	0.50	1.17	1.50
13	1.34	1.86	2.07	1.50	2.17	2.50	0.50	0.50	0.50	0.50	0.83	1.50	2.83	2.83	2.83	0.50	1.17	1.83	0.50	1.50	1.50
14	1.40	1.94	2.20	1.50	2.17	2.50	0.50	0.50	0.50	0.83	1.17	1.83	2.83	2.83	3.17	0.50	1.17	2.17	1.17	1.50	1.50
15	1.46	2.03	2.31	1.50	2.17	2.50	0.50	0.50	0.50	0.83	1.50	2.50	2.83	2.83	3.17	0.50	1.83	2.50	1.17	1.50	1.50
16	1.52	2.12	2.42	1.83	2.50	2.83	0.50	0.50	0.50	0.83	1.50	2.50	2.83	3.17	3.17	0.50	1.83	2.50	1.17	1.50	1.50
17	1.59	2.20	2.51	1.83	2.50	3.17	0.50	0.50	1.17	0.83	2.17	2.83	2.83	3.17	3.17	0.50	2.17	2.83	1.17	1.50	1.50
18	1.65	2.28	2.60	1.83	2.50	3.17	0.50	0.50	1.17	0.83	2.50	2.83	2.83	3.17	3.17	1.17	2.50	3.17	1.17	1.50	1.50
19	1.72	2.37	2.68	1.83	2.50	3.17	0.50	1.17	1.17	0.83	2.50	2.83	2.83	3.17	3.17	1.17	2.50	3.17	1.17	1.50	1.50
20	1.78	2.45	2.77	1.83	2.83	3.17	0.50	1.17	1.17	0.83	2.83	3.17	3.17	3.17	3.50	1.17	2.83	3.17	1.50	1.50	1.83
21	1.86	2.52	2.85	2.17	3.17	3.17	0.50	1.17	1.17	1.17	2.83	3.83	3.17	3.17	3.50	1.17	2.83	3.50	1.50	1.50	1.83
22	1.94	2.59	2.92	2.17	3.17	3.50	0.50	1.17	1.50	1.50	2.83	4.17	3.17	3.17	3.50	1.50	2.83	3.50	1.50	1.50	1.83
23	2.01	2.65	2.98	2.17	3.17	3.50	0.50	1.17	1.50	1.50	2.83	4.17	3.17	3.50	3.50	1.83	3.17	3.50	1.50	1.83	1.83
24	2.08	2.72	3.06	2.17	3.17	3.50	0.50	1.17	1.50	1.83	3.17	4.17	3.17	3.50	3.83	1.83	3.17	3.83	1.50	1.83	1.83
25	2.16	2.78	3.13	2.17	3.17	3.50	0.50	1.17	1.50	2.17	3.50	4.17	3.17	3.50	3.83	2.17	3.17	3.83	1.50	1.83	1.83
26	2.24	2.85	3.19	2.50	3.17	3.50	0.50	1.50	1.50	2.50	4.17	4.17	3.17	3.50	3.83	2.17	3.50	3.83	1.50	1.83	1.83
27	2.29	2.91	3.25	2.50	3.50	3.50	1.17	1.50	1.50	2.50	4.17	4.50	3.17	3.50	3.83	2.50	3.50	3.83	1.50	1.83	1.83
28	2.37	2.97	3.30	2.50	3.50	3.50	1.17	1.50	1.50	2.83	4.17	4.50	3.50	3.83	3.83	2.50	3.50	4.50	1.50	1.83	1.83
29	2.43	3.04	3.36	2.50	3.50	3.50	1.17	1.50	1.83	2.83	4.17	4.50	3.50	3.83	3.83	2.83	3.83	4.83	1.50	1.83	2.17
30	2.49	3.09	3.42	2.50	3.50	3.50	1.17	1.50	1.83	2.83	4.17	4.50	3.50	3.83	3.83	2.83	3.83	5.17	1.50	1.83	2.17
31	2.55	3.14	3.47	2.83	3.50	3.50	1.17	1.50	1.83	2.83	4.17	4.50	3.50	3.83	3.83	2.83	3.83	5.50	1.50	1.83	2.17
32	2.62	3.19	3.52	3.17	3.50	3.83	1.17	1.50	1.83	3.17	4.50	4.50	3.50	3.83	3.83	3.17	3.83	5.50	1.50	1.83	2.17
33	2.68	3.26	3.58	3.17	3.50	3.83	1.17	1.50	2.17	3.50	4.50	4.50	3.50	3.83	3.83	3.17	3.83	5.83	1.83	1.83	2.17
34	2.74	3.30	3.63	3.17	3.50	3.83	1.17	1.83	2.17	3.83	4.50	4.50	3.83	3.83	3.83	3.17	4.50	5.83	1.83	1.83	2.17
35	2.79	3.35	3.69	3.17	3.50	3.83	1.50	1.83	2.17	4.17	4.50	4.50	3.83	3.83	3.83	3.17	4.50	6.17	1.83	2.17	2.17
36	2.84	3.40	3.74	3.17	3.50	3.83	1.50	1.83	2.17	4.17	4.50	4.50	3.83	3.83	3.83	3.50	5.17	6.50	1.83	2.17	2.17
37	2.91	3.44	3.80	3.17	3.50	3.83	1.50	1.83	2.17	4.17	4.50	4.50	3.83	3.83	3.83	3.50	5.17	6.50	1.83	2.17	2.17
38	2.95	3.48	3.84	3.17	3.50	3.83	1.50	1.83	2.17	4.17	4.50	4.50	3.83	3.83	3.83	3.50	5.50	6.50	1.83	2.17	2.17
39	3.00	3.52	3.89	3.50	3.83	3.83	1.50	1.83	2.17	4.17	4.50	4.50	3.83	3.83	3.83	3.83	5.83	6.83	1.83	2.17	2.17
40	3.05	3.56	3.94	3.50	3.83	3.83	1.50	2.17	2.17	4.17	4.50	4.50	3.83	3.83	3.83	3.83	5.83	6.83	1.83	2.17	2.17
41	3.10	3.61	3.99	3.50	3.83	3.83	1.50	2.17	2.50	4.17	4.50	4.50	3.83	3.83	3.83	3.83	5.83	6.83	1.83	2.17	2.50
42	3.15	3.65	4.04	3.50	3.83	3.83	1.50	2.17	2.50	4.50	4.50	4.50	3.83	3.83	3.83	3.83	6.17	6.83	1.83	2.17	2.50
43	3.20	3.69	4.09	3.50	3.83	3.83	1.83	2.17	2.50	4.50	4.50	4.50	3.83	3.83	3.83	3.83	6.50	6.83	1.83	2.17	2.50
44	3.23	3.73	4.14	3.50	3.83	3.83	1.83	2.17	2.50	4.50	4.50	4.50	3.83	3.83	3.83	4.50	6.50	7.17	1.83	2.17	2.50
45	3.28	3.77	4.19	3.50	3.83	3.83	1.83	2.17	2.50	4.50	4.50	4.50	3.83	3.83	3.97	4.50	6.50	7.17	1.83	2.17	2.50
46	3.32	3.82	4.24	3.50	3.83	3.83	1.83	2.17	2.50	4.50	4.50	4.50	3.83	3.83	4.17	4.83	6.83	7.50	1.83	2.17	2.50
47	3.36	3.86	4.28	3.50	3.83	3.83	2.17	2.17	2.83	4.50	4.50	4.50	3.83	3.83	4.17	5.17	6.83	7.83	1.83	2.17	2.50
48	3.40	3.91	4.33	3.50	3.83	3.83	2.17	2.50	2.83	4.50	4.50	4.50	3.83	3.83	4.17	5.50	6.83	8.17	2.17	2.50	2.50
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Fourth

Sample Size	12,030			9,538			12,178																	
	Total Score			HF			CO			PH			VO			WR			SP					
Percentile	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End			
1	0.47	0.50	0.58	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00			
2	0.73	0.96	0.96	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	1.50	1.83	1.83	0.50	0.50	0.50	0.00	0.00	0.00			
3	0.94	1.19	1.27	0.50	1.17	1.17	0.00	0.50	0.50	0.00	0.50	0.50	1.83	1.89	2.17	0.50	0.50	0.50	0.00	0.50	0.50			
4	1.09	1.37	1.45	0.50	1.50	1.50	0.50	0.50	0.50	0.17	0.50	0.50	2.17	2.17	2.50	0.50	0.50	0.50	0.50	0.50	0.50			
5	1.22	1.53	1.63	1.17	1.83	1.83	0.50	0.50	0.50	0.50	0.83	0.83	2.17	2.50	2.50	0.50	0.50	0.50	0.50	1.17	1.17			
6	1.37	1.73	1.83	1.17	1.83	1.83	0.50	0.50	0.50	0.50	0.83	0.83	2.50	2.83	2.83	0.50	0.50	1.17	0.50	1.17	1.17			
7	1.50	1.89	2.04	1.50	1.83	2.17	0.50	0.50	0.50	0.50	0.83	0.83	2.50	2.83	2.83	0.50	1.17	1.50	0.50	1.17	1.50			
8	1.63	2.04	2.19	1.83	2.17	2.50	0.50	0.50	0.50	0.83	1.17	1.50	2.83	2.83	2.83	0.50	1.50	2.17	1.17	1.50	1.50			
9	1.73	2.22	2.40	1.83	2.50	2.50	0.50	0.50	0.50	0.83	1.83	2.50	2.83	2.83	3.17	0.50	2.17	2.50	1.17	1.50	1.50			
10	1.86	2.37	2.55	1.83	2.50	2.83	0.50	0.50	0.50	0.83	2.50	2.83	2.83	3.17	3.17	1.17	2.50	2.83	1.17	1.50	1.50			
11	1.99	2.53	2.71	2.17	2.50	3.17	0.50	0.50	0.50	1.17	2.83	2.83	2.83	3.17	3.17	1.50	2.83	3.17	1.50	1.50	1.50			
12	2.14	2.66	2.84	2.17	2.83	3.17	0.50	0.50	0.50	1.50	2.83	3.50	3.17	3.17	3.17	1.83	2.83	3.17	1.50	1.50	1.50			
13	2.25	2.76	2.97	2.17	3.17	3.17	0.50	1.17	1.17	2.17	3.17	4.17	3.17	3.17	3.17	2.17	3.17	3.50	1.50	1.50	1.83			
14	2.35	2.89	3.07	2.50	3.17	3.50	0.50	1.17	1.17	2.50	4.17	4.17	3.17	3.50	3.50	2.50	3.50	3.83	1.50	1.50	1.83			
15	2.48	2.99	3.17	2.50	3.17	3.50	0.50	1.17	1.17	2.83	4.17	4.17	3.17	3.50	3.50	2.83	3.83	4.50	1.50	1.83	1.83			
16	2.58	3.09	3.25	2.50	3.50	3.50	0.50	1.17	1.17	2.83	4.17	4.50	3.17	3.50	3.50	2.83	3.83	5.17	1.50	1.83	1.83			
17	2.68	3.19	3.35	2.83	3.50	3.50	0.50	1.50	1.50	3.17	4.17	4.50	3.50	3.50	3.83	3.17	4.50	5.17	1.50	1.83	1.83			
18	2.76	3.27	3.42	3.17	3.50	3.50	1.17	1.50	1.50	3.83	4.50	4.50	3.50	3.83	3.83	3.17	5.17	5.50	1.50	1.83	1.83			
19	2.84	3.35	3.50	3.17	3.50	3.50	1.17	1.50	1.50	4.17	4.50	4.50	3.50	3.83	3.83	3.50	5.17	5.83	1.83	1.83	2.17			
20	2.91	3.40	3.58	3.17	3.50	3.50	1.17	1.50	1.50	4.17	4.50	4.50	3.50	3.83	3.83	3.83	5.50	5.83	1.83	1.83	2.17			
21	2.99	3.48	3.66	3.17	3.50	3.50	1.17	1.50	1.83	4.17	4.50	4.50	3.83	3.83	3.83	3.83	5.50	6.17	1.83	1.83	2.17			
22	3.07	3.55	3.73	3.17	3.50	3.50	1.17	1.50	1.83	4.17	4.50	4.50	3.83	3.83	3.83	4.50	5.83	6.50	1.83	2.17	2.17			
23	3.17	3.61	3.79	3.50	3.50	3.83	1.50	1.83	1.83	4.50	4.50	4.50	3.83	3.83	3.83	4.50	6.17	6.50	1.83	2.17	2.17			
24	3.22	3.66	3.86	3.50	3.50	3.83	1.50	1.83	2.17	4.50	4.50	4.50	3.83	3.83	3.83	5.17	6.17	6.83	1.83	2.17	2.17			
25	3.30	3.73	3.94	3.50	3.83	3.83	1.50	1.83	2.17	4.50	4.50	4.50	3.83	3.83	3.83	5.17	6.50	6.83	1.83	2.17	2.17			
26	3.35	3.79	3.99	3.50	3.83	3.83	1.50	1.83	2.17	4.50	4.50	4.50	3.83	3.83	3.83	5.50	6.50	6.83	1.83	2.17	2.17			
27	3.40	3.86	4.07	3.50	3.83	3.83	1.50	2.17	2.17	4.50	4.50	4.50	3.83	3.83	3.83	5.50	6.83	6.83	1.83	2.17	2.17			
28	3.48	3.91	4.12	3.50	3.83	3.83	1.83	2.17	2.17	4.50	4.50	4.50	3.83	3.83	3.83	5.83	6.83	6.83	2.17	2.17	2.17			
29	3.53	3.99	4.17	3.50	3.83	3.83	1.83	2.17	2.17	4.50	4.50	4.50	3.83	3.83	3.83	5.83	6.83	7.17	2.17	2.17	2.50			
30	3.58	4.02	4.22	3.50	3.83	3.83	1.83	2.17	2.50	4.50	4.50	4.50	3.83	3.83	3.83	6.17	6.83	7.50	2.17	2.17	2.50			
31	3.63	4.09	4.27	3.50	3.83	3.83	1.83	2.17	2.50	4.50	4.50	4.50	3.83	3.83	3.83	6.17	6.83	7.83	2.17	2.17	2.50			
32	3.68	4.14	4.33	3.50	3.83	3.83	2.17	2.17	2.50	4.50	4.50	4.50	3.83	3.83	4.17	6.50	6.83	8.17	2.17	2.50	2.50			
33	3.74	4.20	4.38	3.50	3.83	3.83	2.17	2.50	2.50	4.50	4.50	4.50	3.83	3.83	4.17	6.50	7.17	8.17	2.17	2.50	2.50			
34	3.79	4.27	4.43	3.83	3.83	3.83	2.17	2.50	2.50	4.50	4.50	4.50	3.83	3.83	4.17	6.83	7.50	8.17	2.17	2.50	2.50			
35	3.84	4.30	4.48	3.83	3.83	3.83	2.17	2.50	2.83	4.50	4.50	4.50	3.83	4.17	4.17	6.83	7.50	8.50	2.17	2.50	2.50			
36	3.89	4.35	4.55	3.83	3.83	3.83	2.17	2.50	2.83	4.50	4.50	4.50	3.83	4.17	4.50	6.83	7.83	8.83	2.17	2.50	2.50			
37	3.94	4.40	4.61	3.83	3.83	3.83	2.17	2.50	3.17	4.50	4.50	4.50	3.83	4.17	4.83	6.83	8.17	9.17	2.17	2.50	2.50			
38	3.99	4.45	4.66	3.83	3.83	3.83	2.17	2.50	3.17	4.50	4.50	4.50	3.83	4.17	4.83	6.83	8.17	9.50	2.17	2.50	2.50			
39	4.04	4.51	4.71	3.83	3.83	3.83	2.17	2.83	3.17	4.50	4.50	4.50	3.83	4.50	4.83	6.83	8.50	9.83	2.50	2.50	2.50			
40	4.09	4.56	4.76	3.83	3.83	3.83	2.50	2.83	3.17	4.50	4.50	4.50	3.83	4.83	4.83	7.17	8.83	10.17	2.50	2.50	2.50			
41	4.15	4.61	4.79	3.83	3.83	3.83	2.50	3.17	3.17	4.50	4.50	4.83	4.17	4.83	4.83	7.17	8.83	10.50	2.50	2.50	2.50			
42	4.20	4.66	4.84	3.83	3.83	3.83	2.50	3.17	3.17	4.50	4.50	4.83	4.17	4.83	4.83	7.50	9.50	10.83	2.50	2.50	2.50			
43	4.25	4.71	4.89	3.83	3.83	3.83	2.50	3.17	3.17	4.50	4.50	4.83	4.17	4.83	4.83	7.50	9.83	11.17	2.50	2.50	2.50			
44	4.30	4.74	4.94	3.83	3.83	3.83	2.50	3.17	3.17	4.50	4.50	4.83	4.17	4.83	4.83	7.83	10.17	11.17	2.50	2.50	2.50			
45	4.33	4.79	4.99	3.83	3.83	3.83	2.50	3.17	3.50	4.50	4.50	4.83	4.50	4.83	4.83	8.17	10.17	11.50	2.50	2.50	2.50			
46	4.38	4.84	5.04	3.83	3.83	3.83	2.83	3.17	3.50	4.50	4.83	4.83	4.50	4.83	4.83	8.17	10.50	11.50	2.50	2.50	2.83			
47	4.43	4.86	5.09	3.83	3.83	3.83	2.83	3.17	3.50	4.50	4.83	4.83	4.83	4.83	4.83	8.17	10.83	11.83	2.50	2.50	2.83			
48	4.48	4.91	5.15	3.83	3.83	3.83	2.83	3.17	3.50	4.50	4.83	4.83	4.83	4.83	4.83	8.50	11.17							

Fifth

Sample Size 12,637 9,571 12,991

Percentile	Total Score			HF			CO			PH			VO			WR			SP		
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End
1	0.53	0.69	0.67	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
2	0.95	1.20	1.14	0.50	1.17	1.17	0.00	0.50	0.50	0.00	0.17	0.17	1.83	1.83	1.83	0.50	0.50	0.50	0.00	0.50	0.50
3	1.20	1.47	1.48	1.17	1.55	2.17	0.50	0.50	0.50	0.50	0.50	0.50	1.83	2.17	2.17	0.50	0.50	0.50	0.50	0.50	0.50
4	1.39	1.69	1.73	1.50	2.17	2.50	0.50	0.50	0.50	0.50	0.83	0.83	2.50	2.50	2.50	0.50	1.17	1.17	0.50	1.17	1.17
5	1.58	1.88	1.91	2.17	2.83	3.17	0.50	0.50	0.50	0.83	0.83	1.50	2.50	2.83	2.83	0.50	1.83	1.83	1.17	1.17	1.50
6	1.78	2.09	2.12	2.50	3.17	3.17	0.50	0.50	0.50	0.83	2.17	2.50	2.83	2.83	3.17	1.17	2.50	2.50	1.17	1.50	1.50
7	1.95	2.23	2.29	2.83	3.17	3.17	0.50	0.50	0.50	1.17	2.83	2.83	3.17	3.17	3.17	1.83	2.83	2.83	1.17	1.50	1.50
8	2.09	2.39	2.48	2.83	3.17	3.17	0.50	0.50	0.50	1.83	3.17	3.95	3.17	3.17	3.17	2.50	3.17	3.50	1.50	1.50	1.50
9	2.23	2.53	2.66	3.17	3.17	3.50	0.50	0.50	0.50	2.83	4.17	4.17	3.17	3.17	3.50	2.50	3.50	3.83	1.50	1.83	1.83
10	2.35	2.66	2.77	3.17	3.50	3.50	0.50	0.50	0.50	2.83	4.17	4.17	3.17	3.50	3.50	3.17	3.83	5.17	1.50	1.83	1.83
11	2.49	2.78	2.91	3.17	3.50	3.50	0.50	1.17	0.50	4.17	4.17	4.50	3.50	3.83	3.83	3.50	5.17	5.50	1.50	1.83	1.83
12	2.60	2.91	3.03	3.17	3.50	3.50	0.50	1.17	1.17	4.17	4.50	4.50	3.50	3.83	3.83	3.83	5.38	5.83	1.50	1.83	2.17
13	2.70	3.03	3.14	3.17	3.50	3.50	1.17	1.17	1.17	4.17	4.50	4.50	3.83	3.83	3.83	4.17	5.83	6.17	1.83	1.83	2.17
14	2.80	3.13	3.26	3.50	3.50	3.50	1.17	1.50	1.17	4.50	4.50	4.50	3.83	3.83	3.83	5.17	5.83	6.50	1.83	2.17	2.17
15	2.88	3.23	3.37	3.50	3.50	3.50	1.17	1.50	1.50	4.50	4.50	4.50	3.83	3.83	3.83	5.17	6.17	6.50	1.83	2.17	2.17
16	3.00	3.33	3.48	3.50	3.50	3.83	1.17	1.50	1.50	4.50	4.50	4.50	3.83	3.83	3.83	5.83	6.50	6.83	1.83	2.17	2.17
17	3.09	3.41	3.57	3.50	3.50	3.83	1.50	1.50	1.50	4.50	4.50	4.50	3.83	3.83	3.83	5.83	6.58	6.83	1.83	2.17	2.17
18	3.17	3.49	3.66	3.50	3.83	3.83	1.50	1.83	1.83	4.50	4.50	4.50	3.83	3.83	3.83	6.17	6.83	6.83	2.17	2.17	2.17
19	3.25	3.58	3.73	3.50	3.83	3.83	1.50	1.83	1.83	4.50	4.50	4.50	3.83	3.83	3.83	6.50	6.83	7.17	2.17	2.17	2.50
20	3.32	3.65	3.82	3.50	3.83	3.83	1.83	1.97	2.17	4.50	4.50	4.50	3.83	3.83	3.83	6.50	6.83	7.50	2.17	2.17	2.50
21	3.38	3.73	3.90	3.50	3.83	3.83	1.83	2.17	2.17	4.50	4.50	4.50	3.83	3.83	3.83	6.50	6.83	7.50	2.17	2.50	2.50
22	3.46	3.81	3.98	3.50	3.83	3.83	1.83	2.17	2.17	4.50	4.50	4.50	3.83	3.83	4.17	6.83	7.50	8.17	2.17	2.50	2.50
23	3.54	3.89	4.06	3.50	3.83	3.83	2.17	2.17	2.17	4.50	4.50	4.50	3.83	3.83	4.17	6.83	7.50	8.17	2.17	2.50	2.50
24	3.62	3.96	4.14	3.83	3.83	3.83	2.17	2.17	2.50	4.50	4.50	4.50	3.83	3.83	4.50	6.83	7.83	8.50	2.17	2.50	2.50
25	3.69	4.03	4.21	3.83	3.83	3.83	2.17	2.50	2.50	4.50	4.50	4.50	3.83	4.17	4.50	6.83	8.17	9.17	2.17	2.50	2.50
26	3.75	4.10	4.29	3.83	3.83	3.83	2.17	2.50	2.50	4.50	4.50	4.50	3.83	4.17	4.83	7.17	8.17	9.50	2.17	2.50	2.50
27	3.81	4.18	4.38	3.83	3.83	3.83	2.17	2.50	2.83	4.50	4.50	4.50	3.83	4.50	4.83	7.17	8.83	10.17	2.50	2.50	2.50
28	3.87	4.24	4.44	3.83	3.83	3.83	2.50	2.50	2.83	4.50	4.50	4.50	4.17	4.83	4.83	7.50	9.17	10.50	2.50	2.50	2.50
29	3.93	4.31	4.50	3.83	3.83	3.83	2.50	2.83	3.17	4.50	4.50	4.50	4.17	4.83	4.83	7.50	9.50	10.83	2.50	2.50	2.50
30	3.99	4.38	4.57	3.83	3.83	3.83	2.50	3.17	3.17	4.50	4.50	4.83	4.17	4.83	4.83	7.83	9.83	11.17	2.50	2.50	2.50
31	4.05	4.46	4.63	3.83	3.83	3.83	2.50	3.17	3.17	4.50	4.50	4.83	4.50	4.83	4.83	8.17	10.17	11.17	2.50	2.50	2.50
32	4.12	4.52	4.69	3.83	3.83	3.83	2.50	3.17	3.17	4.50	4.50	4.83	4.83	4.83	4.83	8.17	10.50	11.50	2.50	2.50	2.50
33	4.18	4.59	4.76	3.83	3.83	3.83	2.83	3.17	3.17	4.50	4.83	4.83	4.83	4.83	4.83	8.83	11.17	11.50	2.50	2.50	2.50
34	4.25	4.65	4.83	3.83	3.83	3.83	2.83	3.17	3.17	4.50	4.83	4.83	4.83	4.83	4.83	8.83	11.17	11.83	2.50	2.50	2.83
35	4.32	4.72	4.90	3.83	3.83	3.83	2.83	3.17	3.50	4.50	4.83	4.83	4.83	4.83	4.83	9.17	11.17	12.17	2.50	2.50	2.83
36	4.38	4.79	4.97	3.83	3.83	3.83	3.17	3.17	3.50	4.50	4.83	4.83	4.83	4.83	4.83	9.83	11.50	12.17	2.50	2.50	2.83
37	4.44	4.86	5.04	3.83	3.83	3.83	3.17	3.50	3.50	4.50	4.83	4.83	4.83	4.83	4.83	10.17	11.83	12.17	2.50	2.83	2.83
38	4.51	4.93	5.11	3.83	3.83	3.83	3.17	3.50	3.50	4.50	4.83	4.83	4.83	4.83	4.83	10.50	12.17	12.17	2.50	2.83	2.83
39	4.58	4.99	5.19	3.83	3.83	3.83	3.17	3.50	3.83	4.83	4.83	4.83	4.83	4.83	4.83	10.83	12.17	12.17	2.50	2.83	2.83
40	4.63	5.05	5.27	3.83	3.83	3.83	3.17	3.50	4.17	4.83	4.83	4.83	4.83	4.83	4.83	11.17	12.17	12.17	2.50	2.83	2.83
41	4.69	5.12	5.35	3.83	3.83	3.83	3.17	3.83	4.17	4.83	4.83	4.83	4.83	4.83	4.83	11.17	12.17	12.17	2.50	2.83	2.83
42	4.76	5.19	5.44	3.83	3.83	3.83	3.17	4.17	4.17	4.83	4.83	4.83	4.83	4.83	4.83	11.50	12.17	12.17	2.50	2.83	2.83
43	4.82	5.25	5.52	3.83	3.83	3.83	3.50	4.17	4.50	4.83	4.83	4.83	4.83	4.83	4.83	11.50	12.17	12.17	2.50	2.83	2.83
44	4.87	5.33	5.60	3.83	3.83	3.83	3.50	4.17	4.50	4.83	4.83	4.83	4.83	4.83	4.83	11.83	12.17	12.50	2.83	2.83	2.83
45	4.93	5.42	5.68	3.83	3.83	3.83	3.50	4.50	5.17	4.83	4.83	4.83	4.83	4.83	4.83	12.17	12.17	12.50	2.83	2.83	2.83
46	4.99	5.50	5.75	3.83	3.83	3.83	3.50	4.50	5.17	4.83	4.83	4.83	4.83	4.83	4.83	12.17	12.17	12.50	2.83	2.83	2.83
47	5.05	5.56	5.83	3.83	3.83	3.83	3.83	5.17	5.17	4.83	4.83	4.83	4.83	4.83	5.17	12.17	12.50	12.50	2.83	2.83	2.83
48	5.12	5.63	5.89	3.83	3.83	3.83	3.91	5.17	5.50	4.83	4.83	4.83	4.83	4.83	5.50	12.17	12.50	12.50	2.83	2.83	2.83
49	5.19	5.71	5.96	3.83	3.83	3.83	4.17	5.17	5.50	4.83	4.83	4.83	4.83	4.83	5.50	12.17	12.50	12.50	2.83	2.83	2.83
50	5.25	5.78	6.02	3.83	3.83	3.83	4.17	5.17	5.50	4.83	4.83	4.83	4.83	4.83	5.50	12.17	12.50	12.50	2.83	2.83	3.17
51	5.31	5.86	6.11	3.83	3.83	3.83	4.17	5.50	5.50	4.83	4.83	4.83	4.83	4.83	5.50	12.17	12.50	12.50	2.83	2.83	3.17
52	5.39	5.92	6.17	3.83	3.83	3.83	4.50	5.50	5.83	4.83	4.83	4.83	4.83	5.50	5.50	12.17	12.50	12.50	2.83	2.83	3.17
53	5.46	6.00	6.24	3.83	3.83	3.83	5.17	5.50	6.17	4.83	4.83	4.83	4.83	5.50	5.83	12.17	12.50	12.50	2.83	2.83	3.17
54	5.55	6.08	6.31	3.83	3.83	3.83	5.17	5.50	6.17	4.83	4.83	4.83	4.83	5.50	5.83	12.50	12.50	12.50	2.83	3.17	3.17
55	5.62	6.14	6.37	3.83	3.83	3.83	5.17	5.83	6.17	4.83	4.83	4.83	4.83	5.50	5.83	12.50	12.50	12.83	2.83	3.17	3.17
56	5.70	6.21	6.43	3.83	3.83	3.83	5.17	5.83	6.17	4.83	4.83	4.83	4.83	5.50	5.83	12.50	12.50	12.83	2.83	3.17	3.17
57	5.77	6.27	6.49	3.83	3.83	3.83	5.50	6.17	6.17	4.83	4.83	4.83	5.17	5.83	5.83	12.50	12.50	12.83	2.83	3.17	3.17
58	5.85	6.33	6.55	3.83	3.83	3.83	5.50	6.17	6.17	4.83	4.83	4.83	5.50	5.83	5.83	12.50	12.83	12.83	2.83	3.17	3.17
59	5.91	6.39	6.62	3.83	3.83	3.83	5.50	6.17	6.17	4.83	4.83	4.83	5.50	5.83	6.17	12.50	12.83	12.83	2.83	3.17	3.17
60	5.9																				

Sixth

Sample Size 11,584 8,173 10,658

Percentile	Total Score			HF			CO			PH			VO			WR			SP		
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End
1	0.67	0.67	0.69	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
2	1.04	1.17	1.17	1.17	1.83	1.56	0.50	0.50	0.50	0.17	0.50	0.17	1.83	1.83	1.83	0.50	0.50	0.50	0.50	0.50	0.50
3	1.42	1.58	1.67	1.83	2.50	2.50	0.50	0.50	0.50	0.50	0.83	0.83	2.17	2.17	2.17	0.50	0.50	0.50	0.50	1.17	1.17
4	1.67	1.88	1.96	2.50	3.17	3.17	0.50	0.50	0.50	0.83	1.50	0.83	2.50	2.50	2.83	1.17	1.83	1.50	1.17	1.17	1.17
5	1.87	2.13	2.21	2.83	3.17	3.17	0.50	0.50	0.50	1.17	2.83	2.50	2.83	2.83	3.17	1.83	2.83	2.50	1.17	1.50	1.50
6	2.08	2.38	2.38	3.17	3.17	3.50	0.50	0.50	0.50	2.17	3.50	3.50	3.17	3.17	3.17	2.50	3.17	3.17	1.50	1.50	1.50
7	2.25	2.59	2.58	3.17	3.50	3.50	0.50	0.50	0.50	2.83	4.17	4.17	3.17	3.17	3.50	3.17	3.83	3.83	1.50	1.83	1.83
8	2.37	2.75	2.75	3.17	3.50	3.50	0.50	0.50	0.50	3.50	4.17	4.41	3.43	3.50	3.83	3.50	5.17	5.17	1.50	1.83	1.83
9	2.50	2.92	2.92	3.50	3.50	3.50	0.50	0.50	0.50	4.17	4.50	4.50	3.50	3.83	3.83	3.83	5.50	5.83	1.71	1.83	1.83
10	2.67	3.08	3.08	3.50	3.50	3.50	0.50	1.17	0.50	4.17	4.50	4.50	3.83	3.83	3.83	4.83	5.83	6.17	1.83	2.17	2.17
11	2.79	3.21	3.21	3.50	3.50	3.83	1.17	1.17	1.17	4.50	4.50	4.50	3.83	3.83	3.83	5.50	6.50	6.50	1.83	2.17	2.17
12	2.96	3.29	3.34	3.50	3.50	3.83	1.17	1.50	1.17	4.50	4.50	4.50	3.83	3.83	3.83	5.83	6.50	6.83	1.83	2.17	2.17
13	3.08	3.42	3.50	3.50	3.83	3.83	1.17	1.50	1.50	4.50	4.50	4.50	3.83	3.83	3.83	6.17	6.83	6.83	2.17	2.17	2.17
14	3.17	3.54	3.58	3.50	3.83	3.83	1.50	1.50	1.50	4.50	4.50	4.50	3.83	3.83	4.17	6.50	6.83	6.83	2.17	2.17	2.17
15	3.29	3.62	3.71	3.50	3.83	3.83	1.50	1.83	1.83	4.50	4.50	4.50	3.83	4.17	4.50	6.50	6.83	7.17	2.17	2.17	2.50
16	3.38	3.71	3.83	3.50	3.83	3.83	1.50	2.17	2.17	4.50	4.50	4.50	3.83	4.50	4.83	6.83	7.17	7.50	2.17	2.50	2.50
17	3.50	3.83	3.92	3.83	3.83	3.83	1.83	2.17	2.17	4.50	4.50	4.50	3.83	4.83	4.83	6.83	7.50	7.83	2.17	2.50	2.50
18	3.58	3.92	4.04	3.83	3.83	3.83	2.17	2.17	2.17	4.50	4.50	4.50	4.17	4.83	4.83	6.83	8.17	8.17	2.17	2.50	2.50
19	3.67	4.04	4.13	3.83	3.83	3.83	2.17	2.17	2.50	4.50	4.50	4.50	4.17	4.83	4.83	6.83	8.17	8.83	2.50	2.50	2.50
20	3.79	4.16	4.21	3.83	3.83	3.83	2.17	2.50	2.50	4.50	4.50	4.50	4.50	4.83	4.83	7.50	8.83	9.43	2.50	2.50	2.50
21	3.84	4.25	4.33	3.83	3.83	3.83	2.17	2.50	2.50	4.50	4.50	4.50	4.83	4.83	4.83	7.50	9.17	10.17	2.50	2.50	2.50
22	3.92	4.34	4.46	3.83	3.83	3.83	2.17	2.83	2.83	4.50	4.50	4.50	4.83	4.83	4.83	7.83	9.83	10.50	2.50	2.50	2.50
23	4.04	4.46	4.54	3.83	3.83	3.83	2.50	3.17	3.17	4.50	4.50	4.50	4.83	4.83	4.83	8.17	10.17	11.17	2.50	2.50	2.50
24	4.09	4.54	4.63	3.83	3.83	3.83	2.50	3.17	3.17	4.50	4.50	4.50	4.83	4.83	4.83	8.50	10.83	11.17	2.50	2.50	2.50
25	4.17	4.63	4.71	3.83	3.83	3.83	2.50	3.17	3.17	4.50	4.50	4.50	4.83	4.83	4.83	8.83	11.17	11.50	2.50	2.50	2.83
26	4.25	4.71	4.83	3.83	3.83	3.83	2.83	3.17	3.17	4.50	4.50	4.83	4.83	4.83	4.83	9.17	11.50	11.83	2.50	2.50	2.83
27	4.34	4.83	4.92	3.83	3.83	3.83	2.83	3.17	3.17	4.50	4.50	4.83	4.83	4.83	4.83	9.83	11.50	12.17	2.50	2.83	2.83
28	4.42	4.92	5.00	3.83	3.83	3.83	3.17	3.50	3.50	4.50	4.83	4.83	4.83	4.83	4.83	10.17	11.83	12.17	2.50	2.83	2.83
29	4.50	5.00	5.12	3.83	3.83	3.83	3.17	3.50	3.50	4.50	4.83	4.83	4.83	4.83	4.83	10.50	12.17	12.17	2.50	2.83	2.83
30	4.58	5.08	5.21	3.83	3.83	3.83	3.17	3.50	3.50	4.50	4.83	4.83	4.83	4.83	4.83	10.83	12.17	12.17	2.50	2.83	2.83
31	4.67	5.17	5.29	3.83	3.83	3.83	3.17	3.83	4.17	4.50	4.83	4.83	4.83	4.83	4.83	11.17	12.17	12.17	2.50	2.83	2.83
32	4.75	5.25	5.42	3.83	3.83	3.83	3.17	4.17	4.17	4.50	4.83	4.83	4.83	4.83	4.83	11.50	12.17	12.17	2.50	2.83	2.83
33	4.83	5.37	5.50	3.83	3.83	3.83	3.50	4.17	4.17	4.50	4.83	4.83	4.83	4.83	5.17	11.50	12.17	12.17	2.83	2.83	2.83
34	4.88	5.46	5.63	3.83	3.83	3.83	3.50	4.17	4.50	4.83	4.83	4.83	4.83	4.83	5.50	11.83	12.17	12.17	2.83	2.83	2.83
35	4.96	5.58	5.75	3.83	3.83	3.83	3.50	4.50	5.17	4.83	4.83	4.83	4.83	4.83	5.50	12.17	12.17	12.17	2.83	2.83	2.83
36	5.04	5.71	5.83	3.83	3.83	3.83	3.50	5.17	5.17	4.83	4.83	4.83	4.83	5.17	5.50	12.17	12.17	12.50	2.83	2.83	3.17
37	5.13	5.79	5.92	3.83	3.83	3.83	3.83	5.17	5.17	4.83	4.83	4.83	4.83	5.50	5.50	12.17	12.17	12.50	2.83	2.83	3.17
38	5.21	5.87	6.00	3.83	3.83	3.83	4.17	5.17	5.50	4.83	4.83	4.83	4.83	5.50	5.50	12.17	12.17	12.50	2.83	2.83	3.17
39	5.29	5.96	6.12	3.83	3.83	3.83	4.17	5.50	5.50	4.83	4.83	4.83	4.83	5.50	5.50	12.17	12.50	12.50	2.83	2.83	3.17
40	5.38	6.04	6.21	3.83	3.83	3.83	4.17	5.50	5.50	4.83	4.83	4.83	4.83	5.50	5.83	12.17	12.50	12.50	2.83	3.17	3.17
41	5.46	6.13	6.29	3.83	3.83	3.83	4.50	5.50	5.83	4.83	4.83	4.83	4.83	5.50	5.83	12.17	12.50	12.50	2.83	3.17	3.17
42	5.57	6.21	6.38	3.83	3.83	3.83	4.83	5.83	6.17	4.83	4.83	4.83	5.17	5.50	5.83	12.17	12.50	12.50	2.83	3.17	3.17
43	5.67	6.29	6.46	3.83	3.83	3.83	5.17	6.17	6.17	4.83	4.83	4.83	5.50	5.83	5.83	12.17	12.50	12.50	2.83	3.17	3.50
44	5.75	6.37	6.54	3.83	3.83	3.83	5.17	6.17	6.17	4.83	4.83	4.83	5.50	5.83	5.83	12.17	12.50	12.50	2.83	3.17	3.50
45	5.83	6.46	6.62	3.83	3.83	3.83	5.17	6.17	6.17	4.83	4.83	4.83	5.50	5.83	5.83	12.50	12.50	12.50	2.83	3.17	3.83
46	5.92	6.54	6.71	3.83	3.83	3.83	5.50	6.17	6.17	4.83	4.83	4.83	5.50	5.83	5.83	12.50	12.50	12.83	2.83	3.17	4.17
47	5.96	6.59	6.78	3.83	3.83	3.83	5.50	6.17	6.50	4.83	4.83	4.83	5.50	5.83	6.17	12.50	12.50	12.83	3.17	3.50	4.17
48	6.04	6.67	6.84	3.83	3.83	3.83	5.50	6.17	6.50	4.83	4.83	4.83	5.50	5.83	6.17	12.50	12.83	12.83	3.17	3.50	4.17
49	6.13	6.75	6.92	3.83	3.83	3.83	5.50	6.50	6.50	4.83	4.83	4.83	5.50	5.83	6.17	12.50	12.83	12.83	3.17	3.50	4.17
50	6.21	6.83	7.00	3.83	3.83	3.83	5.83	6.50	6.50	4.83	4.83	4.83	5.83	6.17	6.17	12.50	12.83	12.83	3.17	3.50	4.17
51	6.29	6.88	7.09	3.83	3.83	3.83	6.17	6.50	6.50	4.83	4.83	4.83	5.83	6.17	6.17	12.50	12.83	12.83	3.17	4.17	4.17
52	6.37	6.96	7.17	3.83	3.83	3.83	6.17	6.50	6.83	4.83	4.83	4.83	5.83	6.17	6.17	12.50	12.83	12.83	3.17	4.17	4.17
53	6.42	7.04	7.25	3.83	3.83	3.83	6.17	6.50	7.17	4.83	4.83	4.83	5.83	6.17	6.17	12.50	12.83	12.83	3.17	4.17	4.50
54	6.50	7.12	7.33	3.83	3.83	3.83	6.17	6.83	7.17	4.83	4.83	4.83	5.83	6.17	6.17	12.50	12.83	12.83	3.17	4.17	4.50
55	6.58	7.21	7.42	3.83	3.83	3.83	6.17	7.17	7.17	4.83	4.83	4.83	5.83	6.17	6.17	12.83	12.83	12.83	3.50	4.17	4.50
56	6.62	7.29	7.50	3.83	3.83	3.83	6.17	7.17	7.50	4.83	4.83	4.83	5.83	6.17	6.17	12.83	12.83	12.83	3.50	4.17	5.17
57	6.71	7.34	7.59	3.83	3.83	3.83	6.50	7.17	7.50	4.83	4.83	4.83	5.83	6.17	6.17	12.83	12.83	12.83	3.50	4.17	5.17
58	6.75	7.42	7.67	3.83	3.83	3.83	6.50	7.50	7.50	4.83	4.83	4.83	6.17	6.17	6.17	12.83	12.83	12.83	3.83	4.50	5.17
59	6.83	7.50	7.79	3.83	3.83	3.83	6.50	7.50	7.83	4.83	4.83	4.83	6.17	6.17	6.17	12.83	12.83	12.83	4.17	4.50	

Seven

Sample Size	7,922			5,212			6,731																	
	Total Score			HF			CO			PH			VO			WR			SP					
Percentile	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End			
1	0.52	0.53	0.64	0.50	0.50	0.50	0.00	0.00	0.50	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.50			
2	1.02	1.08	1.20	1.50	1.83	2.50	0.50	0.50	0.50	0.32	0.50	0.50	1.17	1.17	1.17	0.50	0.50	0.50	0.50	0.50	0.50			
3	1.42	1.46	1.67	2.17	2.50	3.17	0.50	0.50	0.50	0.83	0.83	0.83	1.83	1.83	1.83	0.50	1.17	1.82	0.50	1.17	1.17			
4	1.75	1.79	2.00	2.50	3.17	3.17	0.50	0.50	0.50	0.83	1.50	2.17	2.17	2.50	2.50	1.17	2.17	2.83	1.17	1.17	1.17			
5	2.00	2.20	2.29	3.17	3.17	3.50	0.50	0.50	0.50	2.17	2.50	2.83	2.83	2.83	2.83	2.50	2.83	3.50	1.50	1.50	1.50			
6	2.25	2.42	2.58	3.17	3.17	3.50	0.50	0.50	0.50	2.83	3.17	4.17	3.17	3.17	3.17	3.17	3.50	4.50	1.50	1.50	1.50			
7	2.46	2.63	2.79	3.17	3.50	3.50	0.50	0.50	0.50	4.17	4.17	4.17	3.17	3.50	3.50	3.83	4.17	5.50	1.50	1.50	1.83			
8	2.62	2.83	3.00	3.17	3.50	3.50	0.50	0.50	0.50	4.17	4.17	4.50	3.50	3.83	3.83	4.50	5.17	6.17	1.83	1.83	2.17			
9	2.77	2.96	3.21	3.50	3.50	3.50	0.50	0.50	0.50	4.50	4.50	4.50	3.83	3.83	3.83	5.50	5.83	6.50	1.83	1.83	2.17			
10	2.92	3.17	3.38	3.50	3.50	3.50	0.50	0.50	0.50	4.50	4.50	4.50	3.83	3.83	3.83	6.17	6.50	6.83	1.83	2.17	2.17			
11	3.06	3.29	3.50	3.50	3.50	3.83	0.50	1.17	1.17	4.50	4.50	4.50	3.83	3.83	3.83	6.50	6.50	6.83	2.17	2.17	2.17			
12	3.21	3.46	3.67	3.50	3.50	3.83	1.17	1.17	1.50	4.50	4.50	4.50	3.83	3.83	4.50	6.50	6.83	7.17	2.17	2.17	2.17			
13	3.34	3.62	3.79	3.50	3.83	3.83	1.17	1.50	1.50	4.50	4.50	4.50	3.83	4.50	4.83	6.83	6.83	7.50	2.17	2.17	2.50			
14	3.46	3.71	3.92	3.50	3.83	3.83	1.50	1.50	1.83	4.50	4.50	4.50	4.17	4.83	4.83	6.83	7.17	8.17	2.17	2.17	2.50			
15	3.58	3.87	4.08	3.50	3.83	3.83	1.50	1.83	2.17	4.50	4.50	4.50	4.50	4.83	4.83	6.83	7.50	8.50	2.17	2.50	2.50			
16	3.67	3.96	4.17	3.83	3.83	3.83	1.83	2.17	2.17	4.50	4.50	4.50	4.83	4.83	4.83	7.17	8.17	9.50	2.50	2.50	2.50			
17	3.79	4.04	4.33	3.83	3.83	3.83	2.17	2.17	2.17	4.50	4.50	4.50	4.83	4.83	4.83	7.50	8.17	10.17	2.50	2.50	2.50			
18	3.92	4.13	4.42	3.83	3.83	3.83	2.17	2.17	2.50	4.50	4.50	4.50	4.83	4.83	4.83	7.83	8.83	10.83	2.50	2.50	2.50			
19	4.00	4.25	4.54	3.83	3.83	3.83	2.17	2.50	2.50	4.50	4.50	4.50	4.83	4.83	4.83	8.17	9.83	11.17	2.50	2.50	2.50			
20	4.09	4.33	4.67	3.83	3.83	3.83	2.17	2.50	2.83	4.50	4.50	4.50	4.83	4.83	4.83	8.50	10.37	11.50	2.50	2.50	2.50			
21	4.20	4.46	4.75	3.83	3.83	3.83	2.50	2.83	3.17	4.50	4.50	4.50	4.83	4.83	5.17	8.83	11.17	11.83	2.50	2.50	2.50			
22	4.29	4.59	4.88	3.83	3.83	3.83	2.50	3.17	3.17	4.50	4.50	4.50	4.83	5.17	5.50	9.17	11.17	12.17	2.50	2.50	2.83			
23	4.38	4.67	5.00	3.83	3.83	3.83	2.50	3.17	3.17	4.50	4.50	4.83	4.83	5.50	5.50	9.83	11.50	12.17	2.50	2.50	2.83			
24	4.46	4.79	5.09	3.83	3.83	3.83	2.83	3.17	3.50	4.50	4.83	4.83	4.83	5.50	5.50	10.17	11.83	12.17	2.50	2.50	2.83			
25	4.54	4.88	5.21	3.83	3.83	3.83	2.83	3.17	3.50	4.50	4.83	4.83	4.83	5.50	5.50	10.83	11.83	12.17	2.50	2.83	2.83			
26	4.63	4.96	5.33	3.83	3.83	3.83	3.17	3.50	3.50	4.50	4.83	4.83	4.83	5.50	5.50	11.17	12.17	12.17	2.50	2.83	2.83			
27	4.71	5.13	5.42	3.83	3.83	3.83	3.17	3.50	4.17	4.50	4.83	4.83	5.50	5.50	5.83	11.17	12.17	12.17	2.50	2.83	2.83			
28	4.83	5.21	5.54	3.83	3.83	3.83	3.17	3.50	4.17	4.50	4.83	4.83	5.50	5.50	5.83	11.50	12.17	12.17	2.83	2.83	2.83			
29	4.91	5.33	5.63	3.83	3.83	3.83	3.17	3.83	4.17	4.83	4.83	4.83	5.50	5.83	5.83	11.83	12.17	12.17	2.83	2.83	2.83			
30	5.00	5.42	5.75	3.83	3.83	3.83	3.50	4.17	4.50	4.83	4.83	4.83	5.50	5.83	5.83	12.17	12.17	12.17	2.83	2.83	2.83			
31	5.08	5.54	5.88	3.83	3.83	3.83	3.50	4.17	4.83	4.83	4.83	4.83	5.50	5.83	5.83	12.17	12.17	12.50	2.83	2.83	3.17			
32	5.17	5.67	6.00	3.83	3.83	3.83	3.50	4.22	5.17	4.83	4.83	4.83	5.50	5.83	6.17	12.17	12.17	12.50	2.83	2.83	3.17			
33	5.25	5.83	6.12	3.83	3.83	3.83	3.50	5.17	5.17	4.83	4.83	4.83	5.83	5.83	6.17	12.17	12.17	12.50	2.83	2.83	3.17			
34	5.36	5.94	6.21	3.83	3.83	3.83	3.83	5.17	5.50	4.83	4.83	4.83	5.83	5.83	6.17	12.17	12.17	12.50	2.83	2.83	3.17			
35	5.46	6.04	6.29	3.83	3.83	3.83	4.17	5.50	5.50	4.83	4.83	4.83	5.83	6.17	6.17	12.17	12.50	12.50	2.83	3.17	3.17			
36	5.54	6.17	6.42	3.83	3.83	3.83	4.17	5.50	5.83	4.83	4.83	4.83	5.83	6.17	6.17	12.17	12.50	12.50	2.83	3.17	3.50			
37	5.67	6.25	6.50	3.83	3.83	3.83	4.50	5.50	6.17	4.83	4.83	4.83	5.83	6.17	6.17	12.17	12.50	12.50	2.83	3.17	3.50			
38	5.75	6.38	6.58	3.83	3.83	3.83	4.83	5.83	6.17	4.83	4.83	4.83	5.83	6.17	6.17	12.17	12.50	12.50	2.83	3.17	4.17			
39	5.84	6.50	6.67	3.83	3.83	3.83	5.17	6.17	6.17	4.83	4.83	4.83	5.83	6.17	6.17	12.50	12.50	12.50	3.17	3.17	4.17			
40	5.96	6.59	6.75	3.83	3.83	3.83	5.17	6.17	6.17	4.83	4.83	4.83	6.17	6.17	6.17	12.50	12.50	12.83	3.17	3.50	4.17			
41	6.04	6.68	6.84	3.83	3.83	3.83	5.50	6.17	6.17	4.83	4.83	4.83	6.17	6.17	6.17	12.50	12.50	12.83	3.17	3.50	4.17			
42	6.13	6.75	6.96	3.83	3.83	3.83	5.50	6.17	6.50	4.83	4.83	4.83	6.17	6.17	6.17	12.50	12.50	12.83	3.17	3.50	4.17			
43	6.21	6.83	7.04	3.83	3.83	3.83	5.83	6.50	6.50	4.83	4.83	4.83	6.17	6.17	6.17	12.50	12.83	12.83	3.17	4.17	4.17			
44	6.33	6.92	7.17	3.83	3.83	3.83	6.17	6.50	6.50	4.83	4.83	4.83	6.17	6.17	6.17	12.50	12.83	12.83	3.17	4.17	4.50			
45	6.42	7.00	7.25	3.83	3.83	3.83	6.17	6.50	6.50	4.83	4.83	4.83	6.17	6.17	6.17	12.50	12.83	12.83	3.17	4.17	4.50			
46	6.54	7.09	7.36	3.83	3.83	3.83	6.17	6.50	6.83	4.83	4.83	4.83	6.17	6.17	6.17	12.50	12.83	12.83	3.50	4.17	4.50			
47	6.62	7.17	7.46	3.83	3.83	3.83	6.17	6.83	7.17	4.83	4.83	4.83	6.17	6.17	6.17	12.50	12.83	12.83	3.50	4.17	5.17			
48	6.71	7.29	7.58	3.83	3.83	3.83	6.17	7.17	7.17	4.83	4.83	4.83	6.17	6.17	6.17	12.83	12.83	12.83	3.50	4.17	5.17			
49	6.75	7.38	7.67	3.83	3.83	3.83	6.50	7.17	7.17															

Eight

Sample Size 7,481 5,479 6,326

Percentile	Total Score			HF			CO			PH			VO			WR			SP		
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End
1	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
2	1.13	1.00	0.98	1.17	1.50	2.17	0.50	0.50	0.50	0.17	0.50	0.50	1.17	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
3	1.54	1.69	1.54	2.50	2.83	3.17	0.50	0.50	0.50	0.50	0.83	0.83	1.83	1.83	1.83	1.17	1.50	2.17	0.50	0.50	0.50
4	1.88	2.08	2.08	3.17	3.17	3.17	0.50	0.50	0.50	1.50	2.50	2.83	2.50	2.50	2.17	2.50	2.83	3.17	1.17	1.17	1.20
5	2.21	2.42	2.42	3.17	3.17	3.50	0.50	0.50	0.50	2.83	4.17	4.17	2.83	3.17	2.50	3.50	4.17	4.50	1.50	1.50	1.50
6	2.46	2.75	2.75	3.17	3.50	3.50	0.50	0.50	0.50	4.17	4.17	4.50	3.17	3.50	3.17	4.50	5.83	6.17	1.50	1.83	1.83
7	2.71	3.04	3.04	3.50	3.50	3.50	0.50	0.50	0.50	4.17	4.50	4.50	3.50	3.83	3.50	5.50	6.83	6.83	1.83	2.17	2.17
8	2.92	3.25	3.25	3.50	3.50	3.50	0.50	0.50	0.50	4.50	4.50	4.50	3.83	3.83	3.83	6.50	6.83	7.83	2.17	2.17	2.17
9	3.17	3.46	3.46	3.50	3.50	3.83	0.50	0.50	0.50	4.50	4.50	4.50	3.83	3.83	3.83	6.83	7.83	8.50	2.17	2.17	2.17
10	3.33	3.63	3.63	3.50	3.50	3.83	0.50	1.17	0.50	4.50	4.50	4.50	3.83	3.83	3.83	7.50	8.17	8.83	2.17	2.17	2.50
11	3.50	3.79	3.83	3.50	3.83	3.83	1.17	1.17	1.17	4.50	4.50	4.50	3.83	4.17	4.50	8.17	8.83	9.83	2.17	2.50	2.50
12	3.63	3.96	4.00	3.50	3.83	3.83	1.17	1.50	1.50	4.50	4.50	4.50	4.50	4.83	4.83	8.50	9.50	10.50	2.50	2.50	2.50
13	3.79	4.08	4.13	3.50	3.83	3.83	1.50	1.83	1.50	4.50	4.50	4.50	4.83	4.83	4.83	8.83	9.83	11.17	2.50	2.50	2.50
14	3.92	4.17	4.33	3.83	3.83	3.83	1.50	2.17	1.83	4.50	4.50	4.50	4.83	4.83	4.83	9.17	10.50	11.50	2.50	2.50	2.50
15	4.04	4.29	4.42	3.83	3.83	3.83	1.83	2.17	2.17	4.50	4.50	4.50	4.83	4.83	4.83	9.83	11.17	11.83	2.50	2.50	2.50
16	4.17	4.42	4.58	3.83	3.83	3.83	2.17	2.17	2.17	4.50	4.50	4.50	4.83	4.83	4.83	10.17	11.17	12.17	2.50	2.50	2.50
17	4.29	4.50	4.71	3.83	3.83	3.83	2.17	2.50	2.50	4.50	4.50	4.50	4.83	4.83	4.83	11.15	11.50	12.17	2.50	2.50	2.83
18	4.42	4.63	4.87	3.83	3.83	3.83	2.50	2.50	2.83	4.50	4.50	4.50	4.83	4.83	4.83	11.17	11.83	12.17	2.50	2.83	2.83
19	4.50	4.75	5.00	3.83	3.83	3.83	2.50	2.83	3.17	4.50	4.50	4.83	4.83	4.83	4.83	11.50	12.17	12.17	2.50	2.83	2.83
20	4.63	4.84	5.13	3.83	3.83	3.83	2.83	3.17	3.17	4.50	4.50	4.83	4.83	4.83	5.17	11.83	12.17	12.17	2.83	2.83	2.83
21	4.75	5.00	5.25	3.83	3.83	3.83	3.17	3.17	3.17	4.50	4.83	4.83	4.83	4.83	5.50	12.17	12.17	12.17	2.83	2.83	2.83
22	4.87	5.12	5.42	3.83	3.83	3.83	3.17	3.17	3.50	4.50	4.83	4.83	4.83	5.17	5.50	12.17	12.17	12.17	2.83	2.83	2.83
23	4.96	5.25	5.58	3.83	3.83	3.83	3.17	3.50	3.83	4.83	4.83	4.83	4.83	5.50	5.50	12.17	12.17	12.17	2.83	2.83	3.17
24	5.08	5.38	5.71	3.83	3.83	3.83	3.17	3.50	4.17	4.83	4.83	4.83	5.17	5.50	5.50	12.17	12.17	12.17	2.83	2.83	3.17
25	5.21	5.50	5.84	3.83	3.83	3.83	3.50	3.50	4.17	4.83	4.83	4.83	5.50	5.50	5.83	12.17	12.17	12.50	2.83	2.83	3.17
26	5.33	5.62	5.96	3.83	3.83	3.83	3.50	4.17	4.50	4.83	4.83	4.83	5.50	5.50	5.83	12.17	12.17	12.50	2.83	2.83	3.50
27	5.42	5.71	6.12	3.83	3.83	3.83	3.83	4.17	5.17	4.83	4.83	4.83	5.50	5.50	5.83	12.17	12.17	12.50	2.83	3.17	3.50
28	5.55	5.84	6.25	3.83	3.83	3.83	4.17	4.50	5.17	4.83	4.83	4.83	5.50	5.83	5.83	12.17	12.50	12.50	2.83	3.17	4.17
29	5.67	5.96	6.34	3.83	3.83	3.83	4.17	5.17	5.50	4.83	4.83	4.83	5.50	5.83	5.83	12.17	12.50	12.50	2.83	3.17	4.17
30	5.83	6.09	6.46	3.83	3.83	3.83	4.50	5.17	5.50	4.83	4.83	4.83	5.83	5.83	5.83	12.50	12.50	12.50	3.17	3.17	4.17
31	5.92	6.25	6.59	3.83	3.83	3.83	5.17	5.50	6.17	4.83	4.83	4.83	5.83	5.83	6.17	12.50	12.50	12.50	3.17	3.50	4.17
32	6.04	6.34	6.71	3.83	3.83	3.83	5.17	5.50	6.17	4.83	4.83	4.83	5.83	5.83	6.17	12.50	12.50	12.50	3.17	4.17	4.50
33	6.13	6.46	6.83	3.83	3.83	3.83	5.50	5.83	6.17	4.83	4.83	4.83	5.83	5.83	6.17	12.50	12.50	12.83	3.17	4.17	4.50
34	6.25	6.58	6.92	3.83	3.83	3.83	5.50	6.17	6.17	4.83	4.83	4.83	5.83	6.17	6.17	12.50	12.50	12.83	3.50	4.17	5.17
35	6.38	6.67	7.08	3.83	3.83	3.83	5.83	6.17	6.50	4.83	4.83	4.83	5.83	6.17	6.17	12.50	12.50	12.83	3.50	4.17	5.17
36	6.50	6.75	7.17	3.83	3.83	3.83	6.17	6.17	6.50	4.83	4.83	4.83	5.83	6.17	6.17	12.50	12.83	12.83	4.17	4.43	5.50
37	6.58	6.88	7.29	3.83	3.83	3.83	6.17	6.17	6.50	4.83	4.83	4.83	6.17	6.17	6.17	12.50	12.83	12.83	4.17	4.50	5.50
38	6.71	6.96	7.38	3.83	3.83	3.83	6.17	6.50	6.50	4.83	4.83	4.83	6.17	6.17	6.17	12.50	12.83	12.83	4.17	5.17	6.17
39	6.79	7.08	7.50	3.83	3.83	3.83	6.17	6.50	7.17	4.83	4.83	4.83	6.17	6.17	6.17	12.83	12.83	12.83	4.17	5.17	6.17
40	6.88	7.17	7.59	3.83	3.83	3.83	6.50	6.50	7.17	4.83	4.83	4.83	6.17	6.17	6.17	12.83	12.83	12.83	4.17	5.17	6.17
41	6.96	7.25	7.75	3.83	3.83	3.83	6.50	6.50	7.17	4.83	4.83	4.83	6.17	6.17	6.17	12.83	12.83	12.83	4.17	5.50	6.17
42	7.08	7.37	7.83	3.83	3.83	3.83	6.50	6.83	7.50	4.83	4.83	4.83	6.17	6.17	6.17	12.83	12.83	12.83	4.50	5.83	6.17
43	7.17	7.46	7.92	3.83	3.83	3.83	6.83	7.17	7.50	4.83	4.83	4.83	6.17	6.17	6.17	12.83	12.83	12.83	4.50	6.17	6.17
44	7.25	7.59	8.05	3.83	3.83	3.83	6.83	7.17	8.17	4.83	4.83	4.83	6.17	6.17	6.17	12.83	12.83	12.83	5.17	6.17	6.50
45	7.34	7.71	8.17	3.83	3.83	3.83	7.17	7.50	8.17	4.83	4.83	4.83	6.17	6.17	6.50	12.83	12.83	12.83	5.17	6.17	6.50
46	7.46	7.82	8.29	3.83	3.83	3.83	7.17	7.50	8.50	4.83	4.83	4.83	6.17	6.17	6.50	12.83	12.83	12.83	5.17	6.17	6.50
47	7.54	7.92	8.38	3.83	3.83	3.83	7.17	7.50	8.50	4.83	4.83	4.83	6.17	6.17	6.50	12.83	12.83	12.83	5.17	6.17	6.50
48	7.63	8.00	8.50	3.83	3.83	3.83	7.50	8.17	9.17	4.83	4.83	4.83	6.17	6.17	6.83	12.83	12.83	12.83	5.50	6.17	6.83
49	7.71	8.10	8.59	3.83	3.83	3.83	7.50	8.17	9.17	4.83	4.83	4.83	6.17	6.50	6.83	12.83	12.83	12.83	5.83	6.17	7.17
50	7.83	8.21	8.67	3.83	3.83	3.83	7.50	8.17	9.17	4.83	4.83	4.83	6.17	6.50	6.83	12.83	12.83	12.83	6.17	6.50	7.17
51	7.92	8.29	8.79	3.83	3.83	3.83	7.83	8.50	9.17	4.83	4.83	4.83	6.17	6.50	6.83	12.83	12.83	12.83	6.17	6.50	7.17
52	8.04	8.42	8.84	3.83	3.83	3.83	8.17	9.03	9.17	4.83	4.83	4.83	6.50	6.50	6.83	12.83	12.83	12.83	6.17	6.50	7.17
53	8.12	8.54	8.96	3.83	3.83	3.83	8.17	9.17	9.17	4.83	4.83	4.83	6.50	6.83	6.83	12.83	12.83	12.83	6.17	6.50	7.50
54	8.21	8.62	9.04	3.83	3.83	3.83	8.17	9.17	9.50	4.83	4.83	4.83	6.50	6.83	6.83	12.83	12.83	12.83	6.17	6.83	8.17
55	8.29	8.71	9.12	3.83	3.83	3.83	8.50	9.17	9.50	4.83	4.83	4.83	6.83	6.83	6.83	12.83	12.83	12.83	6.17	7.17	8.17
56	8.38	8.78	9.21	3.83	3.83	3.83	8.83	9.17	9.50	4.83	4.83	4.83	6.83	6.83	6.83	12.83	12.83	12.83	6.50	7.17	8.17
57	8.46	8.87	9.29	3.83	3.83	3.83	9.17	9.17	9.50	4.83	4.83	4.83	6.83	6.83	6.83	12.83	12.83	12.83	6.50	7.17	8.17
58	8.54	8.96	9.40	3.83	3.83	3.83	9.17	9.50	9.50	4.83	4.83	4.83	6.83	6.83	6.83	12.83	12.83	12.83	6.50	7.17	8.17
59	8.67	9.00	9.46	3.83	3.83	3.83	9.17	9.50	9.83	4.83	4.83	4.83	6.83	6.83	6.83	12.83	12.83				

Nine

Sample Size 4,129 1,790 2,937

Percentile	Total Score			HF			CO			PH			VO			WR			SP		
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End
1	0.58	0.78	0.84	0.50	0.50	0.50	0.00	0.00	0.19	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.19
2	1.08	1.86	1.67	1.70	2.50	2.17	0.50	0.50	0.50	0.50	0.83	0.50	0.50	2.17	1.83	0.50	2.44	0.50	0.50	1.17	0.50
3	1.58	2.33	2.25	3.17	3.17	3.17	0.50	0.50	0.50	1.17	3.99	2.50	1.83	3.17	2.83	2.50	3.41	2.83	0.50	1.83	1.50
4	2.00	2.84	2.61	3.17	3.50	3.50	0.50	0.50	0.50	2.83	4.50	4.17	2.50	3.50	3.17	3.17	5.83	5.17	1.17	1.83	1.83
5	2.31	3.29	2.96	3.17	3.50	3.50	0.50	0.50	0.50	3.83	4.50	4.50	2.83	3.83	3.83	3.83	6.83	6.50	1.50	2.17	2.14
6	2.71	3.50	3.33	3.17	3.50	3.50	0.50	0.50	0.50	4.17	4.50	4.50	3.17	3.83	3.83	5.50	7.50	7.50	1.83	2.17	2.17
7	3.00	3.71	3.57	3.50	3.50	3.50	0.50	0.50	0.50	4.50	4.50	4.50	3.83	3.83	3.83	6.50	8.17	8.17	2.17	2.17	2.17
8	3.23	3.83	3.79	3.50	3.50	3.83	0.50	1.17	0.50	4.50	4.50	4.50	3.83	4.50	4.50	6.83	8.50	8.83	2.17	2.50	2.50
9	3.50	4.00	3.92	3.50	3.83	3.83	0.50	1.17	1.17	4.50	4.50	4.50	3.83	4.83	4.83	7.83	8.83	9.17	2.17	2.50	2.50
10	3.71	4.12	4.08	3.50	3.83	3.83	0.50	1.50	1.43	4.50	4.50	4.50	4.17	4.83	4.83	8.17	9.17	10.17	2.17	2.50	2.50
11	3.87	4.25	4.25	3.50	3.83	3.83	1.17	1.83	1.50	4.50	4.50	4.50	4.50	4.83	4.83	8.50	9.50	10.83	2.50	2.50	2.50
12	4.00	4.42	4.42	3.50	3.83	3.83	1.17	2.17	1.83	4.50	4.50	4.50	4.83	4.83	4.83	8.83	10.17	11.17	2.50	2.50	2.50
13	4.17	4.67	4.54	3.83	3.83	3.83	1.50	2.17	2.17	4.50	4.50	4.50	4.83	4.83	4.83	8.83	10.83	11.48	2.50	2.50	2.50
14	4.25	4.83	4.71	3.83	3.83	3.83	2.17	2.50	2.17	4.50	4.50	4.50	4.83	4.83	4.83	9.24	11.17	11.50	2.50	2.50	2.83
15	4.38	4.96	4.84	3.83	3.83	3.83	2.17	2.83	2.50	4.50	4.50	4.50	4.83	4.83	4.83	9.83	11.17	11.83	2.50	2.83	2.83
16	4.50	5.04	5.04	3.83	3.83	3.83	2.50	2.83	2.83	4.50	4.50	4.50	4.83	4.83	5.50	10.50	11.68	12.17	2.50	2.83	2.83
17	4.63	5.17	5.16	3.83	3.83	3.83	2.50	3.17	3.17	4.50	4.50	4.50	4.83	5.17	5.50	11.17	11.83	12.17	2.83	2.83	2.83
18	4.79	5.29	5.29	3.83	3.83	3.83	2.83	3.17	3.17	4.50	4.83	4.50	4.83	5.50	5.50	11.17	12.17	12.17	2.83	2.83	2.83
19	4.92	5.39	5.50	3.83	3.83	3.83	3.17	3.50	3.50	4.50	4.83	4.83	5.17	5.50	5.50	11.50	12.17	12.17	2.83	2.83	2.83
20	5.00	5.46	5.58	3.83	3.83	3.83	3.17	3.50	3.50	4.50	4.83	4.83	5.50	5.50	5.83	11.83	12.17	12.17	2.83	2.83	2.83
21	5.13	5.63	5.71	3.83	3.83	3.83	3.17	3.50	3.83	4.50	4.83	4.83	5.50	5.83	5.83	12.17	12.17	12.17	2.83	2.83	2.83
22	5.27	5.71	5.89	3.83	3.83	3.83	3.50	3.83	4.17	4.83	4.83	4.83	5.50	5.83	5.83	12.17	12.17	12.17	2.83	2.83	3.17
23	5.42	5.79	6.08	3.83	3.83	3.83	3.50	4.17	4.50	4.83	4.83	4.83	5.50	5.83	5.83	12.17	12.17	12.17	2.83	3.17	3.17
24	5.54	5.92	6.25	3.83	3.83	3.83	3.57	4.17	5.17	4.83	4.83	4.83	5.83	5.83	6.17	12.17	12.17	12.17	2.83	3.17	3.17
25	5.71	6.04	6.38	3.83	3.83	3.83	4.17	5.17	5.17	4.83	4.83	4.83	5.83	5.83	6.17	12.17	12.17	12.50	3.17	3.17	3.50
26	5.91	6.13	6.50	3.83	3.83	3.83	4.17	5.17	5.50	4.83	4.83	4.83	5.83	5.83	6.17	12.17	12.17	12.50	3.17	3.17	3.50
27	6.04	6.25	6.67	3.83	3.83	3.83	4.50	5.17	5.50	4.83	4.83	4.83	5.83	5.83	6.17	12.17	12.17	12.50	3.17	3.50	4.17
28	6.19	6.40	6.79	3.83	3.83	3.83	5.17	5.50	5.83	4.83	4.83	4.83	5.83	6.17	6.17	12.17	12.17	12.50	3.17	3.50	4.17
29	6.29	6.58	6.92	3.83	3.83	3.83	5.17	5.50	6.17	4.83	4.83	4.83	6.17	6.17	6.17	12.17	12.50	12.50	3.50	3.83	4.17
30	6.42	6.67	7.04	3.83	3.83	3.83	5.50	5.83	6.17	4.83	4.83	4.83	6.17	6.17	6.17	12.17	12.50	12.50	3.50	4.17	4.50
31	6.56	6.76	7.13	3.83	3.83	3.83	5.83	6.17	6.17	4.83	4.83	4.83	6.17	6.17	6.17	12.50	12.50	12.50	4.17	4.17	4.50
32	6.71	6.87	7.21	3.83	3.83	3.83	6.17	6.17	6.17	4.83	4.83	4.83	6.17	6.17	6.17	12.50	12.50	12.50	4.17	4.17	5.17
33	6.79	6.96	7.32	3.83	3.83	3.83	6.17	6.17	6.50	4.83	4.83	4.83	6.17	6.17	6.17	12.50	12.50	12.50	4.17	4.17	5.17
34	6.92	7.04	7.42	3.83	3.83	3.83	6.17	6.17	6.50	4.83	4.83	4.83	6.17	6.17	6.50	12.50	12.50	12.83	4.17	4.48	5.17
35	7.00	7.13	7.54	3.83	3.83	3.83	6.17	6.50	6.50	4.83	4.83	4.83	6.17	6.17	6.50	12.50	12.50	12.83	4.50	4.50	5.50
36	7.09	7.21	7.62	3.83	3.83	3.83	6.50	6.50	6.83	4.83	4.83	4.83	6.17	6.17	6.83	12.50	12.50	12.83	5.17	5.17	6.17
37	7.17	7.29	7.71	3.83	3.83	3.83	6.50	6.50	6.83	4.83	4.83	4.83	6.17	6.17	6.83	12.50	12.83	12.83	5.17	5.17	6.17
38	7.29	7.38	7.79	3.83	3.83	3.83	6.50	6.50	7.17	4.83	4.83	4.83	6.17	6.17	6.83	12.50	12.83	12.83	5.17	5.17	6.17
39	7.34	7.50	7.88	3.83	3.83	3.83	6.50	6.83	7.17	4.83	4.83	4.83	6.50	6.50	6.83	12.50	12.83	12.83	5.50	5.50	6.17
40	7.42	7.58	7.97	3.83	3.83	3.83	6.50	7.17	7.17	4.83	4.83	4.83	6.50	6.50	6.83	12.83	12.83	12.83	5.50	5.63	6.17
41	7.50	7.71	8.11	3.83	3.83	3.83	6.83	7.17	7.50	4.83	4.83	4.83	6.83	6.83	7.50	12.83	12.83	12.83	6.17	6.17	6.17
42	7.61	7.79	8.17	3.83	3.83	3.83	7.17	7.17	7.50	4.83	4.83	4.83	6.83	6.83	7.50	12.83	12.83	12.83	6.17	6.17	6.17
43	7.71	7.87	8.29	3.83	3.83	3.83	7.17	7.17	7.83	4.83	4.83	4.83	6.83	6.83	7.83	12.83	12.83	12.83	6.17	6.17	6.50
44	7.79	7.96	8.37	3.83	3.83	3.83	7.17	7.50	8.17	4.83	4.83	4.83	6.83	6.83	8.17	12.83	12.83	12.83	6.17	6.17	6.50
45	7.88	8.00	8.46	3.83	3.83	3.83	7.17	7.50	8.17	4.83	4.83	4.83	6.83	6.83	8.17	12.83	12.83	12.83	6.17	6.17	6.50
46	7.96	8.07	8.50	3.83	3.83	3.83	7.50	7.50	8.17	4.83	4.83	4.83	6.83	6.83	8.50	12.83	12.83	12.83	6.17	6.17	6.50
47	8.04	8.16	8.59	3.83	3.83	3.83	7.50	7.50	8.50	4.83	4.83	4.83	6.83	6.83	8.83	12.83	12.83	12.83	6.20	6.17	6.50
48	8.13	8.21	8.68	3.83	3.83	3.83	7.50	7.83	9.17	4.83	4.83	4.83	7.50	7.50	8.83	12.83	12.83	12.83	6.50	6.50	6.83
49	8.21	8.33	8.75	3.83	3.83	3.83	7.50	8.17	9.17	4.83	4.83	4.83	7.50	7.50	8.83	12.83	12.83	12.83	6.50	6.50	7.17
50	8.29	8.38	8.84	3.83	3.83	3.83	7.50	8.17	9.17	4.83	4.83	4.83	7.83	7.67	8.83	12.83	12.83	12.83	6.50	6.50	7.17
51	8.37	8.46	8.92	3.83	3.83	3.83	8.17	8.31	9.17	4.83	4.83	4.83	8.17	8.17	8.83	12.83	12.83	12.83	6.50	6.50	7.17
52	8.46	8.50	8.96	3.83	3.83	3.83	8.17	8.50	9.17	4.83	4.83	4.83	8.17	8.50	8.83	12.83	12.83	12.83	6.83	6.50	7.17
53	8.50	8.54	9.04	3.83	3.83	3.83	8.17	8.50	9.17	4.83	4.83	4.83	8.83	8.50	8.83	12.83	12.83	12.83	7.17	6.50	7.50
54	8.58	8.63	9.12	3.83	3.83	3.83	8.17	8.83	9.50	4.83	4.83	4.83	8.83	8.83	8.83	12.83	12.83	12.83	7.17	6.50	7.50
55	8.63	8.71	9.17	3.83	3.83	3.83	8.50	9.17	9.50	4.83	4.83	4.83	8.83	8.83	8.83	12.83	12.83	12.83	7.17	6.83	8.17
56	8.71	8.75	9.29	3.83	3.83	3.83	8.50	9.17	9.50	4.83	4.83	4.83	8.83	8.83	8.83	12.83	12.83	12.83	7.17	7.17	8.17
57	8.79	8.80	9.33	3.83	3.83	3.83	9.17	9.17	9.50	4.83	4.83	4.83	8.83	8.83	8.83	12.83	12.83	12.83	7.50	7.17	8.17
58	8.87	8.87	9.42	3.83	3.83	3.83	9.17	9.17	9.50	4.83	4.83	4.83	8.83	8.83	8.83	12.83	12.83	12.83	7.50	7.17	8.17
59	8.96	8.96	9.46	3.83	3.83	3.83	9.17	9.17	9.50	4.83	4.83	4.83	8.83	8.83	8.83	12.83	12.83</				

Ten ... to Twelve

Sample Size 2,682 1,235 1,552

Percentile	Total Score			HF			CO			PH			VO			WR			SP		
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End
1	0.50	0.19	0.19	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.50	0.50	0.50	0.00	0.00	0.00
2	0.75	1.00	0.50	1.17	0.50	0.50	0.50	0.36	0.00	0.00	0.00	0.00	0.50	0.98	0.50	0.50	0.50	0.50	0.50	0.36	0.00
3	1.25	1.61	0.70	1.83	2.20	0.50	0.50	0.50	0.50	0.53	0.00	0.00	1.50	1.83	0.50	0.50	1.22	0.50	0.50	0.50	0.50
4	1.75	2.19	1.08	2.83	3.17	1.83	0.50	0.50	0.50	0.83	1.98	0.50	1.94	2.50	1.17	2.17	3.17	0.50	0.50	1.17	0.50
5	2.12	2.38	1.52	3.17	3.17	2.50	0.50	0.50	0.50	1.83	4.17	0.83	2.50	3.17	1.83	2.50	4.17	0.50	1.17	1.50	0.50
6	2.42	2.92	1.80	3.17	3.17	3.17	0.50	0.50	0.50	2.83	4.17	0.83	3.17	3.83	2.23	3.17	6.22	1.29	1.50	1.83	1.17
7	2.71	3.17	2.13	3.17	3.50	3.17	0.50	0.50	0.50	3.44	4.50	2.40	3.50	3.83	2.83	3.83	6.83	2.50	1.50	2.17	1.50
8	2.92	3.42	2.46	3.17	3.50	3.50	0.50	0.50	0.50	4.17	4.50	3.50	3.83	3.83	3.17	5.17	7.50	3.17	1.83	2.17	1.50
9	3.13	3.68	2.70	3.50	3.50	3.50	0.50	1.17	0.50	4.50	4.50	4.17	3.83	4.17	3.83	6.50	8.17	4.17	2.17	2.50	1.83
10	3.35	4.00	3.00	3.50	3.50	3.50	0.50	1.50	0.50	4.50	4.50	4.17	3.83	4.83	3.83	6.83	8.50	5.83	2.17	2.50	2.17
11	3.54	4.25	3.21	3.50	3.50	3.50	0.50	1.83	0.50	4.50	4.50	4.50	4.50	4.83	3.83	7.87	8.83	6.50	2.17	2.50	2.17
12	3.71	4.38	3.46	3.50	3.83	3.50	1.17	2.17	0.50	4.50	4.50	4.50	4.83	4.83	3.83	8.50	9.50	6.83	2.17	2.50	2.17
13	3.88	4.70	3.71	3.50	3.83	3.83	1.17	2.17	0.50	4.50	4.50	4.50	4.83	4.83	4.83	8.83	9.83	8.17	2.50	2.50	2.50
14	4.04	4.92	3.84	3.50	3.83	3.83	1.50	2.50	1.17	4.50	4.50	4.50	4.83	4.83	4.83	8.83	10.50	8.50	2.50	2.50	2.50
15	4.21	5.04	4.00	3.83	3.83	3.83	1.50	2.83	1.17	4.50	4.50	4.50	4.83	5.17	4.83	9.50	11.17	8.83	2.50	2.83	2.50
16	4.33	5.13	4.21	3.83	3.83	3.83	2.17	2.83	1.50	4.50	4.50	4.50	4.83	5.50	4.83	10.17	11.50	9.17	2.50	2.83	2.50
17	4.46	5.29	4.33	3.83	3.83	3.83	2.17	3.17	1.83	4.50	4.50	4.50	4.83	5.50	4.83	10.83	11.83	9.83	2.50	2.83	2.50
18	4.58	5.46	4.38	3.83	3.83	3.83	2.17	3.33	2.17	4.50	4.50	4.50	5.50	5.83	4.83	11.17	12.17	10.17	2.50	2.83	2.50
19	4.71	5.58	4.54	3.83	3.83	3.83	2.50	3.50	2.17	4.50	4.50	4.50	5.50	5.83	4.83	11.50	12.17	10.83	2.83	2.83	2.50
20	4.79	5.67	4.71	3.83	3.83	3.83	2.50	3.90	2.17	4.50	4.83	4.50	5.50	5.83	5.17	11.83	12.17	11.17	2.83	2.83	2.50
21	4.96	5.90	4.83	3.83	3.83	3.83	2.83	4.17	2.50	4.50	4.83	4.50	5.83	6.17	5.50	12.17	12.17	11.50	2.83	2.83	2.83
22	5.08	6.04	4.92	3.83	3.83	3.83	3.17	4.17	2.50	4.50	4.83	4.50	5.83	6.17	5.50	12.17	12.17	11.83	2.83	3.17	2.83
23	5.25	6.21	5.05	3.83	3.83	3.83	3.17	4.93	3.17	4.83	4.83	4.50	5.83	6.17	5.83	12.17	12.17	12.17	2.83	3.17	2.83
24	5.46	6.33	5.17	3.83	3.83	3.83	3.50	5.17	3.17	4.83	4.83	4.50	6.17	6.17	5.83	12.17	12.17	12.17	2.83	3.17	2.83
25	5.61	6.54	5.38	3.83	3.83	3.83	3.50	5.50	3.17	4.83	4.83	4.83	6.17	6.17	5.83	12.17	12.17	12.17	3.17	3.50	2.83
26	5.75	6.75	5.50	3.83	3.83	3.83	4.17	5.50	3.50	4.83	4.83	4.83	6.17	6.17	6.17	12.17	12.17	12.17	3.17	3.50	2.83
27	5.96	6.91	5.67	3.83	3.83	3.83	4.17	5.83	3.50	4.83	4.83	4.83	6.17	6.17	6.17	12.17	12.50	12.17	3.17	4.17	2.83
28	6.09	6.96	5.78	3.83	3.83	3.83	4.58	6.17	4.17	4.83	4.83	4.83	6.17	6.50	6.17	12.17	12.50	12.17	3.17	4.17	3.17
29	6.29	7.08	5.89	3.83	3.83	3.83	5.17	6.17	4.17	4.83	4.83	4.83	6.17	6.83	6.17	12.17	12.50	12.17	3.50	4.17	3.17
30	6.50	7.21	6.08	3.83	3.83	3.83	5.50	6.17	4.50	4.83	4.83	4.83	6.50	6.83	6.17	12.17	12.50	12.17	4.17	4.17	3.17
31	6.70	7.33	6.25	3.83	3.83	3.83	5.83	6.50	5.17	4.83	4.83	4.83	6.83	6.83	6.17	12.50	12.50	12.17	4.17	4.50	3.50
32	6.88	7.38	6.42	3.83	3.83	3.83	6.17	6.50	5.17	4.83	4.83	4.83	6.83	6.83	6.50	12.50	12.50	12.50	4.17	4.50	4.17
33	7.02	7.46	6.54	3.83	3.83	3.83	6.17	6.50	5.50	4.83	4.83	4.83	6.83	7.17	6.83	12.50	12.50	12.50	4.17	5.17	4.17
34	7.18	7.55	6.67	3.83	3.83	3.83	6.17	6.50	5.83	4.83	4.83	4.83	6.83	7.50	6.83	12.50	12.50	12.50	4.50	5.17	4.17
35	7.29	7.59	6.87	3.83	3.83	3.83	6.17	6.83	6.17	4.83	4.83	4.83	7.19	8.17	6.83	12.50	12.50	12.50	4.85	5.17	4.17
36	7.42	7.67	7.00	3.83	3.83	3.83	6.50	6.83	6.17	4.83	4.83	4.83	7.50	8.50	6.83	12.50	12.83	12.50	5.17	5.50	4.50
37	7.54	7.79	7.17	3.83	3.83	3.83	6.50	7.17	6.17	4.83	4.83	4.83	8.17	8.83	6.83	12.50	12.83	12.50	5.17	6.17	4.50
38	7.62	7.91	7.25	3.83	3.83	3.83	6.50	7.17	6.17	4.83	4.83	4.83	8.50	8.83	7.50	12.83	12.83	12.50	5.50	6.17	5.17
39	7.71	8.00	7.34	3.83	3.83	3.83	6.83	7.17	6.50	4.83	4.83	4.83	8.83	8.83	8.17	12.83	12.83	12.83	5.50	6.17	5.17
40	7.79	8.08	7.42	3.83	3.83	3.83	7.17	7.50	6.50	4.83	4.83	4.83	8.83	8.83	8.50	12.83	12.83	12.83	6.17	6.17	5.50
41	7.92	8.16	7.50	3.83	3.83	3.83	7.17	7.50	6.50	4.83	4.83	4.83	8.83	8.83	8.83	12.83	12.83	12.83	6.17	6.17	5.50
42	8.00	8.25	7.58	3.83	3.83	3.83	7.17	7.50	6.50	4.83	4.83	4.83	8.83	8.83	8.83	12.83	12.83	12.83	6.17	6.17	6.17
43	8.17	8.33	7.70	3.83	3.83	3.83	7.17	7.83	6.83	4.83	4.83	4.83	8.83	8.83	8.83	12.83	12.83	12.83	6.17	6.33	6.17
44	8.29	8.42	7.80	3.83	3.83	3.83	7.50	8.17	7.17	4.83	4.83	4.83	8.83	8.83	8.83	12.83	12.83	12.83	6.17	6.50	6.17
45	8.37	8.54	7.92	3.83	3.83	3.83	7.50	8.17	7.17	4.83	4.83	4.83	8.83	8.83	8.83	12.83	12.83	12.83	6.17	6.50	6.17
46	8.46	8.67	8.04	3.83	3.83	3.83	7.50	8.17	7.17	4.83	4.83	4.83	8.83	8.83	8.83	12.83	12.83	12.83	6.50	6.50	6.17
47	8.54	8.79	8.12	3.83	3.83	3.83	7.50	8.50	7.17	4.83	4.83	4.83	8.83	8.83	8.83	12.83	12.83	12.83	6.50	6.50	6.17
48	8.67	8.87	8.21	3.83	3.83	3.83	8.17	8.50	7.50	4.83	4.83	4.83	8.83	8.83	8.83	12.83	12.83	12.83	6.50	6.50	6.50
49	8.71	8.92	8.29	3.83	3.83	3.83	8.17	8.83	7.50	4.83	4.83	4.83	8.83	8.83	8.83	12.83	12.83	12.83	6.50	7.17	6.50
50	8.86	9.04	8.34	3.83	3.83	3.83	8.17	9.17	7.67	4.83	4.83	4.83	8.83	8.83	8.83	12.83	12.83	12.83	6.50	7.17	6.50
51	8.92	9.09	8.50	3.83	3.83	3.83	8.50	9.17	8.17	4.83	4.83	4.83	8.83	8.83	8.83	12.83	12.83	12.83	6.83	7.17	6.83
52	9.04	9.17	8.61	3.83	3.83	3.83	8.83	9.17	8.17	4.83	4.83	4.83	8.83	9.07	8.83	12.83	12.83	12.83	7.17	7.50	7.17
53	9.09	9.25	8.71	3.83	3.83	3.83	9.17	9.17	8.17	4.83	4.83	4.83	8.83	9.17	8.83	12.83	12.83	12.83	7.17	7.50	7.17
54	9.17	9.35	8.83	3.83	3.83	3.83	9.17	9.17	8.17	4.83	4.83	4.83	9.17	9.17	8.83	12.83	12.83	12.83	7.17	8.17	7.17
55	9.25	9.42	8.92	3.83	3.83	3.83	9.17	9.50	8.50	4.83	4.83	4.83	9.17	9.17	9.17	12.83	12.83	12.83	7.50	8.17	7.50
56	9.33	9.50	9.00	3.83	3.83	3.83	9.17	9.50	9.17	4.83	4.83	4.83	9.17	9.17	9.17	12.83	12.83	12.83	8.17	8.17	7.50
57	9.42	9.58	9.08	3.83	3.83	3.83	9.17	9.50	9.17	4.83	4.83	4.83	9.17	9.17	9.17	12.83	12.83	12.83	8.17	8.17	8.17
58	9.46	9.62	9.17	3.83	3.83	3.83	9.50	9.50	9.17	4.83	4.83	4.83	9.17	9.17	9.17	12.83	12.83	12.83	8.17	8.17	8.17
59	9.54	9.71	9.25	3.83	3.83	3.83	9.50	9.50	9.17	4.83	4.83	4.83	9.17	9.50	9.17	12.83	12.83	12			

Appendix B: ADAM National Norms for Grades K-12

Samples by grade and time of year

Grade	Beginning	Middle	End
K	3,788	3,351	5,046
1	7,837	6,109	8,736
2	10,393	8,201	11,430
3	9,272	7,626	10,055
4	8,906	6,845	9,060
5	9,205	7,246	10,111
6	9,153	6,618	7,900
7	3,707	1,346	3,406
8	2,544	858	1,267
9	565	207	332
10	414	185	333
11	407	156	280
12	328	120	144

Sample Size	3,785			3,349			5,040													
	Percentile			Total Score			ALG			DAT			GEO			ME			NUM	
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End		
1	0.07	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
2	0.07	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
3	0.07	0.07	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
4	0.07	0.07	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
5	0.07	0.14	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
6	0.07	0.14	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
7	0.07	0.14	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
8	0.07	0.14	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
9	0.07	0.14	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
10	0.07	0.14	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20		
11	0.14	0.14	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20		
12	0.14	0.21	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20		
13	0.14	0.21	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.20		
14	0.14	0.21	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.00	0.00	0.20		
15	0.14	0.21	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.00	0.00	0.20		
16	0.14	0.21	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.00	0.00	0.20		
17	0.14	0.21	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.00	0.20	0.20		
18	0.14	0.21	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.00	0.20	0.20		
19	0.14	0.29	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.00	0.20	0.20		
20	0.14	0.29	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.00	0.20	0.20		
21	0.14	0.29	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.00	0.20	0.20		
22	0.14	0.29	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.00	0.20	0.20		
23	0.14	0.29	0.43																	

First	Last	Age	Gender	Marital Status	Occupation	Education	Income	Health Status	Smoking Status	Alcohol Consumption	Exercise Frequency	Dietary Habits	Stress Level	Sleep Quality	Mental Health	Family Size	Work-Life Balance	Community Involvement	Life Satisfaction
John	Doe	45	Male	Married	Software Engineer	Bachelor's	\$75,000	Good	Smoker	Occasional	Regular	Vegetarian	High	Poor	Anxious	3	Low	Active	7.5
Jane	Smith	38	Female	Single	Marketing Manager	Master's	\$85,000	Excellent	Non-Smoker	Regular	Regular	Non-Vegetarian	Low	Good	Stable	1	High	Active	8.5
Michael	Johnson	52	Male	Divorced	Teacher	Bachelor's	\$55,000	Fair	Smoker	Occasional	Irregular	Non-Vegetarian	Medium	Fair	Mild Depression	2	Medium	Passive	6.5
Emily	Williams	29	Female	Married	Data Analyst	Master's	\$65,000	Good	Non-Smoker	Occasional	Regular	Vegetarian	Low	Good	Stable	2	High	Active	8.0
David	Brown	60	Male	Widowed	Retired	High School	\$40,000	Fair	Smoker	Regular	Irregular	Non-Vegetarian	High	Poor	Mild Depression	4	Low	Passive	5.5
Sarah	Miller	41	Female	Married	Graphic Designer	Bachelor's	\$60,000	Good	Non-Smoker	Occasional	Regular	Vegetarian	Low	Good	Stable	2	High	Active	7.8
Robert	Wilson	55	Male	Married	Sales Representative	Bachelor's	\$50,000	Fair	Smoker	Occasional	Irregular	Non-Vegetarian	Medium	Fair	Mild Depression	3	Medium	Passive	6.8
Alice	Moore	35	Female	Single	Product Manager	Master's	\$90,000	Excellent	Non-Smoker	Regular	Regular	Non-Vegetarian	Low	Good	Stable	1	High	Active	8.8
James	Taylor	48	Male	Married	Operations Manager	Bachelor's	\$68,000	Good	Smoker	Occasional	Regular	Vegetarian	Low	Good	Stable	2	High	Active	7.9
Olivia	Anderson	32	Female	Single	UX Designer	Master's	\$78,000	Good	Non-Smoker	Occasional	Regular	Vegetarian	Low	Good	Stable	1	High	Active	8.2
Benjamin	Clark	58	Male	Married	Finance Analyst	Bachelor's	\$62,000	Fair	Smoker	Occasional	Irregular	Non-Vegetarian	Medium	Fair	Mild Depression	3	Medium	Passive	6.9
Isabella	White	27	Female	Single	Software Engineer	Master's	\$82,000	Excellent	Non-Smoker	Regular	Regular	Non-Vegetarian	Low	Good	Stable	1	High	Active	8.6
Ethan	Green	43	Male	Married	Business Development	Bachelor's	\$70,000	Good	Smoker	Occasional	Regular	Vegetarian	Low	Good	Stable	2	High	Active	7.7
Sophia	Black	36	Female	Married	Project Manager	Master's	\$72,000	Good	Non-Smoker	Occasional	Regular	Vegetarian	Low	Good	Stable	2	High	Active	8.1
Lucas	Gray	50	Male	Married	Systems Administrator	Bachelor's	\$58,000	Fair	Smoker	Occasional	Irregular	Non-Vegetarian	Medium	Fair	Mild Depression	3	Medium	Passive	6.7
Mia	King	30	Female	Single	Marketing Specialist	Bachelor's	\$60,000	Good	Non-Smoker	Occasional	Regular	Vegetarian	Low	Good	Stable	1	High	Active	8.0
Alexander	Wright	53	Male	Married	Operations Manager	Bachelor's	\$55,000	Fair	Smoker	Occasional	Irregular	Non-Vegetarian	Medium	Fair	Mild Depression	3	Medium	Passive	6.6
Charlotte	Scott	33	Female	Single	Product Designer	Master's	\$75,000	Good	Non-Smoker	Occasional	Regular	Vegetarian	Low	Good	Stable	1	High	Active	8.3
William	Young	57	Male	Married	Finance Manager	Bachelor's	\$65,000	Fair	Smoker	Occasional	Irregular	Non-Vegetarian	Medium	Fair	Mild Depression	3	Medium	Passive	6.8
Amelia	Reed	28	Female	Single	Software Engineer	Master's	\$80,000	Good	Non-Smoker	Occasional	Regular	Vegetarian	Low	Good	Stable	1	High	Active	8.4
Christopher	Evans	46	Male	Married	Business Analyst	Bachelor's	\$68,000	Good	Smoker	Occasional	Regular	Vegetarian	Low	Good	Stable	2	High	Active	7.8
Harper	Roberts	31	Female	Single	Marketing Manager	Bachelor's	\$62,000	Good	Non-Smoker	Occasional	Regular	Vegetarian	Low	Good	Stable	1	High	Active	8.0
Benjamin	Turner	51	Male	Married	Operations Manager	Bachelor's	\$55,000	Fair	Smoker	Occasional	Irregular	Non-Vegetarian	Medium	Fair	Mild Depression	3	Medium	Passive	6.7
Evelyn	Phillips	34	Female	Single	Product Manager	Master's	\$78,000	Good	Non-Smoker	Occasional	Regular								

Sample Size	7,834	6,062	8,643
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Percentile	Total Score			ALG			DAT			GEO			ME			NUM		
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End
1	0.14	0.18	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.14	0.29	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
3	0.21	0.35	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20
4	0.21	0.36	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.20	0.20
5	0.29	0.43	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.20	0.20
6	0.29	0.43	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.00	0.20	0.40
7	0.29	0.50	0.64	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.20	0.20	0.00	0.00	0.00	0.20	0.20	0.40
8	0.36	0.50	0.64	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.20	0.20	0.00	0.00	0.00	0.20	0.20	0.40
9	0.36	0.57	0.71	0.00	0.00	0.00	0.00	0.00	0.50	0.20	0.20	0.20	0.00	0.00	0.00	0.20	0.40	0.40
10	0.36	0.57	0.79	0.00	0.00	0.45	0.00	0.50	0.50	0.20	0.20	0.40	0.00	0.00	0.00	0.20	0.40	0.40
11	0.43	0.64	0.79	0.00	0.00	0.50	0.00	0.50	0.50	0.20	0.20	0.40	0.00	0.00	0.00	0.20	0.40	0.40
12	0.43	0.64	0.86	0.00	0.00	0.50	0.00	0.50	1.25	0.20	0.20	0.40	0.00	0.00	0.00	0.20	0.40	0.60
13	0.43	0.64	0.86	0.00	0.50	0.50	0.00	0.50	1.25	0.20	0.40	0.40	0.00	0.00	0.00	0.20	0.40	0.60
14	0.50	0.71	0.93	0.00	0.50	0.50	0.00	0.50	1.25	0.20	0.40	0.60	0.00	0.00	0.00	0.20	0.40	0.60
15	0.50	0.71	0.93	0.00	0.50	0.50	0.00	0.50	1.25	0.20	0.40	0.60	0.00	0.00	0.33	0.20	0.40	0.60
16	0.50	0.71	1.05	0.00	0.50	0.50	0.00	0.50	1.25	0.20	0.40	0.60	0.00	0.00	0.33	0.20	0.40	0.60
17	0.50	0.79	1.05	0.00	0.50	0.50	0.00	0.50	1.25	0.20	0.40	0.80	0.00	0.00	0.33	0.20	0.40	0.60
18	0.57	0.79	1.10	0.00	0.50	0.50	0.50	1.25	1.25	0.20	0.60	0.80	0.00	0.00	0.33	0.20	0.40	0.80
19	0.57	0.79	1.10	0.00	0.50	0.50	0.50	1.25	1.25	0.20	0.60	0.80	0.00	0.00	0.33	0.40	0.40	0.80
20	0.57	0.86	1.13	0.00	0.50	0.50	0.50	1.25	1.25	0.20	0.60	0.80	0.00	0.00	0.33	0.40	0.60	0.80
21	0.57	0.86	1.14	0.00	0.50	0.50	0.50	1.25	1.25	0.40	0.60	0.80	0.00	0.00	0.33	0.40	0.60	0.80
22	0.57	0.86	1.14	0.00	0.50	0.50	0.50	1.25	1.25	0.40	0.60	1.25	0.00	0.33	0.33	0.40	0.60	0.80
23	0.64	0.93	1.19	0.00	0.50	0.50	0.50	1.25	1.25	0.40	0.80	1.25	0.00	0.33	0.33	0.40	0.60	0.80
24	0.64	0.93	1.19	0.50	0.50	0.50	0.50	1.25	1.50	0.40	0.80	1.25	0.00	0.33	0.33	0.40	0.60	1.10
25	0.64	0.93	1.24	0.50	0.50	0.50	0.50	1.25	1.50	0.40	0.80	1.25	0.00	0.33	0.33	0.40	0.60	1.10
26	0.64	1.05	1.24	0.50	0.50	0.50	0.50	1.25	1.50	0.40	0.80	1.25	0.00	0.33	0.33	0.40	0.60	1.10
27	0.71	1.05	1.29	0.50	0.50	0.50	0.50	1.25	1.50	0.60	0.80	1.25	0.00	0.33	0.33	0.40	0.60	1.10
28	0.71	1.05	1.29	0.50	0.50	0.50	0.50	1.25	1.50	0.60	0.80							

Second

Sample Size 10,388 8,099 11,216

Percentile	Total Score			ALG			DAT			GEO			ME			NUM		
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End
1	0.36	0.50	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.40
2	0.50	0.71	0.79	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.20	0.00	0.00	0.00	0.20	0.40	0.40
3	0.57	0.86	0.93	0.00	0.00	0.00	0.00	0.50	0.50	0.00	0.20	0.20	0.00	0.00	0.33	0.20	0.40	0.60
4	0.64	0.93	1.10	0.00	0.00	0.50	0.00	0.50	1.25	0.00	0.20	0.40	0.00	0.33	0.33	0.40	0.60	0.60
5	0.71	1.10	1.19	0.00	0.50	0.50	0.50	1.25	1.25	0.20	0.40	0.40	0.00	0.33	0.33	0.40	0.60	0.80
6	0.79	1.14	1.29	0.00	0.50	0.50	0.50	1.25	1.25	0.20	0.40	0.60	0.00	0.33	0.33	0.40	0.80	1.10
7	0.86	1.19	1.38	0.00	0.50	0.50	0.50	1.25	1.50	0.20	0.60	0.80	0.33	0.33	0.67	0.40	0.80	1.20
8	0.86	1.24	1.43	0.50	0.50	0.50	1.25	1.25	1.50	0.20	0.60	0.80	0.33	0.33	0.67	0.40	0.80	1.30
9	0.93	1.29	1.52	0.50	0.50	0.50	1.25	1.25	1.50	0.40	0.60	1.25	0.33	0.33	0.67	0.60	1.10	1.40
10	1.05	1.33	1.57	0.50	0.50	0.50	1.25	1.50	1.50	0.40	0.80	1.25	0.33	0.67	0.67	0.60	1.10	1.50
11	1.05	1.38	1.62	0.50	0.50	0.50	1.25	1.50	1.50	0.40	0.80	1.25	0.33	0.67	0.67	0.60	1.20	1.60
12	1.10	1.43	1.67	0.50	0.50	0.50	1.25	1.50	1.75	0.40	0.80	1.25	0.33	0.67	1.33	0.60	1.30	1.60
13	1.14	1.48	1.76	0.50	0.50	0.50	1.25	1.50	1.75	0.60	1.25	1.25	0.33	0.67	1.33	0.60	1.30	1.70
14	1.14	1.52	1.81	0.50	0.50	0.50	1.25	1.50	1.75	0.60	1.25	1.50	0.33	0.67	1.33	0.60	1.40	1.80
15	1.14	1.52	1.86	0.50	0.50	1.25	1.25	1.50	1.75	0.60	1.25	1.50	0.33	0.67	1.33	0.80	1.50	1.80
16	1.19	1.57	1.90	0.50	0.50	1.25	1.25	1.75	1.75	0.80	1.25	1.50	0.33	0.67	1.33	0.80	1.50	1.90
17	1.19	1.62	1.95	0.50	0.50	1.25	1.50	1.75	1.75	0.80	1.25	1.50	0.67	0.67	1.33	0.80	1.60	1.90
18	1.24	1.67	1.95	0.50	0.50	1.25	1.50	1.75	1.75	0.80	1.25	1.50	0.67	1.33	1.33	0.80	1.60	2.10
19	1.29	1.71	2.04	0.50	0.50	1.25	1.50	1.75	1.75	0.80	1.50	1.50	0.67	1.33	1.33	1.10	1.70	2.20
20	1.29	1.76	2.07	0.50	1.25	1.25	1.50	1.75	2.17	0.80	1.50	1.50	0.67	1.33	1.67	1.10	1.70	2.20
21	1.33	1.76	2.11	0.50	1.25	1.25	1.50	1.75	2.17	1.25	1.50	1.50	0.67	1.33	1.67	1.10	1.70	2.30
22	1.33	1.81	2.14	0.50	1.25	1.50	1.50	1.75	2.17	1.25	1.50	1.50	0.67	1.33	1.67	1.10	1.80	2.30
23	1.38	1.86	2.18	0.50	1.25	1.50	1.50	1.75	2.17	1.25	1.50	1.75	0.67	1.33	1.67	1.20	1.80	2.40
24	1.38	1.90	2.18	0.50	1.25	1.50	1.50	1.75	2.17	1.25	1.50	1.75	0.67	1.33	1.67	1.20	1.90	2.40
25	1.43	1.90	2.21	0.50	1.25	1.50	1.50	1.75	2.17	1.25	1.50	1.75	0.67	1.33	1.67	1.20	1.90	2.50
26	1.43	1.95	2.25	0.50	1.25	1.50	1.50	1.75	2.17	1.25	1.50	1.75	0.67	1.33	1.67	1.30	2.10	2.50
27	1.48	2.04	2.29	0.50	1.25	1.50	1.50	1.75	2.17	1.25	1.50	1.75	0.67	1.33	1.67	1.30	2.10	2.50
28	1.52	2.04	2.32	0.50	1.50	1.50	1.75	2.17	2.17	1.25	1.50	1.75	0.67	1.33	2.11	1.30	2.10	2.60
29	1.52	2.07	2.32	0.50	1.50	1.50	1.75	2.17	2.17	1.50	1.50	1.75	1.33	1.33	2.11	1.40	2.20	2.60
30	1.57	2.07	2.36	0.50	1.50	1.50	1.75	2.17	2.17	1.50	1.50	1.75	1.33	1.67	2.11	1.40	2.20	2.60
31	1.57	2.11	2.39	0.50	1.50	1.50	1.75	2.17	2.33	1.50	1.50	1.75	1.33	1.67	2.11	1.50	2.30	2.60
32	1.62	2.14	2.39	1.25	1.50	1.70	1.75	2.17	2.33	1.50	1.75	2.25	1.33	1.67	2.11	1.50	2.30	2.70
33	1.62	2.14	2.43	1.25	1.50	1.75	1.75	2.17	2.33	1.50	1.75	2.25	1.33	1.67	2.11	1.50	2.30	2.70
34	1.67	2.18	2.46	1.25	1.50	1.75	1.75	2.17	2.33	1.50	1.75	2.25	1.33	1.67	2.11	1.50	2.40	2.70
35	1.67	2.21	2.46	1.25	1.50	1.75	1.75	2.17	2.33	1.50	1.75	2.25	1.33	1.67	2.11	1.60	2.40	2.70
36	1.71	2.21	2.50	1.25	1.50	1.75	1.75	2.17	2.33	1.50	1.75	2.25	1.33	1.67	2.11	1.60	2.40	2.80
37	1.71	2.25	2.50	1.25	1.50	1.75	1.75	2.17	2.33	1.50	1.75	2.25	1.33	1.67	2.22	1.60	2.40	2.80
38	1.76	2.25	2.54	1.25	1.75	1.75	1.75	2.17	2.33	1.50	1.75	2.25	1.33	1.67	2.22	1.60	2.50	2.80
39	1.76	2.29	2.54	1.25	1.75	1.75	1.75	2.17	2.33	1.50	1.75	2.25	1.33	1.67	2.22	1.70	2.50	2.80
40	1.81	2.29	2.57	1.25	1.75	1.75	1.75	2.17	2.33	1.50	1.75	2.25	1.33	2.11	2.22	1.70	2.50	2.80
41	1.81	2.32	2.57	1.25	1.75	2.33	1.75	2.33	2.33	1.50	1.75	2.25	1.33	2.11	2.22	1.70	2.50	2.90
42	1.86	2.32	2.61	1.25	1.75	2.33	1.75	2.33	2.33	1.50	1.75	2.50	1.33	2.11	2.22	1.70	2.60	2.90
43	1.86	2.36	2.61	1.25	1.75	2.33	2.17	2.33	2.50	1.50	2.25	2.50	1.33	2.11	2.22	1.80	2.60	2.90
44	1.86	2.36	2.64	1.50	1.75	2.33	2.17	2.33	2.50	1.75	2.25	2.50	1.33	2.11	2.22	1.80	2.60	2.90
45	1.90	2.39	2.64	1.50	1.75	2.33	2.17	2.33	2.50	1.75	2.25	2.50	1.67	2.11	2.22	1.80	2.60	2.90
46	1.90	2.39	2.68	1.50	1.75	2.33	2.17	2.33	2.50	1.75	2.25	2.50	1.67	2.11	2.33	1.80	2.60	3.05
47	1.95	2.43	2.68	1.50	1.75	2.33	2.17	2.33	2.50	1.75	2.25	2.50	1.67	2.11	2.33	1.90	2.70	3.05
48	1.95	2.43	2.71	1.50	1.75	2.33	2.17	2.33	2.50	1.75	2.25	2.50	1.67	2.11	2.33	1.90	2.70	3.05
49	2.04	2.43	2.71	1.50	2.33	2.33	2.17	2.33	2.50	1.75	2.25	2.50	1.67	2.11	2.33	1.90	2.70	3.05
50	2.04	2.46	2.75	1.50	2.33	2.33	2.17	2.33	2.67	1.75	2.25	2.50	1.67	2.11	2.33	2.10	2.70	3.05
51	2.07	2.46	2.75	1.50	2.33	2.67	2.17	2.33	2.67	1.75	2.25	2.75	1.67	2.11	2.33	2.10	2.70	3.05
52	2.07	2.50	2.75	1.50	2.33	2.67	2.17	2.33	2.67	1.75	2.25	2.75	1.67	2.22	2.33	2.10	2.70	3.10
53	2.11	2.50	2.79	1.50	2.33	2.67	2.17	2.33	2.67	1.75	2.25	2.75	1.67	2.22	2.33	2.10	2.80	3.10
54	2.11	2.54	2.79	1.50	2.33	2.67	2.17	2.33	2.67	1.75	2.25	2.75	1.67	2.22	2.33	2.20	2.80	3.10
55	2.11	2.54	2.82	1.50	2.33	2.67	2.17	2.50	2.67	2.25	2.25	2.75	1.67	2.22	2.33	2.20	2.80	3.10
56	2.14	2.57	2.82	1.75	2.33	2.67	2.17	2.50	2.67	2.25	2.50	2.75	1.67	2.22	2.44	2.20	2.80	3.10
57	2.18	2.57	2.86	1.75	2.33	2.67	2.17	2.50	2.67	2.25	2.50	2.75	2.11	2.22	2.44	2.20	2.80	3.10
58	2.18	2.57	2.86	1.75	2.33	2.67	2.33	2.50	2.67	2.25	2.50	2.75	2.11	2.22	2.44	2.30	2.90	3.15
59	2.18	2.61	2.89	1.75	2.33	2.67	2.33	2.50	2.67	2.25	2.50	3.10	2.11	2.22	2.44	2.30	2.90	3.15
60	2.21	2.61	2.89	1.75	2.33	2.67	2.33	2.50	2.67	2.25	2.50	3.10	2.11	2.22	2.44	2.30	2.90	3.15
61	2.21	2.64	2.93	1.75	2.67	2.67	2.33	2.50	2.67	2.25	2.50	3.10	2.11	2.22	2.44	2.30	2.90	3.15
62	2.25	2.64	2.93	1.75	2.67	2.67	2.33	2.67	2.67	2.25	2.50	3.10	2.11	2.33	2.44	2.40	2.90	3.15
63	2.25	2.68	2.96	1.75	2.67	2.67	2.33	2.67	2.83	2.25	2.50	3.10	2.11	2.33	2.44	2.40	2.90	3.20
64	2.29	2.68	2.96	1.75	2.67	2.67	2.33	2.67	2.83	2.25	2.75	3.10	2.11	2.33	2.44	2.40	3.05	3.20
65	2.29	2.71	3.02	1.75	2.67	2.67	2.33	2.67	2.83	2.25	2.75	3.10	2.11	2.33	2.56	2.40	3.05	3.20
66	2.32	2.71	3.02	1.75	2.67	2.67	2.33	2.67	2.83	2.25	2.75	3.20	2.11	2.33	2.56	2.50	3.05	3.20
67	2.32	2.75	3.04	1.75	2.67	2.67	2.33	2.67	2.83	2.50	2.75	3.20	2.11	2.33	2.56	2.50	3.05	3.20
68	2.36	2.75	3.04	2.33	2.67	2.67	2.33	2.67	2.83	2.50	2.75	3.20	2.22	2.33	2.56	2.50	3.05	3.25
69	2.36	2.79	3.07	2.33	2.67	2.67	2.33	2.67	2.83	2.50	2.75	3.20	2.22	2.33	2.56	2.50	3.10	3.25
70	2.3																	

Third

Sample Size 9,266 7,548 9,952

Percentile	Total Score			ALG			DAT			GEO			ME			NUM		
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End
1	0.86	1.14	1.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.60	1.10	1.30
2	1.14	1.38	1.48	0.00	0.00	0.00	0.00	0.50	0.50	0.40	0.40	0.40	0.33	0.33	0.33	0.80	1.40	1.50
3	1.29	1.57	1.67	0.00	0.50	0.50	0.50	1.25	1.25	0.40	0.60	0.80	0.33	0.33	0.33	1.30	1.60	1.70
4	1.38	1.71	1.76	0.50	0.50	0.50	0.50	1.25	1.50	0.40	0.80	1.25	0.33	0.33	0.67	1.40	1.70	1.80
5	1.48	1.81	1.90	0.50	0.50	0.50	1.25	1.50	1.50	0.60	1.25	1.50	0.33	0.67	0.67	1.50	1.90	2.10
6	1.52	1.90	2.05	0.50	0.50	0.50	1.25	1.50	1.75	0.80	1.25	1.50	0.33	0.67	0.67	1.60	2.10	2.20
7	1.62	2.04	2.14	0.50	0.50	0.50	1.50	1.75	1.75	0.80	1.50	1.50	0.67	0.67	1.33	1.70	2.20	2.40
8	1.67	2.11	2.21	0.50	0.50	1.25	1.50	1.75	1.75	1.25	1.50	1.75	0.67	0.67	1.33	1.70	2.30	2.50
9	1.76	2.14	2.29	0.50	0.50	1.25	1.50	1.75	1.75	1.25	1.50	1.75	0.67	1.33	1.33	1.80	2.40	2.60
10	1.81	2.21	2.32	0.50	1.25	1.25	1.50	1.75	2.17	1.50	1.75	1.75	0.67	1.33	1.33	1.80	2.50	2.60
11	1.86	2.25	2.39	0.50	1.25	1.25	1.50	2.17	2.17	1.50	1.75	2.25	0.67	1.33	1.67	1.90	2.50	2.70
12	1.90	2.29	2.43	0.50	1.25	1.50	1.75	2.17	2.17	1.50	1.75	2.25	0.67	1.33	1.67	1.90	2.60	2.80
13	1.95	2.32	2.46	0.50	1.25	1.50	1.75	2.17	2.17	1.50	1.75	2.25	1.33	1.33	1.67	2.10	2.70	2.80
14	2.04	2.36	2.54	1.25	1.50	1.50	1.75	2.17	2.33	1.50	2.25	2.25	1.33	1.67	1.67	2.20	2.70	2.90
15	2.07	2.39	2.57	1.25	1.50	1.50	1.75	2.17	2.33	1.75	2.25	2.50	1.33	1.67	1.67	2.20	2.70	2.90
16	2.14	2.46	2.64	1.25	1.50	1.75	1.75	2.17	2.33	1.75	2.25	2.50	1.33	1.67	2.11	2.30	2.80	3.05
17	2.14	2.50	2.68	1.25	1.50	1.75	1.75	2.33	2.33	1.75	2.25	2.50	1.33	1.67	2.11	2.30	2.80	3.05
18	2.18	2.54	2.71	1.25	1.50	1.75	2.17	2.33	2.50	1.75	2.25	2.50	1.33	1.67	2.11	2.40	2.90	3.10
19	2.21	2.57	2.75	1.25	1.75	2.33	2.17	2.33	2.50	1.75	2.25	2.50	1.33	1.67	2.11	2.40	2.90	3.10
20	2.25	2.61	2.79	1.25	1.75	2.33	2.17	2.33	2.50	2.25	2.50	2.75	1.67	2.11	2.11	2.50	2.90	3.10
21	2.29	2.62	2.82	1.50	1.75	2.33	2.17	2.33	2.67	2.25	2.50	2.75	1.67	2.11	2.22	2.50	3.05	3.15
22	2.32	2.67	2.86	1.50	1.75	2.33	2.17	2.50	2.67	2.25	2.50	2.75	1.67	2.11	2.22	2.50	3.05	3.15
23	2.36	2.68	2.89	1.50	2.33	2.67	2.17	2.50	2.67	2.25	2.50	2.75	1.67	2.11	2.22	2.60	3.05	3.20
24	2.36	2.71	2.93	1.50	2.33	2.67	2.17	2.50	2.67	2.25	2.50	2.75	1.67	2.11	2.22	2.60	3.10	3.20
25	2.39	2.75	2.96	1.50	2.33	2.67	2.17	2.50	2.67	2.25	2.50	2.75	1.67	2.11	2.22	2.60	3.10	3.20
26	2.43	2.79	3.02	1.50	2.33	2.67	2.33	2.67	2.67	2.25	2.50	3.10	1.67	2.22	2.33	2.60	3.10	3.25
27	2.43	2.82	3.04	1.50	2.33	2.67	2.33	2.67	2.67	2.50	2.75	3.10	1.67	2.22	2.33	2.70	3.10	3.25
28	2.46	2.86	3.07	1.75	2.67	3.13	2.33	2.67	2.67	2.50	2.75	3.10	2.11	2.22	2.33	2.70	3.15	3.25
29	2.50	2.86	3.09	1.75	2.67	3.13	2.33	2.67	2.67	2.50	2.75	3.10	2.11	2.22	2.33	2.70	3.15	3.30
30	2.50	2.89	3.09	1.75	2.67	3.13	2.33	2.67	2.83	2.50	2.75	3.10	2.11	2.22	2.33	2.70	3.15	3.30
31	2.54	2.93	3.11	1.75	2.67	3.13	2.33	2.67	2.83	2.50	2.75	3.10	2.11	2.22	2.33	2.80	3.20	3.30
32	2.57	2.93	3.13	1.75	2.67	3.13	2.33	2.67	2.83	2.50	2.75	3.10	2.11	2.22	2.33	2.80	3.20	3.35
33	2.57	2.96	3.16	1.75	2.67	3.13	2.50	2.67	2.83	2.50	2.75	3.20	2.11	2.33	2.44	2.80	3.20	3.35
34	2.61	3.02	3.18	2.33	2.67	3.13	2.50	2.67	2.83	2.50	3.10	3.20	2.11	2.33	2.44	2.80	3.20	3.35
35	2.64	3.02	3.20	2.33	3.13	3.25	2.50	2.67	2.83	2.50	3.10	3.20	2.11	2.33	2.44	2.80	3.25	3.40
36	2.64	3.04	3.20	2.33	3.13	3.25	2.50	2.83	2.83	2.50	3.10	3.20	2.22	2.33	2.44	2.90	3.25	3.40
37	2.68	3.07	3.22	2.33	3.13	3.25	2.67	2.83	2.83	2.75	3.10	3.20	2.22	2.33	2.44	2.90	3.25	3.40
38	2.68	3.07	3.24	2.33	3.13	3.25	2.67	2.83	2.83	2.75	3.10	3.20	2.22	2.33	2.44	2.90	3.25	3.45
39	2.71	3.09	3.27	2.33	3.13	3.38	2.67	2.83	2.83	2.75	3.10	3.20	2.22	2.33	2.56	2.90	3.30	3.45
40	2.71	3.11	3.27	2.33	3.13	3.38	2.67	2.83	2.83	2.75	3.10	3.30	2.22	2.33	2.56	2.90	3.30	3.45
41	2.75	3.11	3.29	2.67	3.13	3.38	2.67	2.83	2.83	2.75	3.10	3.30	2.22	2.44	2.56	3.05	3.30	3.50
42	2.75	3.13	3.31	2.67	3.13	3.38	2.67	2.83	2.83	2.75	3.20	3.30	2.22	2.44	2.56	3.05	3.30	3.50
43	2.79	3.13	3.33	2.67	3.25	3.50	2.67	2.83	2.83	2.75	3.20	3.30	2.22	2.44	2.56	3.05	3.35	3.50
44	2.82	3.16	3.34	2.67	3.25	3.50	2.67	2.83	2.83	2.75	3.20	3.30	2.22	2.44	2.56	3.05	3.35	3.55
45	2.82	3.18	3.36	2.67	3.25	3.50	2.67	2.83	2.83	3.10	3.20	3.30	2.33	2.44	2.56	3.05	3.35	3.55
46	2.86	3.18	3.38	2.67	3.25	3.50	2.83	2.83	2.83	3.10	3.20	3.30	2.33	2.44	2.56	3.10	3.35	3.55
47	2.86	3.20	3.40	2.67	3.25	3.50	2.83	2.83	2.83	3.10	3.20	3.40	2.33	2.44	2.67	3.10	3.40	3.55
48	2.89	3.20	3.42	2.67	3.38	3.50	2.83	2.83	2.83	3.10	3.20	3.40	2.33	2.44	2.67	3.10	3.40	3.60
49	2.89	3.22	3.42	2.67	3.38	3.63	2.83	2.83	2.83	3.10	3.20	3.40	2.33	2.56	2.67	3.10	3.40	3.60
50	2.93	3.24	3.44	2.67	3.38	3.63	2.83	2.83	2.83	3.10	3.30	3.40	2.33	2.56	2.67	3.10	3.40	3.60
51	2.93	3.24	3.47	2.67	3.38	3.63	2.83	2.83	2.83	3.10	3.30	3.40	2.33	2.56	2.67	3.15	3.45	3.65
52	2.96	3.27	3.47	3.13	3.38	3.63	2.83	2.83	2.83	3.10	3.30	3.40	2.33	2.56	2.67	3.15	3.45	3.65
53	3.02	3.29	3.49	3.13	3.50	3.63	2.83	2.83	2.83	3.20	3.30	3.40	2.44	2.56	2.67	3.15	3.45	3.65
54	3.02	3.29	3.51	3.13	3.50	3.63	2.83	2.83	2.83	3.20	3.30	3.50	2.44	2.56	2.78	3.15	3.45	3.70
55	3.04	3.31	3.53	3.13	3.50	3.75	2.83	2.83	2.83	3.20	3.30	3.50	2.44	2.56	2.78	3.15	3.50	3.70
56	3.04	3.31	3.53	3.13	3.50	3.75	2.83	2.83	2.83	3.20	3.30	3.50	2.44	2.56	2.78	3.20	3.50	3.70
57	3.07	3.33	3.56	3.13	3.50	3.75	2.83	2.83	3.25	3.20	3.30	3.50	2.44	2.67	2.78	3.20	3.50	3.75
58	3.07	3.36	3.58	3.13	3.50	3.75	2.83	2.83	3.25	3.20	3.30	3.50	2.44	2.67	2.78	3.20	3.50	3.75
59	3.09	3.36	3.60	3.13	3.50	3.88	2.83	2.83	3.25	3.20	3.40	3.50	2.44	2.67	2.78	3.20	3.55	3.75
60	3.09	3.38	3.60	3.13	3.50	3.88	2.83	2.83	3.25	3.20	3.40	3.52	2.44	2.67	2.78	3.20	3.55	3.80
61	3.11	3.40	3.62	3.25	3.63	3.88	2.83	2.83	3.25	3.30	3.40	3.60	2.56	2.67	2.89	3.25	3.55	3.80
62	3.11	3.40	3.64	3.25	3.63	3.88	2.83	2.83	3.25	3.30	3.40	3.60	2.56	2.67	2.89	3.25	3.55	3.80
63	3.13	3.42	3.67	3.25	3.63	3.88	2.83	3.25	3.25	3.30	3.40	3.60	2.56	2.67	2.89	3.25	3.60	3.85
64	3.13	3.44	3.67	3.25	3.63	3.88	2.83	3.25	3.25	3.30	3.40	3.60	2.56	2.67	2.89	3.25	3.60	3.85
65	3.16	3.44	3.69	3.25	3.63	4.13	2.83	3.25	3.25	3.30	3.40	3.60	2.56	2.78	2.89	3.30	3.60	3.85
66	3.16	3.47	3.71	3.25	3.63	4.13	2.83	3.25	3.25	3.30	3.40	3.60	2.56	2.78	2.89	3.30	3.65	3.90
67	3.18	3.49	3.73	3.38	3.75	4.13	2.83	3.25	3.25	3.30	3.40	3.70	2.56	2.78	3.14	3.30	3.65	3.90
68	3.20	3.51	3.76	3.38	3.75	4.13	2.83	3.25	3.25	3.30	3.50	3.70	2.67	2.78	3.14	3.30	3.65	3.90
69	3.20	3.51	3.78	3.38	3.75	4.13	2.83	3.25	3.25	3.40	3.50	3.70	2.67	2.78	3.14	3.35	3.65	3.95
70	3.22</																	

Fourth

Sample Size 8,895 6,740 8,861

Percentile	Total Score			ALG			DAT			GEO			ME			NUM		
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End
1	1.24	1.38	1.38	0.00	0.00	0.00	0.00	0.50	0.50	0.20	0.20	0.20	0.02	0.33	0.33	0.60	1.20	1.30
2	1.48	1.70	1.71	0.00	0.50	0.50	1.25	1.25	1.25	0.40	0.60	0.60	0.33	0.33	0.33	1.40	1.60	1.70
3	1.67	1.95	1.95	0.50	0.50	0.50	1.25	1.50	1.50	0.60	1.25	0.80	0.33	0.67	0.67	1.70	1.90	2.10
4	1.86	2.14	2.14	0.50	0.50	0.50	1.50	1.50	1.50	0.80	1.50	1.25	0.67	0.67	0.67	1.90	2.30	2.40
5	2.04	2.25	2.29	0.50	0.50	0.50	1.50	1.75	1.75	1.25	1.50	1.50	0.67	1.33	1.33	2.10	2.50	2.60
6	2.14	2.36	2.43	0.50	1.25	1.25	1.75	1.75	1.75	1.50	1.75	1.75	1.33	1.33	1.67	2.30	2.60	2.70
7	2.21	2.46	2.54	0.50	1.25	1.50	1.75	2.17	2.17	1.50	1.75	1.75	1.33	1.33	1.67	2.40	2.80	2.90
8	2.29	2.61	2.64	1.25	1.50	1.50	1.75	2.17	2.17	1.75	2.25	2.25	1.33	1.67	1.67	2.50	2.90	3.10
9	2.39	2.68	2.75	1.25	1.50	1.75	2.17	2.33	2.33	1.75	2.25	2.25	1.67	1.67	2.11	2.60	3.05	3.15
10	2.46	2.75	2.82	1.50	1.75	1.75	2.17	2.33	2.33	2.25	2.50	2.50	1.67	2.11	2.11	2.70	3.10	3.20
11	2.54	2.82	2.93	1.50	1.75	2.29	2.17	2.33	2.50	2.25	2.50	2.50	1.67	2.11	2.22	2.80	3.15	3.25
12	2.61	2.89	3.02	1.50	1.99	2.33	2.33	2.50	2.50	2.25	2.50	2.50	1.67	2.22	2.22	2.90	3.20	3.30
13	2.64	2.96	3.07	1.75	2.33	2.67	2.33	2.50	2.50	2.50	2.50	2.75	2.11	2.22	2.22	2.90	3.25	3.35
14	2.71	3.04	3.13	1.75	2.67	2.67	2.33	2.67	2.67	2.50	2.75	2.75	2.11	2.22	2.33	3.05	3.30	3.40
15	2.77	3.09	3.18	1.75	2.67	2.67	2.50	2.67	2.67	2.50	2.75	2.75	2.11	2.22	2.33	3.10	3.35	3.40
16	2.82	3.11	3.20	2.33	2.67	3.13	2.50	2.67	2.83	2.50	2.75	3.10	2.11	2.33	2.33	3.10	3.35	3.45
17	2.86	3.16	3.24	2.33	3.13	3.13	2.50	2.83	2.83	2.50	2.75	3.10	2.22	2.33	2.33	3.15	3.40	3.50
18	2.93	3.18	3.29	2.33	3.13	3.13	2.67	2.83	2.83	2.75	3.10	3.10	2.22	2.33	2.44	3.15	3.40	3.55
19	2.96	3.22	3.31	2.67	3.13	3.20	2.67	2.83	2.83	2.75	3.10	3.20	2.22	2.33	2.44	3.20	3.45	3.60
20	3.02	3.24	3.36	2.67	3.13	3.25	2.67	2.83	2.83	2.75	3.10	3.20	2.22	2.33	2.44	3.25	3.50	3.60
21	3.04	3.27	3.38	2.67	3.25	3.25	2.67	2.83	2.83	2.75	3.10	3.20	2.33	2.44	2.44	3.25	3.50	3.65
22	3.07	3.29	3.42	2.67	3.25	3.38	2.83	2.83	2.83	3.10	3.10	3.20	2.33	2.44	2.56	3.30	3.55	3.65
23	3.11	3.33	3.44	3.13	3.38	3.38	2.83	2.83	3.25	3.10	3.20	3.30	2.33	2.44	2.56	3.30	3.55	3.70
24	3.13	3.36	3.47	3.13	3.38	3.38	2.83	3.25	3.25	3.10	3.20	3.30	2.33	2.44	2.56	3.30	3.60	3.70
25	3.16	3.38	3.49	3.13	3.38	3.50	2.83	3.25	3.25	3.10	3.20	3.30	2.33	2.56	2.56	3.35	3.60	3.75
26	3.18	3.40	3.53	3.13	3.38	3.50	2.83	3.25	3.25	3.10	3.20	3.30	2.33	2.56	2.56	3.35	3.65	3.80
27	3.20	3.42	3.56	3.13	3.38	3.50	2.83	3.25	3.25	3.12	3.30	3.30	2.44	2.56	2.67	3.40	3.65	3.80
28	3.22	3.44	3.58	3.25	3.50	3.50	2.83	3.25	3.25	3.20	3.30	3.40	2.44	2.56	2.67	3.40	3.70	3.85
29	3.24	3.47	3.60	3.25	3.50	3.50	2.83	3.25	3.25	3.20	3.30	3.40	2.44	2.56	2.67	3.40	3.70	3.85
30	3.27	3.49	3.64	3.25	3.50	3.50	3.25	3.25	3.25	3.20	3.30	3.40	2.44	2.56	2.67	3.45	3.75	3.90
31	3.29	3.51	3.67	3.38	3.50	3.63	3.25	3.25	3.25	3.20	3.30	3.40	2.44	2.67	2.67	3.45	3.75	3.93
32	3.29	3.53	3.69	3.38	3.50	3.63	3.25	3.25	3.25	3.20	3.30	3.40	2.56	2.67	2.67	3.45	3.80	3.95
33	3.31	3.56	3.71	3.38	3.50	3.63	3.25	3.25	3.25	3.30	3.30	3.50	2.56	2.67	2.78	3.50	3.80	4.05
34	3.33	3.58	3.73	3.38	3.63	3.63	3.25	3.25	3.50	3.30	3.40	3.50	2.56	2.67	2.78	3.50	3.85	4.05
35	3.36	3.60	3.76	3.38	3.63	3.63	3.25	3.25	3.50	3.30	3.40	3.50	2.56	2.67	2.78	3.55	3.85	4.10
36	3.38	3.62	3.78	3.50	3.63	3.75	3.25	3.25	3.50	3.30	3.40	3.50	2.56	2.67	2.78	3.55	3.90	4.10
37	3.40	3.62	3.80	3.50	3.63	3.75	3.25	3.50	3.50	3.30	3.40	3.50	2.56	2.67	2.78	3.55	3.90	4.14
38	3.40	3.64	3.82	3.50	3.63	3.75	3.25	3.50	3.50	3.30	3.40	3.60	2.56	2.78	2.89	3.60	3.90	4.14
39	3.42	3.67	3.84	3.50	3.63	3.75	3.25	3.50	3.50	3.40	3.40	3.60	2.67	2.78	2.89	3.60	3.95	4.19
40	3.44	3.69	3.87	3.50	3.75	3.88	3.25	3.50	3.50	3.40	3.50	3.60	2.67	2.78	2.89	3.60	3.95	4.19
41	3.47	3.71	3.89	3.50	3.75	3.88	3.25	3.50	3.50	3.40	3.50	3.60	2.67	2.78	2.89	3.60	4.05	4.24
42	3.49	3.73	3.91	3.50	3.75	3.88	3.25	3.50	3.50	3.40	3.50	3.60	2.67	2.78	2.89	3.65	4.05	4.24
43	3.51	3.76	3.91	3.50	3.75	3.88	3.25	3.50	3.50	3.40	3.50	3.60	2.67	2.78	3.14	3.65	4.05	4.29
44	3.51	3.78	3.93	3.63	3.88	3.88	3.50	3.50	3.50	3.40	3.50	3.70	2.67	2.89	3.14	3.65	4.10	4.29
45	3.53	3.78	3.96	3.63	3.88	4.13	3.50	3.50	3.50	3.40	3.50	3.70	2.67	2.89	3.14	3.70	4.10	4.33
46	3.56	3.80	3.98	3.63	3.88	4.13	3.50	3.50	3.50	3.50	3.50	3.70	2.78	2.89	3.14	3.70	4.10	4.33
47	3.58	3.82	4.02	3.63	3.88	4.13	3.50	3.50	3.50	3.50	3.60	3.70	2.78	2.89	3.14	3.70	4.14	4.38
48	3.58	3.84	4.04	3.63	3.88	4.13	3.50	3.50	3.75	3.50	3.60	3.70	2.78	2.89	3.14	3.75	4.14	4.38
49	3.60	3.87	4.06	3.75	3.88	4.25	3.50	3.50	3.75	3.50	3.60	3.70	2.78	3.07	3.29	3.75	4.14	4.38
50	3.62	3.89	4.08	3.75	4.13	4.25	3.50	3.50	3.75	3.50	3.60	3.70	2.78	3.14	3.29	3.75	4.19	4.43
51	3.62	3.89	4.10	3.75	4.13	4.25	3.50	3.50	3.75	3.50	3.60	3.80	2.78	3.14	3.29	3.80	4.19	4.43
52	3.64	3.91	4.12	3.75	4.13	4.25	3.50	3.75	3.75	3.50	3.60	3.80	2.89	3.14	3.29	3.80	4.24	4.48
53	3.67	3.93	4.13	3.75	4.13	4.25	3.50	3.75	3.75	3.50	3.60	3.80	2.89	3.14	3.29	3.80	4.24	4.48
54	3.67	3.96	4.15	3.88	4.13	4.38	3.50	3.75	3.75	3.60	3.70	3.80	2.89	3.14	3.43	3.85	4.24	4.48
55	3.69	3.96	4.17	3.88	4.25	4.38	3.50	3.75	3.75	3.60	3.70	3.80	2.89	3.29	3.43	3.85	4.29	4.52
56	3.71	3.98	4.19	3.88	4.25	4.38	3.50	3.75	3.75	3.60	3.70	3.80	2.89	3.29	3.43	3.85	4.29	4.52
57	3.73	4.02	4.21	3.88	4.25	4.38	3.50	3.75	3.75	3.60	3.70	3.90	2.89	3.29	3.43	3.90	4.29	4.57
58	3.76	4.04	4.23	3.88	4.25	4.38	3.50	3.75	3.75	3.60	3.70	3.90	3.14	3.29	3.57	3.90	4.33	4.57
59	3.76	4.06	4.25	3.88	4.25	4.38	3.50	3.75	3.75	3.60	3.70	3.90	3.14	3.29	3.57	3.90	4.33	4.62
60	3.78	4.06	4.27	4.13	4.38	4.50	3.50	3.75	3.75	3.60	3.70	3.90	3.14	3.29	3.57	3.95	4.33	4.62
61	3.80	4.08	4.29	4.13	4.38	4.50	3.50	3.75	3.75	3.60	3.70	3.90	3.14	3.43	3.57	3.95	4.38	4.67
62	3.82	4.10	4.31	4.13	4.38	4.50	3.75	3.75	3.75	3.70	3.80	4.08	3.14	3.43	3.57	3.95	4.38	4.67
63	3.82	4.12	4.33	4.13	4.38	4.50	3.75	3.75	4.20	3.70	3.80	4.08	3.14	3.43	3.71	4.05	4.40	4.71
64	3.84	4.12	4.35	4.13	4.38	4.50	3.75	3.75	4.20	3.70	3.80	4.08	3.29	3.43	3.71	4.05	4.43	4.71
65	3.87	4.13	4.35	4.13	4.38	4.50	3.75	3.75	4.20	3.70	3.80	4.08	3.29	3.43	3.71	4.05	4.43	4.76
66	3.88	4.15	4.38	4.25	4.50	4.50	3.75	3.75	4.20	3.70	3.80	4.08	3.29	3.57	3.71	4.10	4.48	4.76
67	3.89	4.17	4.40	4.25	4.50	4.63	3.75	4.20	4.20	3.70	3.80	4.15	3.29	3.57	3.86	4.10	4.48	4.81
68	3.91	4.19	4.42	4.25	4.50	4.63	3.75	4.20	4.20	3.70	3.90	4.15	3.29	3.57	3.86	4.10	4.48	4.81
69	3.93	4.21	4.44	4.25	4.50	4.63	3.75	4.20	4.20	3.70	3.90	4.15	3.43	3.57	3.86	4.14	4.52	4.86
70	3.96</																	

Fifth

Sample Size 9,187 7,184 10,016

Percentile	Total Score			ALG			DAT			GEO			ME			NUM		
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End
1	1.48	1.70	1.57	0.00	0.50	0.00	0.50	0.50	0.50	0.20	0.40	0.40	0.33	0.33	0.33	1.30	1.55	1.50
2	1.81	2.11	2.07	0.50	0.50	0.50	1.25	1.25	1.25	0.60	0.80	0.80	0.67	0.67	0.67	1.70	2.20	2.10
3	2.07	2.32	2.29	0.50	0.50	0.50	1.50	1.50	1.50	0.80	1.50	1.25	0.67	1.33	1.33	2.10	2.50	2.40
4	2.23	2.46	2.46	0.50	1.25	0.50	1.50	1.75	1.75	1.25	1.50	1.50	1.33	1.67	1.67	2.40	2.80	2.74
5	2.36	2.64	2.64	0.50	1.25	1.25	1.75	2.17	1.75	1.50	1.75	1.75	1.33	2.11	2.11	2.60	3.05	3.05
6	2.46	2.82	2.79	1.25	1.50	1.50	1.75	2.17	2.17	1.75	2.25	2.25	1.67	2.11	2.11	2.80	3.15	3.15
7	2.57	2.93	2.89	1.25	1.50	1.50	2.17	2.33	2.33	1.75	2.50	2.50	1.67	2.22	2.22	2.90	3.20	3.25
8	2.68	3.04	3.04	1.50	1.75	1.75	2.17	2.33	2.33	2.25	2.50	2.50	2.11	2.22	2.22	3.05	3.30	3.35
9	2.79	3.11	3.12	1.50	2.33	2.33	2.33	2.50	2.50	2.25	2.75	2.75	2.11	2.33	2.33	3.15	3.35	3.40
10	2.86	3.16	3.18	1.50	2.33	2.33	2.33	2.50	2.50	2.50	2.75	2.75	2.22	2.33	2.33	3.20	3.40	3.50
11	2.93	3.22	3.24	1.75	2.67	2.67	2.33	2.67	2.67	2.50	2.75	3.10	2.22	2.33	2.44	3.25	3.50	3.55
12	3.04	3.29	3.31	2.33	2.67	2.67	2.50	2.67	2.67	2.75	3.10	3.10	2.22	2.44	2.44	3.30	3.55	3.60
13	3.09	3.31	3.38	2.33	3.13	3.13	2.50	2.83	2.83	2.75	3.10	3.20	2.33	2.44	2.56	3.35	3.60	3.70
14	3.13	3.36	3.44	2.63	3.13	3.13	2.67	2.83	2.83	2.75	3.10	3.20	2.33	2.50	2.56	3.40	3.65	3.70
15	3.18	3.40	3.49	2.67	3.13	3.25	2.67	2.83	2.83	3.10	3.20	3.20	2.33	2.56	2.56	3.40	3.70	3.75
16	3.22	3.44	3.53	2.67	3.25	3.25	2.67	2.83	3.20	3.10	3.20	3.30	2.44	2.56	2.56	3.45	3.75	3.80
17	3.27	3.49	3.58	2.67	3.25	3.38	2.83	3.25	3.25	3.10	3.20	3.30	2.44	2.56	2.67	3.50	3.80	3.85
18	3.31	3.53	3.62	3.13	3.33	3.38	2.83	3.25	3.25	3.10	3.30	3.30	2.44	2.56	2.67	3.55	3.80	3.90
19	3.33	3.58	3.67	3.13	3.38	3.50	2.83	3.25	3.25	3.20	3.30	3.40	2.44	2.67	2.67	3.55	3.85	4.05
20	3.38	3.62	3.71	3.13	3.38	3.50	2.83	3.25	3.25	3.20	3.30	3.40	2.56	2.67	2.67	3.60	3.90	4.10
21	3.40	3.67	3.76	3.13	3.50	3.50	3.25	3.25	3.50	3.20	3.40	3.40	2.56	2.67	2.78	3.65	3.95	4.10
22	3.44	3.69	3.80	3.25	3.50	3.63	3.25	3.25	3.50	3.30	3.40	3.50	2.56	2.67	2.78	3.70	4.05	4.14
23	3.47	3.73	3.84	3.25	3.50	3.63	3.25	3.50	3.50	3.30	3.40	3.50	2.56	2.67	2.78	3.70	4.10	4.19
24	3.51	3.76	3.87	3.25	3.63	3.63	3.25	3.50	3.50	3.30	3.40	3.50	2.67	2.78	2.78	3.75	4.14	4.24
25	3.53	3.79	3.91	3.38	3.63	3.75	3.25	3.50	3.50	3.30	3.40	3.50	2.67	2.78	2.89	3.80	4.14	4.29
26	3.56	3.82	3.96	3.38	3.63	3.75	3.25	3.50	3.50	3.40	3.50	3.60	2.67	2.78	2.89	3.80	4.19	4.29
27	3.60	3.84	3.98	3.50	3.63	3.75	3.25	3.50	3.50	3.40	3.50	3.60	2.67	2.78	2.89	3.85	4.19	4.33
28	3.62	3.89	4.02	3.50	3.75	3.88	3.25	3.50	3.75	3.40	3.50	3.60	2.67	2.89	2.89	3.85	4.24	4.38
29	3.64	3.91	4.06	3.50	3.75	3.88	3.50	3.50	3.75	3.40	3.50	3.60	2.67	2.89	3.14	3.90	4.29	4.42
30	3.67	3.93	4.08	3.50	3.88	3.88	3.50	3.50	3.75	3.40	3.60	3.70	2.78	2.89	3.14	3.95	4.29	4.43
31	3.69	3.96	4.12	3.63	3.88	4.13	3.50	3.50	3.75	3.50	3.60	3.70	2.78	2.89	3.14	3.95	4.33	4.48
32	3.73	4.02	4.13	3.63	3.88	4.13	3.50	3.50	3.75	3.50	3.60	3.70	2.78	2.89	3.14	4.05	4.38	4.52
33	3.76	4.04	4.17	3.63	3.88	4.25	3.50	3.75	3.75	3.50	3.60	3.70	2.78	3.14	3.14	4.05	4.38	4.52
34	3.78	4.06	4.19	3.63	4.13	4.25	3.50	3.75	3.75	3.50	3.60	3.80	2.78	3.14	3.29	4.10	4.43	4.57
35	3.80	4.08	4.21	3.75	4.13	4.25	3.50	3.75	3.75	3.50	3.60	3.80	2.89	3.14	3.29	4.10	4.43	4.62
36	3.82	4.10	4.25	3.75	4.13	4.38	3.50	3.75	4.20	3.60	3.70	3.80	2.89	3.14	3.29	4.14	4.48	4.62
37	3.84	4.13	4.27	3.75	4.25	4.38	3.50	3.75	4.20	3.60	3.70	3.80	2.89	3.14	3.29	4.14	4.52	4.67
38	3.87	4.15	4.29	3.75	4.25	4.38	3.50	3.75	4.20	3.60	3.70	3.80	2.89	3.29	3.43	4.19	4.52	4.71
39	3.91	4.17	4.33	3.88	4.25	4.50	3.50	3.75	4.20	3.60	3.70	3.90	2.89	3.29	3.43	4.19	4.57	4.71
40	3.91	4.19	4.35	3.88	4.38	4.50	3.50	3.75	4.20	3.60	3.70	3.90	3.14	3.29	3.43	4.24	4.57	4.76
41	3.93	4.21	4.37	3.88	4.38	4.50	3.75	3.75	4.20	3.60	3.80	3.90	3.14	3.29	3.43	4.24	4.62	4.81
42	3.96	4.23	4.40	3.88	4.38	4.50	3.75	3.75	4.20	3.70	3.80	3.90	3.14	3.29	3.57	4.29	4.62	4.86
43	3.98	4.27	4.42	3.88	4.50	4.63	3.75	3.75	4.20	3.70	3.80	3.90	3.14	3.29	3.57	4.29	4.67	4.86
44	4.04	4.29	4.44	4.13	4.50	4.63	3.75	3.75	4.20	3.70	3.80	4.08	3.14	3.43	3.57	4.33	4.71	4.90
45	4.06	4.31	4.46	4.13	4.50	4.63	3.75	4.20	4.40	3.70	3.80	4.08	3.29	3.43	3.57	4.33	4.71	4.95
46	4.08	4.33	4.50	4.13	4.50	4.63	3.75	4.20	4.40	3.70	3.80	4.08	3.29	3.43	3.71	4.38	4.76	5.04
47	4.10	4.35	4.52	4.25	4.50	4.63	3.75	4.20	4.40	3.70	3.90	4.08	3.29	3.43	3.71	4.38	4.76	5.09
48	4.12	4.37	4.54	4.25	4.63	4.63	3.75	4.20	4.40	3.80	3.90	4.08	3.29	3.57	3.71	4.43	4.81	5.09
49	4.13	4.38	4.56	4.25	4.63	4.75	3.75	4.20	4.40	3.80	3.90	4.15	3.29	3.57	3.71	4.43	4.86	5.13
50	4.15	4.40	4.60	4.25	4.63	4.75	3.75	4.20	4.40	3.80	3.90	4.15	3.43	3.57	3.80	4.48	4.86	5.17
51	4.15	4.44	4.62	4.38	4.63	4.75	3.75	4.20	4.40	3.80	3.90	4.15	3.43	3.57	3.86	4.48	4.90	5.22
52	4.17	4.46	4.63	4.38	4.63	4.75	3.75	4.20	4.40	3.80	4.08	4.15	3.43	3.67	3.86	4.48	4.90	5.22
53	4.19	4.48	4.65	4.38	4.63	4.75	3.75	4.20	4.40	3.80	4.08	4.15	3.43	3.71	3.86	4.52	4.95	5.26
54	4.21	4.50	4.67	4.38	4.63	4.75	4.20	4.20	4.40	3.90	4.08	4.15	3.43	3.71	3.93	4.52	4.95	5.30
55	4.23	4.52	4.69	4.38	4.75	4.75	4.20	4.40	4.40	3.90	4.08	4.23	3.57	3.71	4.11	4.57	5.04	5.30
56	4.25	4.54	4.73	4.50	4.75	4.75	4.20	4.40	4.60	3.90	4.08	4.23	3.57	3.71	4.11	4.57	5.09	5.35
57	4.27	4.56	4.75	4.50	4.75	4.75	4.20	4.40	4.60	3.90	4.08	4.23	3.57	3.86	4.11	4.62	5.09	5.35
58	4.29	4.58	4.77	4.50	4.75	4.75	4.20	4.40	4.60	3.90	4.15	4.23	3.57	3.86	4.11	4.62	5.13	5.39
59	4.31	4.60	4.79	4.50	4.75	4.75	4.20	4.40	4.60	4.08	4.15	4.23	3.71	3.86	4.22	4.67	5.17	5.39
60	4.33	4.62	4.81	4.50	4.75	4.88	4.20	4.40	4.60	4.08	4.15	4.31	3.71	3.86	4.22	4.67	5.17	5.39
61	4.35	4.63	4.83	4.63	4.75	4.88	4.20	4.40	4.60	4.08	4.15	4.31	3.71	4.11	4.22	4.71	5.22	5.43
62	4.37	4.65	4.85	4.63	4.75	4.88	4.20	4.40	4.60	4.08	4.15	4.31	3.71	4.11	4.22	4.71	5.22	5.43
63	4.38	4.67	4.87	4.63	4.75	4.88	4.20	4.40	4.60	4.08	4.15	4.31	3.71	4.11	4.33	4.76	5.26	5.48
64	4.40	4.69	4.88	4.63	4.75	4.88	4.40	4.40	4.80	4.08	4.23	4.31	3.86	4.11	4.33	4.76	5.30	5.48
65	4.42	4.71	4.90	4.63	4.75	4.88	4.40	4.40	4.80	4.15	4.23	4.31	3.86	4.22	4.33	4.81	5.30	5.52
66	4.44	4.73	4.92	4.63	4.75	4.88	4.40	4.50	4.80	4.15	4.23	4.38	3.86	4.22	4.44	4.81	5.30	5.52
67	4.46	4.75	4.94	4.63	4.75	4.88	4.40	4.60	4.80	4.15	4.23	4.38	3.86	4.22	4.44	4.86	5.35	5.52
68	4.48	4.77	4.96	4.75	4.88	4.88	4.40	4.60	4.80	4.15	4.23	4.38	4.11	4.22	4.44	4.86	5.35	5.57
69	4.50	4.79	4.98	4.75	4.88	5.17	4.40	4.60	4.80	4.15	4.29	4.38	4.11	4.33	4.44	4.90	5.39	5.57
70	4.5																	

Sixth

Sample Size 9,141 6,582 7,734

Percentile	Total Score			ALG			DAT			GEO			ME			NUM		
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End
1	1.71	1.94	1.73	0.00	0.00	0.00	1.25	1.25	0.50	0.40	0.40	0.20	0.33	0.67	0.33	1.50	1.80	1.60
2	2.11	2.29	2.18	0.50	0.50	0.00	1.25	1.50	1.25	0.60	1.25	0.80	0.67	1.33	1.33	2.10	2.40	2.30
3	2.36	2.54	2.39	0.50	0.50	0.50	1.50	1.75	1.50	1.25	1.50	1.25	1.33	1.67	1.67	2.50	2.80	2.80
4	2.50	2.69	2.57	0.50	0.50	0.50	1.75	1.75	1.75	1.50	1.75	1.50	1.67	2.11	2.11	2.80	3.10	3.05
5	2.64	2.86	2.79	0.50	1.25	1.25	1.75	2.17	1.75	1.75	2.25	1.75	2.11	2.22	2.11	3.10	3.20	3.20
6	2.79	3.02	2.96	1.25	1.50	1.25	2.17	2.33	2.17	2.25	2.50	2.25	2.11	2.33	2.22	3.15	3.30	3.30
7	2.89	3.13	3.07	1.50	1.75	1.50	2.33	2.33	2.33	2.25	2.50	2.50	2.22	2.33	2.33	3.25	3.40	3.40
8	3.02	3.22	3.16	1.50	1.75	1.75	2.33	2.50	2.33	2.50	2.75	2.50	2.33	2.44	2.33	3.30	3.50	3.50
9	3.11	3.29	3.22	1.75	2.33	2.33	2.50	2.67	2.50	2.50	3.10	2.75	2.33	2.44	2.44	3.40	3.55	3.55
10	3.16	3.36	3.31	1.75	2.67	2.33	2.50	2.67	2.50	2.75	3.10	2.75	2.33	2.56	2.44	3.45	3.65	3.70
11	3.22	3.42	3.38	2.33	2.67	2.67	2.67	2.83	2.67	2.75	3.10	3.10	2.44	2.56	2.56	3.50	3.75	3.75
12	3.27	3.49	3.44	2.67	3.13	3.13	2.67	2.83	2.83	3.10	3.20	3.20	2.44	2.56	2.56	3.55	3.80	3.80
13	3.33	3.53	3.51	2.67	3.13	3.13	2.83	3.25	2.83	3.10	3.20	3.20	2.44	2.67	2.67	3.60	3.85	3.90
14	3.38	3.60	3.58	3.13	3.13	3.13	2.83	3.25	2.83	3.10	3.30	3.30	2.56	2.67	2.67	3.65	3.90	3.95
15	3.42	3.64	3.64	3.13	3.25	3.25	2.83	3.25	3.25	3.20	3.30	3.30	2.56	2.67	2.67	3.70	3.95	4.05
16	3.47	3.69	3.70	3.13	3.38	3.25	3.25	3.25	3.25	3.20	3.30	3.30	2.56	2.78	2.78	3.75	4.05	4.10
17	3.51	3.73	3.76	3.13	3.38	3.38	3.25	3.50	3.25	3.20	3.40	3.40	2.67	2.78	2.78	3.80	4.10	4.14
18	3.56	3.78	3.80	3.25	3.50	3.38	3.25	3.50	3.33	3.30	3.40	3.40	2.67	2.78	2.78	3.85	4.14	4.19
19	3.60	3.82	3.84	3.25	3.50	3.50	3.25	3.50	3.50	3.30	3.50	3.50	2.67	2.78	2.89	3.90	4.19	4.24
20	3.64	3.84	3.89	3.38	3.50	3.50	3.25	3.50	3.50	3.30	3.50	3.50	2.67	2.89	2.89	3.95	4.24	4.29
21	3.67	3.91	3.93	3.38	3.63	3.63	3.50	3.50	3.50	3.40	3.50	3.50	2.67	2.89	2.89	3.95	4.29	4.33
22	3.71	3.93	3.98	3.38	3.63	3.63	3.50	3.50	3.50	3.40	3.50	3.60	2.78	2.89	2.89	4.05	4.33	4.38
23	3.73	3.98	4.04	3.50	3.63	3.63	3.50	3.75	3.50	3.40	3.60	3.60	2.78	3.14	3.14	4.10	4.38	4.43
24	3.78	4.04	4.08	3.50	3.75	3.75	3.50	3.75	3.75	3.46	3.60	3.60	2.78	3.14	3.14	4.14	4.43	4.48
25	3.80	4.08	4.12	3.50	3.75	3.75	3.50	3.75	3.75	3.50	3.60	3.60	2.89	3.14	3.14	4.14	4.48	4.52
26	3.84	4.12	4.15	3.63	3.88	3.88	3.50	3.75	3.75	3.50	3.70	3.70	2.89	3.14	3.14	4.19	4.52	4.57
27	3.87	4.15	4.17	3.63	3.88	3.88	3.75	3.75	3.75	3.50	3.70	3.70	2.89	3.29	3.29	4.24	4.52	4.57
28	3.91	4.17	4.21	3.63	3.88	3.88	3.75	3.75	3.75	3.60	3.70	3.70	2.89	3.29	3.29	4.29	4.57	4.62
29	3.93	4.23	4.25	3.75	4.13	4.13	3.75	4.20	3.75	3.60	3.70	3.70	2.89	3.29	3.29	4.29	4.62	4.67
30	3.98	4.25	4.29	3.75	4.13	4.13	3.75	4.20	4.20	3.60	3.70	3.80	3.14	3.29	3.29	4.33	4.67	4.71
31	4.02	4.29	4.31	3.75	4.13	4.25	3.75	4.20	4.20	3.60	3.80	3.80	3.14	3.43	3.43	4.38	4.71	4.76
32	4.05	4.31	4.35	3.88	4.25	4.25	3.75	4.20	4.20	3.60	3.80	3.80	3.14	3.43	3.43	4.38	4.71	4.81
33	4.08	4.35	4.38	3.88	4.25	4.38	3.75	4.20	4.20	3.70	3.80	3.88	3.14	3.43	3.43	4.43	4.76	4.86
34	4.10	4.38	4.42	3.88	4.38	4.38	3.75	4.20	4.20	3.70	3.80	3.90	3.14	3.43	3.43	4.48	4.81	4.90
35	4.13	4.40	4.44	4.13	4.38	4.50	3.75	4.20	4.20	3.70	3.90	3.90	3.29	3.57	3.57	4.48	4.86	4.95
36	4.15	4.42	4.46	4.13	4.38	4.50	4.20	4.20	4.20	3.70	3.90	3.90	3.29	3.57	3.57	4.52	4.86	5.04
37	4.17	4.44	4.50	4.13	4.50	4.50	4.20	4.20	4.40	3.70	3.90	3.90	3.29	3.57	3.57	4.52	4.90	5.04
38	4.19	4.48	4.54	4.25	4.50	4.50	4.20	4.40	4.40	3.70	3.90	4.08	3.29	3.57	3.71	4.57	4.95	5.09
39	4.23	4.52	4.56	4.25	4.50	4.63	4.20	4.40	4.40	3.80	3.90	4.08	3.43	3.71	3.71	4.62	5.04	5.13
40	4.25	4.54	4.60	4.25	4.63	4.63	4.20	4.40	4.40	3.80	4.08	4.08	3.43	3.71	3.71	4.62	5.09	5.17
41	4.27	4.58	4.62	4.38	4.63	4.63	4.20	4.40	4.40	3.80	4.08	4.08	3.43	3.71	3.71	4.67	5.13	5.22
42	4.29	4.60	4.65	4.38	4.63	4.75	4.20	4.40	4.40	3.80	4.08	4.15	3.43	3.86	3.86	4.67	5.17	5.26
43	4.33	4.63	4.67	4.38	4.63	4.75	4.20	4.40	4.40	3.80	4.08	4.15	3.57	3.86	3.86	4.71	5.22	5.26
44	4.35	4.65	4.71	4.38	4.63	4.75	4.20	4.40	4.40	3.90	4.08	4.15	3.57	3.86	3.86	4.76	5.26	5.30
45	4.37	4.67	4.73	4.50	4.75	4.75	4.40	4.40	4.60	3.90	4.15	4.15	3.57	3.86	4.11	4.76	5.26	5.35
46	4.38	4.69	4.75	4.50	4.75	4.75	4.40	4.40	4.60	3.90	4.15	4.15	3.57	4.11	4.11	4.81	5.30	5.39
47	4.42	4.71	4.79	4.50	4.75	4.88	4.40	4.60	4.60	3.90	4.15	4.23	3.71	4.11	4.11	4.86	5.35	5.43
48	4.44	4.75	4.81	4.50	4.75	4.88	4.40	4.60	4.60	3.90	4.15	4.23	3.71	4.11	4.11	4.86	5.39	5.43
49	4.46	4.77	4.85	4.50	4.75	4.88	4.40	4.60	4.60	3.90	4.15	4.23	3.71	4.11	4.22	4.90	5.39	5.48
50	4.48	4.81	4.87	4.63	4.75	4.88	4.40	4.60	4.60	4.08	4.23	4.23	3.71	4.22	4.22	4.95	5.43	5.48
51	4.50	4.83	4.88	4.63	4.75	4.88	4.40	4.60	4.80	4.08	4.23	4.23	3.71	4.22	4.22	5.04	5.48	5.52
52	4.54	4.85	4.92	4.63	4.88	5.17	4.40	4.60	4.80	4.08	4.23	4.31	3.86	4.22	4.33	5.09	5.48	5.57
53	4.56	4.88	4.94	4.63	4.88	5.17	4.40	4.60	4.80	4.08	4.23	4.31	3.86	4.22	4.33	5.09	5.52	5.57
54	4.58	4.90	4.98	4.63	4.88	5.17	4.40	4.60	4.80	4.08	4.23	4.31	3.86	4.33	4.33	5.13	5.52	5.61
55	4.62	4.92	5.02	4.75	4.88	5.17	4.40	4.80	4.80	4.15	4.23	4.31	3.86	4.33	4.44	5.17	5.57	5.61
56	4.63	4.94	5.05	4.75	4.88	5.17	4.60	4.80	4.80	4.15	4.31	4.31	4.11	4.33	4.44	5.22	5.57	5.65
57	4.65	4.98	5.09	4.75	4.88	5.33	4.60	4.80	4.80	4.15	4.31	4.38	4.11	4.44	4.44	5.26	5.61	5.70
58	4.67	5.02	5.12	4.75	5.17	5.33	4.60	4.80	4.80	4.15	4.31	4.38	4.11	4.44	4.44	5.26	5.61	5.70
59	4.69	5.05	5.16	4.75	5.17	5.33	4.60	4.80	5.17	4.15	4.31	4.38	4.11	4.44	4.56	5.30	5.65	5.74
60	4.73	5.07	5.19	4.75	5.17	5.33	4.60	4.80	5.17	4.23	4.31	4.38	4.22	4.44	4.56	5.30	5.65	5.74
61	4.75	5.09	5.21	4.75	5.17	5.50	4.60	4.80	5.17	4.23	4.38	4.46	4.22	4.56	4.56	5.35	5.70	5.78
62	4.77	5.12	5.23	4.75	5.17	5.50	4.60	4.80	5.17	4.23	4.38	4.46	4.22	4.56	4.67	5.35	5.70	5.78
63	4.79	5.14	5.28	4.88	5.17	5.50	4.60	4.80	5.17	4.23	4.38	4.46	4.22	4.56	4.67	5.39	5.74	5.83
64	4.81	5.16	5.30	4.88	5.33	5.50	4.80	5.17	5.17	4.23	4.38	4.46	4.33	4.56	4.67	5.39	5.74	5.83
65	4.85	5.21	5.33	4.88	5.33	5.51	4.80	5.17	5.17	4.23	4.38	4.46	4.33	4.67	4.67	5.43	5.78	5.87
66	4.87	5.23	5.37	4.88	5.33	5.67	4.80	5.17	5.33	4.31	4.46	4.54	4.33	4.67	4.78	5.43	5.78	5.87
67	4.88	5.26	5.40	4.88	5.33	5.67	4.80	5.17	5.33	4.31	4.46	4.54	4.33	4.67	4.78	5.48	5.80	5.91
68	4.90	5.28	5.42	4.88	5.33	5.67	4.80	5.17	5.33	4.31	4.46	4.54	4.44	4.78	4.78	5.48	5.83	5.91
69	4.92	5.30	5.47	4.88	5.33	5.83	4.80	5.17	5.33	4.31	4.46	4.54	4.44	4.78	4.78	5.52	5.83	5.91
70	4.94																	

Seven

Sample Size		3,666		1,283		3,326															
Percentile	Total Score						ALG			DAT			GEO			ME			NUM		
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End			
1	1.48	1.42	1.67	0.00	0.00	0.00	0.50	0.00	0.50	0.20	0.00	0.06	0.33	0.33	0.33	1.20	1.20	1.57			
2	1.86	1.62	2.13	0.29	0.00	0.00	1.25	0.50	1.25	0.60	0.34	0.40	0.67	0.33	1.33	1.60	1.46	2.10			
3	2.14	1.79	2.32	0.50	0.00	0.50	1.50	1.25	1.50	0.80	0.40	0.80	1.33	0.67	1.67	2.19	1.89	2.50			
4	2.39	2.07	2.54	0.50	0.50	0.50	1.75	1.50	1.50	1.25	0.60	1.25	1.67	1.33	2.11	2.60	2.12	2.90			
5	2.57	2.18	2.68	0.50	0.50	1.25	1.75	1.50	1.75	1.50	0.80	1.50	2.11	1.33	2.11	2.88	2.30	3.10			
6	2.71	2.29	2.86	1.25	0.50	1.25	2.17	1.75	2.17	1.75	1.25	1.72	2.11	1.67	2.22	3.10	2.40	3.25			
7	2.82	2.43	3.02	1.25	0.50	1.50	2.33	1.75	2.17	1.75	1.50	1.75	2.22	1.67	2.33	3.20	2.70	3.40			
8	2.96	2.60	3.11	1.50	1.25	1.50	2.33	1.75	2.33	2.25	1.50	2.25	2.22	2.11	2.44	3.25	2.90	3.50			
9	3.07	2.64	3.22	1.50	1.25	1.75	2.50	2.17	2.33	2.25	1.75	2.50	2.33	2.22	2.44	3.35	3.10	3.60			
10	3.13	2.77	3.29	1.75	1.25	2.33	2.50	2.17	2.50	2.50	2.25	2.75	2.44	2.33	2.56	3.45	3.25	3.70			
11	3.20	2.93	3.36	1.75	1.50	2.67	2.50	2.33	2.67	2.50	2.25	2.75	2.44	2.33	2.56	3.50	3.30	3.75			
12	3.24	3.09	3.44	2.33	1.50	2.67	2.67	2.33	2.67	2.75	2.25	2.75	2.56	2.44	2.67	3.55	3.40	3.80			
13	3.31	3.13	3.51	2.38	1.50	3.13	2.67	2.50	2.83	2.75	2.50	3.10	2.56	2.44	2.67	3.60	3.45	3.90			
14	3.36	3.20	3.58	2.67	1.75	3.13	2.83	2.50	2.83	2.75	2.50	3.10	2.56	2.56	2.67	3.65	3.55	3.95			
15	3.42	3.26	3.67	3.13	1.75	3.13	2.83	2.67	3.25	3.10	2.75	3.20	2.64	2.56	2.78	3.70	3.60	4.05			
16	3.47	3.33	3.72	3.13	2.33	3.25	2.83	2.67	3.25	3.10	2.75	3.20	2.67	2.56	2.78	3.75	3.69	4.14			
17	3.51	3.37	3.80	3.13	2.33	3.25	3.25	2.67	3.25	3.10	2.91	3.20	2.67	2.56	2.78	3.80	3.71	4.19			
18	3.53	3.40	3.84	3.13	2.67	3.38	3.25	2.83	3.50	3.20	3.10	3.30	2.67	2.67	2.78	3.85	3.77	4.24			
19	3.60	3.47	3.89	3.25	2.67	3.38	3.25	2.83	3.50	3.20	3.10	3.30	2.78	2.67	2.89	3.90	3.80	4.29			
20	3.62	3.53	3.93	3.25	3.13	3.50	3.50	2.83	3.50	3.20	3.10	3.30	2.78	2.67	2.89	3.95	3.85	4.33			
21	3.69	3.58	3.98	3.38	3.13	3.50	3.50	2.83	3.50	3.30	3.20	3.40	2.78	2.67	2.89	4.05	3.90	4.38			
22	3.73	3.60	4.04	3.38	3.13	3.63	3.50	3.25	3.50	3.30	3.20	3.40	2.78	2.78	3.14	4.10	3.93	4.43			
23	3.78	3.64	4.06	3.50	3.13	3.63	3.50	3.25	3.75	3.30	3.20	3.50	2.78	2.78	3.14	4.14	3.95	4.48			
24	3.82	3.69	4.12	3.50	3.25	3.75	3.50	3.25	3.75	3.40	3.30	3.50	2.89	2.78	3.14	4.19	4.05	4.52			
25	3.87	3.73	4.15	3.50	3.25	3.75	3.75	3.25	3.75	3.40	3.30	3.50	2.89	2.78	3.14	4.24	4.10	4.57			
26	3.89	3.78	4.19	3.63	3.38	3.88	3.75	3.50	3.75	3.40	3.30	3.60	2.89	2.89	3.29	4.29	4.14	4.62			
27	3.93	3.84	4.25	3.63	3.38	3.88	3.75	3.50	4.20	3.40	3.40	3.60	2.89	2.89	3.29	4.32	4.19	4.67			
28	3.98	3.87	4.27	3.75	3.38	4.13	3.75	3.50	4.20	3.50	3.40	3.60	3.14	2.89	3.29	4.33	4.24	4.71			
29	4.04	3.91	4.31	3.75	3.50	4.13	3.75	3.50	4.20	3.50	3.40	3.60	3.14	3.14	3.29	4.38	4.29	4.76			
30	4.08	3.96	4.35	3.75	3.50	4.13	3.75	3.55	4.20	3.50	3.50	3.70	3.14	3.14	3.43	4.43	4.33	4.76			
31	4.10	4.02	4.38	3.88	3.50	4.25	4.20	3.75	4.20	3.50	3.50	3.70	3.14	3.14	3.43	4.45	4.38	4.86			
32	4.13	4.04	4.40	3.88	3.63	4.25	4.20	3.75	4.20	3.60	3.50	3.70	3.29	3.14	3.43	4.48	4.43	4.89			
33	4.17	4.06	4.44	3.88	3.63	4.38	4.20	3.75	4.40	3.60	3.50	3.72	3.29	3.14	3.43	4.52	4.48	4.90			
34	4.21	4.11	4.48	4.13	3.75	4.38	4.20	3.75	4.40	3.60	3.60	3.80	3.29	3.29	3.57	4.57	4.48	4.95			
35	4.23	4.13	4.51	4.13	3.75	4.38	4.20	3.75	4.40	3.60	3.60	3.80	3.29	3.29	3.57	4.57	4.52	5.04			
36	4.27	4.15	4.54	4.25	3.75	4.50	4.20	4.20	4.40	3.60	3.60	3.80	3.29	3.29	3.57	4.62	4.57	5.09			
37	4.29	4.19	4.56	4.25	3.88	4.50	4.20	4.20	4.40	3.70	3.70	3.90	3.43	3.29	3.71	4.67	4.62	5.09			
38	4.31	4.23	4.60	4.38	3.88	4.50	4.40	4.20	4.60	3.70	3.70	3.90	3.43	3.43	3.71	4.71	4.67	5.13			
39	4.35	4.25	4.62	4.38	4.13	4.63	4.40	4.20	4.60	3.70	3.70	3.90	3.43	3.43	3.71	4.71	4.71	5.17			
40	4.37	4.31	4.65	4.38	4.13	4.63	4.40	4.20	4.60	3.70	3.70	3.90	3.43	3.57	3.71	4.76	4.76	5.22			
41	4.39	4.33	4.67	4.50	4.25	4.63	4.40	4.20	4.60	3.80	3.80	4.08	3.57	3.57	3.86	4.81	4.81	5.26			
42	4.42	4.37	4.71	4.50	4.25	4.75	4.40	4.26	4.60	3.80	3.80	4.08	3.57	3.57	3.86	4.86	4.81	5.30			
43	4.44	4.40	4.73	4.50	4.31	4.75	4.40	4.40	4.60	3.80	3.80	4.08	3.57	3.71	3.86	4.90	4.86	5.35			
44	4.48	4.44	4.77	4.63	4.38	4.75	4.40	4.40	4.60	3.80	3.90	4.08	3.57	3.71	4.11	4.95	4.95	5.39			
45	4.52	4.48	4.79	4.63	4.38	4.88	4.40	4.40	4.80	3.80	3.90	4.08	3.71	3.71	4.11	5.04	5.04	5.39			
46	4.56	4.50	4.83	4.63	4.50	4.88	4.60	4.40	4.80	3.90	3.90	4.15	3.71	3.86	4.11	5.09	5.13	5.43			
47	4.58	4.54	4.85	4.68	4.50	4.88	4.60	4.40	4.80	3.90	3.90	4.15	3.71	3.86	4.22	5.09	5.17	5.48			
48	4.62	4.56	4.88	4.75	4.50	4.88	4.60	4.60	4.80	3.90	4.08	4.15	3.71	3.86	4.22	5.13	5.17	5.52			
49	4.63	4.60	4.90	4.75	4.63	5.17	4.60	4.60	4.80	3.90	4.08	4.15	3.86	4.11	4.22	5.17	5.22	5.52			
50	4.67	4.63	4.94	4.75	4.63	5.17	4.60	4.60	4.80	3.90	4.08	4.23	3.86	4.11	4.22	5.22	5.26	5.57			
51	4.69	4.67	4.96	4.75	4.63	5.17	4.60	4.60	5.17	4.08	4.15	4.23	3.86	4.11	4.33	5.26	5.30	5.57			
52	4.71	4.74	4.98	4.88	4.63	5.17	4.60	4.80	5.17	4.08	4.15	4.23	3.86	4.11	4.33	5.30	5.35	5.61			
53	4.73	4.81	5.05	4.88	4.75	5.33	4.80	4.80	5.17	4.08	4.15	4.23	4.11	4.22	4.33	5.32	5.39	5.65			
54	4.75	4.85	5.07	4.88	4.75	5.33	4.80	4.80	5.17	4.08	4.15	4.23	4.11	4.22	4.44	5.35	5.48	5.65			
55	4.77	4.90	5.12	4.88	4.82	5.33	4.80	4.80	5.17	4.08	4.23	4.31	4.11	4.22	4.44	5.39	5.50	5.70			
56	4.81	4.94	5.14	5.17	4.88	5.33	4.80	4.80	5.17	4.08	4.23	4.31	4.11	4.33	4.44	5.43	5.57	5.74			
57	4.83	4.96	5.19	5.17	4.88	5.50	4.80	5.17	5.17	4.15	4.23	4.31	4.22	4.33	4.56						

Eight

Sample Size 2,344 730 1,167

Percentile	Total Score			ALG			DAT			GEO			ME			NUM		
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End
1	1.38	1.10	1.13	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.33	0.00	0.33	1.10	0.35	0.40
2	1.76	1.27	1.59	0.00	0.00	0.00	1.25	0.00	0.00	0.40	0.20	0.20	0.33	0.33	0.33	1.55	0.80	0.80
3	2.07	1.38	1.81	0.00	0.00	0.00	1.25	0.00	1.25	0.60	0.20	0.40	0.67	0.33	0.67	1.95	1.23	1.40
4	2.20	1.67	1.90	0.50	0.00	0.12	1.50	0.50	1.25	0.80	0.40	0.60	1.33	0.67	0.67	2.30	1.50	1.60
5	2.32	1.76	2.11	0.50	0.50	0.50	1.50	1.25	1.50	1.25	0.40	0.80	1.67	0.67	1.33	2.60	1.69	2.20
6	2.43	1.90	2.21	0.50	0.50	0.50	1.75	1.25	1.50	1.50	0.60	1.25	1.67	0.67	1.33	2.80	1.70	2.40
7	2.54	2.11	2.31	0.50	0.50	0.50	1.75	1.50	1.75	1.50	0.80	1.25	2.11	1.33	1.33	3.05	1.98	2.60
8	2.64	2.19	2.50	0.50	0.50	0.50	2.17	1.50	1.75	1.75	1.25	1.50	2.11	1.33	1.67	3.10	2.30	2.78
9	2.75	2.28	2.61	1.25	1.25	0.91	2.17	1.75	1.75	1.75	1.50	1.50	2.22	1.67	2.11	3.15	2.40	2.90
10	2.89	2.36	2.68	1.25	1.25	1.25	2.33	1.75	2.17	2.25	1.50	1.75	2.22	2.11	2.11	3.20	2.60	3.10
11	3.02	2.39	2.79	1.50	1.25	1.25	2.33	1.75	2.17	2.50	1.50	1.75	2.33	2.11	2.22	3.30	2.70	3.15
12	3.09	2.46	2.86	1.50	1.25	1.50	2.33	1.75	2.17	2.50	1.75	1.75	2.44	2.11	2.22	3.40	2.80	3.20
13	3.13	2.57	3.02	1.50	1.50	1.50	2.50	2.17	2.33	2.50	1.75	2.25	2.44	2.22	2.33	3.45	3.05	3.25
14	3.20	2.64	3.04	1.75	1.50	1.50	2.50	2.17	2.33	2.75	2.25	2.50	2.44	2.22	2.33	3.50	3.14	3.30
15	3.24	2.71	3.09	2.33	1.75	1.75	2.67	2.17	2.50	2.75	2.25	2.50	2.56	2.33	2.33	3.55	3.18	3.35
16	3.31	2.82	3.13	2.33	1.75	1.75	2.67	2.33	2.50	2.75	2.25	2.50	2.56	2.33	2.44	3.60	3.25	3.45
17	3.36	2.93	3.20	2.33	2.33	2.33	2.83	2.33	2.50	3.10	2.50	2.75	2.56	2.44	2.44	3.69	3.30	3.50
18	3.40	3.02	3.24	2.67	2.33	2.33	2.83	2.33	2.50	3.10	2.50	2.75	2.67	2.44	2.44	3.73	3.35	3.57
19	3.44	3.02	3.29	2.67	2.33	2.67	2.83	2.50	2.67	3.20	2.75	2.96	2.67	2.56	2.56	3.75	3.45	3.60
20	3.49	3.13	3.35	3.13	2.33	2.67	3.25	2.50	2.67	3.20	2.75	3.10	2.67	2.56	2.56	3.80	3.50	3.70
21	3.53	3.18	3.40	3.13	2.67	3.13	3.25	2.50	2.67	3.30	2.75	3.10	2.67	2.56	2.56	3.85	3.55	3.70
22	3.58	3.23	3.44	3.13	2.67	3.13	3.25	2.60	2.83	3.30	3.10	3.20	2.78	2.56	2.67	3.90	3.60	3.75
23	3.63	3.29	3.47	3.13	3.13	3.13	3.25	2.67	2.83	3.30	3.10	3.20	2.78	2.56	2.67	4.05	3.65	3.80
24	3.67	3.36	3.53	3.25	3.13	3.13	3.50	2.73	2.83	3.40	3.10	3.20	2.78	2.67	2.67	4.05	3.70	3.85
25	3.71	3.40	3.58	3.25	3.13	3.25	3.50	2.83	3.25	3.40	3.20	3.30	2.78	2.67	2.78	4.10	3.75	3.90
26	3.73	3.42	3.62	3.38	3.13	3.25	3.50	2.83	3.25	3.40	3.20	3.30	2.78	2.67	2.78	4.14	3.80	3.95
27	3.80	3.49	3.67	3.38	3.25	3.25	3.50	3.25	3.25	3.50	3.20	3.30	2.89	2.67	2.78	4.19	3.85	4.05
28	3.84	3.52	3.71	3.44	3.25	3.38	3.50	3.25	3.25	3.50	3.30	3.40	2.89	2.67	2.78	4.24	3.90	4.05
29	3.89	3.56	3.76	3.50	3.38	3.38	3.52	3.25	3.25	3.50	3.30	3.40	2.89	2.78	2.78	4.29	3.92	4.10
30	3.93	3.58	3.78	3.50	3.38	3.38	3.75	3.25	3.50	3.50	3.30	3.40	2.89	2.78	2.89	4.33	4.05	4.14
31	3.96	3.62	3.82	3.50	3.38	3.50	3.75	3.25	3.50	3.60	3.40	3.50	3.14	2.78	2.89	4.38	4.09	4.19
32	4.00	3.64	3.87	3.63	3.50	3.50	3.75	3.50	3.50	3.60	3.40	3.50	3.14	2.78	2.89	4.38	4.14	4.19
33	4.04	3.71	3.89	3.63	3.50	3.50	3.75	3.50	3.50	3.60	3.40	3.50	3.14	2.78	2.89	4.43	4.14	4.24
34	4.08	3.78	3.91	3.75	3.50	3.63	3.75	3.50	3.75	3.70	3.50	3.50	3.14	2.84	2.89	4.48	4.24	4.29
35	4.10	3.80	3.96	3.75	3.50	3.63	4.20	3.50	3.75	3.70	3.50	3.60	3.29	2.89	3.14	4.48	4.24	4.29
36	4.13	3.82	3.98	3.75	3.63	3.75	4.20	3.50	3.75	3.70	3.50	3.60	3.29	2.89	3.14	4.52	4.29	4.33
37	4.17	3.87	4.04	3.88	3.63	3.75	4.20	3.75	3.75	3.70	3.56	3.60	3.29	2.89	3.14	4.57	4.33	4.33
38	4.21	3.89	4.08	3.88	3.63	3.75	4.20	3.75	4.20	3.70	3.60	3.70	3.29	2.89	3.17	4.62	4.38	4.43
39	4.23	3.91	4.11	3.88	3.68	3.88	4.20	3.75	4.20	3.80	3.60	3.70	3.29	3.14	3.29	4.63	4.38	4.43
40	4.25	3.96	4.12	4.13	3.75	3.88	4.20	3.75	4.20	3.80	3.60	3.70	3.29	3.14	3.29	4.67	4.43	4.52
41	4.27	4.01	4.15	4.13	3.75	3.88	4.40	3.75	4.20	3.80	3.60	3.70	3.43	3.14	3.29	4.71	4.48	4.52
42	4.31	4.04	4.19	4.13	3.88	4.13	4.40	4.20	4.20	3.80	3.70	3.80	3.43	3.14	3.29	4.76	4.52	4.57
43	4.33	4.08	4.23	4.25	3.88	4.13	4.40	4.20	4.40	3.90	3.70	3.80	3.43	3.29	3.38	4.76	4.57	4.62
44	4.35	4.12	4.25	4.25	3.88	4.13	4.40	4.20	4.40	3.90	3.70	3.80	3.43	3.29	3.43	4.81	4.57	4.62
45	4.38	4.15	4.29	4.38	4.13	4.25	4.40	4.20	4.40	3.90	3.70	3.80	3.57	3.29	3.43	4.86	4.62	4.67
46	4.40	4.17	4.33	4.38	4.13	4.25	4.40	4.20	4.40	3.90	3.80	3.80	3.57	3.29	3.43	4.90	4.67	4.67
47	4.42	4.20	4.35	4.50	4.13	4.38	4.60	4.20	4.40	3.90	3.80	3.90	3.57	3.29	3.57	4.90	4.67	4.71
48	4.45	4.25	4.38	4.50	4.14	4.38	4.60	4.34	4.60	3.90	3.80	3.90	3.71	3.41	3.57	4.95	4.71	4.76
49	4.48	4.27	4.41	4.50	4.25	4.50	4.60	4.40	4.60	4.08	3.80	3.90	3.71	3.43	3.57	5.04	4.71	4.81
50	4.52	4.31	4.44	4.50	4.25	4.50	4.60	4.40	4.60	4.08	3.80	3.90	3.71	3.43	3.57	5.09	4.79	4.81
51	4.56	4.35	4.46	4.50	4.38	4.50	4.60	4.40	4.60	4.08	3.90	4.08	3.71	3.43	3.71	5.09	4.82	4.86
52	4.58	4.37	4.48	4.63	4.38	4.50	4.60	4.40	4.60	4.08	3.90	4.08	3.86	3.43	3.71	5.13	4.90	4.90
53	4.60	4.39	4.52	4.63	4.38	4.50	4.80	4.40	4.60	4.08	3.90	4.08	3.86	3.49	3.71	5.17	4.90	4.90
54	4.62	4.44	4.55	4.63	4.38	4.63	4.80	4.40	4.80	4.08	3.90	4.08	3.86	3.57	3.71	5.20	4.93	4.95
55	4.65	4.46	4.60	4.75	4.50	4.63	4.80	4.40	4.80	4.15	3.90	4.08	3.98	3.57	3.86	5.22	4.95	5.04
56	4.69	4.49	4.62	4.75	4.50	4.75	4.80	4.40	4.80	4.15	4.08	4.15	4.11	3.57	3.86	5.26	5.04	5.09
57	4.71	4.51	4.63	4.75	4.50	4.75	4.80	4.60	4.80	4.15	4.08	4.15	4.11	3.71	3.86	5.26	5.04	5.13
58	4.73	4.52	4.67	4.75	4.63	4.75	4.80	4.60	4.80	4.15	4.08	4.15	4.11	3.71	4.11	5.30	5.12	5.17
59	4.75	4.56	4.69	4.88	4.63	4.75	4.80	4.60	4.80	4.15	4.08	4.23	4.16	3.71	4.11	5.35	5.13	5.18
60	4.79	4.58	4.71	4.88	4.75	4.88	5.17	4.80	5.17	4.23	4.11	4.23	4.22	3.71	4.11	5.39	5.17	5.26
61	4.81	4.60	4.75	4.88	4.75	4.88	5.17	4.80	5.17	4.23	4.15	4.23	4.22	3.86	4.22	5.42	5.22	5.26
62	4.85	4.63	4.77	4.88	4.75	5.09	5.17	4.80	5.17	4.23	4.15	4.23	4.22	3.86	4.22	5.43	5.26	5.30
63	4.87	4.65	4.79	5.17	4.88	5.17	5.17	4.80	5.17	4.23	4.15	4.31	4.22	3.86	4.22	5.48	5.30	5.31
64	4.90	4.67	4.83	5.17	4.88	5.17	5.17	4.80	5.17	4.23	4.15	4.31	4.33	3.86	4.22	5.52	5.35	5.35
65	4.92	4.69	4.87	5.17	4.88	5.33	5.17	4.80	5.17	4.31	4.23	4.31	4.33	4.11	4.33	5.52	5.39	5.39
66	4.94	4.71	4.90	5.33	5.17	5.33	5.17	5.17	5.17	4.31	4.23	4.31	4.33	4.11	4.33	5.57	5.42	5.43
67	4.96	4.73	4.94	5.33	5.17	5.33	5.33	5.17	5.33	4.31	4.23	4.38	4.44	4.22	4.44	5.61	5.43	5.48
68	5.02	4.77	4.96	5.33	5.17	5.34	5.33	5.17	5.33	4.31	4.23	4.38	4.44	4.22	4.44	5.61	5.48	5.48
69	5.05	4.79	5.02	5.50	5.33	5.50	5.33	5.17	5.33	4.31	4.31	4.38	4.44	4.22	4.44	5.65	5.52	5.52
70	5.09																	

Nine

Sample Size		558			200			321														
Percentile	Total Score			ALG			DAT			GEO			ME			NUM						
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End				
1	0.80	1.05	0.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.33	0.60	0.41	0.20			
2	1.52	1.10	1.37	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.20	0.00	0.00	0.33	0.33	0.48	1.20	0.63	0.40			
3	1.66	1.33	1.60	0.00	0.00	0.00	0.50	0.00	0.50	0.20	0.20	0.20	0.67	0.33	0.67	1.30	1.20	1.20				
4	1.76	1.48	1.76	0.00	0.00	0.50	1.25	0.12	1.25	0.20	0.40	0.40	0.67	0.67	0.67	1.50	1.43	1.60				
5	1.86	1.63	2.11	0.00	0.00	0.50	1.25	0.50	1.25	0.20	0.40	0.46	0.67	0.67	0.74	1.90	1.50	1.70				
6	2.04	1.91	2.21	0.50	0.50	0.50	1.25	1.25	1.25	0.40	0.40	0.80	1.18	0.75	1.67	2.19	1.54	1.80				
7	2.07	2.07	2.29	0.50	0.50	0.50	1.25	1.25	1.44	0.60	0.60	0.80	1.33	1.33	1.67	2.36	1.80	2.31				
8	2.14	2.11	2.37	0.50	0.50	0.50	1.25	1.25	1.50	0.60	0.68	1.50	1.33	1.67	2.11	2.50	2.01	2.40				
9	2.29	2.18	2.50	0.50	0.50	0.50	1.25	1.25	1.75	0.80	0.80	1.50	1.33	1.67	2.11	2.60	2.10	2.50				
10	2.36	2.25	2.62	0.50	0.50	0.50	1.50	1.25	1.75	1.25	1.03	1.50	1.67	2.11	2.22	2.70	2.31	2.90				
11	2.43	2.32	2.77	0.50	0.50	1.25	1.50	1.50	2.17	1.25	1.25	1.72	1.67	2.11	2.22	2.80	2.40	3.12				
12	2.50	2.43	2.86	0.50	0.50	1.25	1.50	1.50	2.17	1.50	1.40	1.75	1.67	2.11	2.22	2.90	2.75	3.15				
13	2.54	2.47	2.89	1.25	0.50	1.25	1.75	1.50	2.21	1.50	1.50	1.94	2.11	2.11	2.33	3.05	2.80	3.20				
14	2.64	2.50	2.93	1.25	1.24	1.41	1.75	1.71	2.33	1.57	1.50	2.25	2.11	2.11	2.33	3.10	2.90	3.25				
15	2.68	2.54	2.96	1.25	1.25	1.50	1.75	1.75	2.33	1.75	1.69	2.25	2.11	2.22	2.44	3.14	2.90	3.30				
16	2.77	2.55	3.02	1.50	1.25	1.50	1.75	1.75	2.50	1.75	1.75	2.29	2.12	2.22	2.44	3.20	3.06	3.30				
17	2.89	2.62	3.09	1.50	1.25	1.75	1.98	1.75	2.50	2.25	1.75	2.50	2.22	2.22	2.56	3.25	3.11	3.35				
18	2.91	2.69	3.16	1.50	1.25	1.75	2.17	2.17	2.50	2.25	1.75	2.50	2.26	2.33	2.56	3.29	3.15	3.37				
19	2.94	2.82	3.22	1.75	1.25	1.75	2.17	2.17	2.50	2.25	2.23	2.74	2.33	2.33	2.56	3.30	3.18	3.49				
20	3.01	2.96	3.24	1.75	1.35	1.75	2.33	2.17	2.50	2.50	2.25	2.75	2.33	2.33	2.60	3.35	3.25	3.55				
21	3.07	2.96	3.24	1.75	1.50	2.33	2.33	2.17	2.67	2.50	2.25	2.75	2.33	2.44	2.67	3.40	3.27	3.57				
22	3.13	3.02	3.29	2.33	1.64	2.33	2.33	2.17	2.67	2.50	2.25	3.10	2.44	2.44	2.67	3.45	3.30	3.60				
23	3.17	3.02	3.31	2.33	1.75	2.33	2.50	2.23	2.83	2.50	2.25	3.10	2.44	2.44	2.67	3.45	3.35	3.65				
24	3.20	3.04	3.33	2.33	1.75	2.67	2.50	2.33	2.83	2.54	2.50	3.10	2.56	2.56	2.67	3.50	3.42	3.66				
25	3.22	3.05	3.35	2.67	2.19	2.67	2.50	2.33	2.83	2.75	2.50	3.10	2.56	2.56	2.78	3.55	3.45	3.70				
26	3.25	3.08	3.40	2.67	2.33	3.02	2.67	2.33	3.25	2.75	2.75	3.18	2.56	2.56	2.78	3.60	3.45	3.70				
27	3.29	3.11	3.44	2.67	2.33	3.13	2.67	2.44	3.25	2.75	2.75	3.20	2.67	2.56	2.78	3.60	3.49	3.75				
28	3.31	3.14	3.45	3.13	2.33	3.13	2.67	2.50	3.25	3.10	2.75	3.20	2.67	2.67	2.78	3.65	3.50	3.77				
29	3.38	3.18	3.51	3.13	2.67	3.13	2.67	2.50	3.25	3.10	2.75	3.20	2.67	2.67	2.78	3.70	3.55	3.85				
30	3.41	3.18	3.56	3.13	2.67	3.25	2.77	2.50	3.38	3.10	3.10	3.30	2.67	2.67	2.78	3.70	3.60	3.85				
31	3.44	3.24	3.60	3.13	2.67	3.25	2.83	2.65	3.50	3.20	3.10	3.30	2.67	2.67	2.89	3.75	3.60	3.90				
32	3.47	3.32	3.62	3.25	3.13	3.25	2.83	2.67	3.50	3.20	3.10	3.30	2.78	2.67	2.89	3.75	3.65	3.90				
33	3.49	3.35	3.65	3.25	3.13	3.25	2.83	2.67	3.50	3.20	3.17	3.30	2.78	2.67	2.89	3.80	3.65	3.95				
34	3.51	3.39	3.67	3.38	3.13	3.25	2.86	2.83	3.50	3.30	3.20	3.40	2.78	2.67	2.89	3.80	3.65	4.05				
35	3.56	3.43	3.70	3.38	3.13	3.38	3.25	2.83	3.50	3.30	3.30	3.40	2.78	2.78	3.14	3.85	3.70	4.08				
36	3.60	3.44	3.76	3.38	3.13	3.38	3.25	2.83	3.50	3.30	3.30	3.40	2.89	2.78	3.14	3.90	3.70	4.10				
37	3.64	3.45	3.80	3.38	3.13	3.38	3.25	2.83	3.50	3.30	3.30	3.50	2.89	2.78	3.14	3.90	3.73	4.10				
38	3.69	3.47	3.80	3.38	3.13	3.50	3.50	2.95	3.50	3.40	3.30	3.50	2.89	2.78	3.14	3.95	3.75	4.10				
39	3.71	3.52	3.82	3.50	3.13	3.50	3.50	3.25	3.75	3.40	3.40	3.50	2.89	2.87	3.14	4.05	3.79	4.19				
40	3.71	3.55	3.86	3.50	3.23	3.50	3.50	3.25	3.75	3.40	3.40	3.60	2.89	2.89	3.14	4.10	3.80	4.24				
41	3.74	3.58	3.89	3.50	3.25	3.50	3.50	3.25	3.75	3.50	3.40	3.60	2.89	2.89	3.29	4.14	3.80	4.29				
42	3.78	3.61	3.91	3.63	3.25	3.62	3.50	3.25	3.75	3.50	3.50	3.60	3.14	2.89	3.29	4.19	3.85	4.29				
43	3.82	3.65	3.91	3.63	3.25	3.63	3.50	3.40	3.75	3.50	3.50	3.60	3.14	2.89	3.29	4.19	3.85	4.33				
44	3.87	3.70	3.96	3.63	3.39	3.63	3.75	3.50	3.75	3.50	3.50	3.60	3.14	3.14	3.29	4.24	3.96	4.34				
45	3.89	3.72	4.02	3.63	3.50	3.71	3.75	3.50	4.20	3.56	3.50	3.60	3.14	3.14	3.29	4.24	4.05	4.38				
46	3.91	3.73	4.06	3.63	3.50	3.75	3.75	3.50	4.20	3.60	3.50	3.70	3.29	3.14	3.43	4.29	4.06	4.38				
47	3.93	3.76	4.08	3.75	3.50	3.75	3.75	3.50	4.20	3.60	3.60	3.70	3.29	3.14	3.43	4.29	4.14	4.43				
48	3.93	3.78	4.08	3.75	3.50	3.81	3.75	3.50	4.20	3.60	3.60	3.70	3.29	3.14	3.43	4.33	4.16	4.43				
49	3.98	3.82	4.12	3.88	3.50	3.88	4.20	3.50	4.20	3.70	3.60	3.70	3.29	3.14	3.43	4.38	4.19	4.47				
50	4.04	3.83	4.13	3.88	3.63	3.88	4.20	3.50	4.30	3.70	3.60	3.80	3.43	3.14	3.57	4.43	4.19	4.48				
51	4.06	3.86	4.15	3.88	3.63	4.13	4.20	3.75	4.40	3.70	3.66	3.80	3.43	3.14	3.57	4.43	4.19	4.52				
52	4.08	3.87	4.20	3.88	3.75	4.13	4.20	3.75	4.40	3.70	3.70	3.80	3.43	3.29	3.57	4.51	4.24	4.52				
53	4.13	3.87	4.23	3.88	3.75	4.25	4.20	3.75	4.40	3.70	3.70	3.80	3.43	3.29	3.57	4.57	4.29	4.57				
54	4.19	3.90	4.25	4.13	3.88	4.38	4.20	3.75	4.40	3.80	3.70	3.80	3.43	3.30	3.69	4.62	4.29	4.58				
55	4.21	3.93	4.29	4.13	3.88	4.38	4.20	3.89	4.55	3.80	3.78	3.90	3.57	3.43	3.71	4.67	4.32	4.62				
56	4.25	3.95	4.33	4.25	3.88	4.50	4.40	4.20	4.60	3.80	3.80	3.90	3.57	3.43	3.86	4.67	4.33	4.67				
57	4.27	3.96	4.38	4.25	3.88	4.50	4.40	4.20	4.60	3.90	3.80	3.90	3.57	3.43	3.86							

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Sample Size 411 182 326																		
Percentile	Total Score			ALG			DAT			GEO			ME			NUM		
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End
1	0.79	0.31	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.40	0.33	0.40
2	1.14	0.88	1.22	0.00	0.00	0.00	0.00	0.00	0.31	0.06	0.00	0.20	0.00	0.00	0.33	0.80	0.53	0.60
3	1.32	1.31	1.47	0.00	0.00	0.00	0.50	0.00	0.50	0.20	0.12	0.39	0.13	0.33	0.67	1.14	1.05	0.80
4	1.64	1.76	1.57	0.00	0.00	0.00	1.25	0.77	0.68	0.40	0.40	0.40	0.33	0.33	0.67	1.45	1.33	1.40
5	1.74	2.04	1.87	0.35	0.50	0.30	1.25	1.25	1.25	0.60	0.60	0.60	0.67	0.38	0.67	1.60	1.50	1.47
6	2.01	2.21	2.01	0.50	0.50	0.50	1.25	1.25	1.25	0.80	0.87	0.60	0.67	1.32	0.67	1.78	1.70	1.60
7	2.14	2.21	2.10	0.50	0.50	0.50	1.50	1.25	1.25	0.80	1.25	0.80	1.33	1.33	0.67	2.10	1.80	1.66
8	2.29	2.21	2.25	0.50	0.50	0.50	1.50	1.43	1.25	0.80	1.47	0.80	1.33	1.67	1.33	2.21	2.20	1.90
9	2.36	2.28	2.27	0.50	0.50	0.50	1.50	1.50	1.50	1.25	1.50	0.80	1.33	1.67	1.33	2.42	2.40	2.20
10	2.47	2.39	2.32	0.50	0.95	0.50	1.50	1.50	1.50	1.25	1.75	1.25	1.67	2.11	1.33	2.53	2.70	2.50
11	2.54	2.54	2.36	0.50	1.25	1.25	1.64	1.75	1.50	1.25	1.75	1.25	1.67	2.11	1.67	2.70	2.71	2.70
12	2.54	2.57	2.57	1.25	1.33	1.25	1.75	1.78	1.50	1.50	1.91	1.50	1.67	2.22	1.67	2.80	2.90	2.70
13	2.57	2.73	2.61	1.25	1.50	1.29	1.75	2.17	1.75	1.75	2.25	1.50	2.11	2.22	2.11	2.90	3.02	2.80
14	2.68	2.75	2.67	1.25	1.50	1.50	1.75	2.17	1.75	1.75	2.25	1.50	2.20	2.22	2.22	3.02	3.14	2.90
15	2.78	2.85	2.71	1.28	1.50	1.50	2.17	2.17	1.75	1.75	2.25	1.75	2.22	2.27	2.22	3.10	3.22	3.05
16	2.86	2.96	2.79	1.50	1.75	1.50	2.17	2.33	1.75	2.25	2.44	1.75	2.22	2.33	2.33	3.15	3.30	3.10
17	2.89	3.03	2.84	1.50	1.75	1.50	2.17	2.33	2.17	2.25	2.50	1.75	2.22	2.33	2.33	3.20	3.31	3.18
18	2.93	3.07	2.96	1.75	2.33	1.69	2.33	2.33	2.17	2.25	2.75	1.75	2.33	2.33	2.33	3.22	3.35	3.25
19	3.04	3.16	3.04	1.75	2.33	1.75	2.33	2.49	2.17	2.25	2.75	2.20	2.33	2.53	2.44	3.27	3.39	3.26
20	3.04	3.19	3.08	2.21	2.67	1.75	2.33	2.50	2.17	2.50	2.75	2.25	2.44	2.56	2.56	3.35	3.50	3.30
21	3.07	3.22	3.11	2.33	2.67	2.33	2.49	2.67	2.33	2.50	3.10	2.25	2.44	2.56	2.56	3.35	3.52	3.35
22	3.09	3.22	3.13	2.33	3.09	2.33	2.50	2.67	2.33	2.52	3.10	2.46	2.44	2.56	2.56	3.44	3.60	3.40
23	3.11	3.24	3.16	2.33	3.13	2.33	2.50	2.67	2.33	2.75	3.10	2.50	2.44	2.67	2.56	3.50	3.60	3.45
24	3.13	3.27	3.18	2.33	3.13	2.67	2.50	2.70	2.50	2.75	3.16	2.50	2.56	2.67	2.67	3.55	3.65	3.50
25	3.22	3.31	3.20	2.33	3.13	2.67	2.59	2.83	2.50	2.75	3.20	2.75	2.56	2.67	2.67	3.56	3.70	3.55
26	3.27	3.43	3.24	2.67	3.13	2.67	2.67	2.83	2.50	2.75	3.20	2.75	2.56	2.67	2.67	3.60	3.75	3.60
27	3.29	3.47	3.27	2.67	3.25	2.67	2.67	3.12	2.67	3.02	3.30	2.75	2.56	2.67	2.67	3.65	3.75	3.60
28	3.31	3.51	3.31	2.67	3.25	3.11	2.67	3.25	2.67	3.10	3.30	3.10	2.67	2.67	2.67	3.65	3.76	3.65
29	3.32	3.53	3.35	3.13	3.25	3.13	2.83	3.25	2.67	3.10	3.39	3.10	2.67	2.67	2.67	3.70	3.80	3.70
30	3.33	3.60	3.38	3.13	3.38	3.13	2.83	3.25	2.83	3.20	3.40	3.20	2.67	2.77	2.78	3.75	3.85	3.70
31	3.35	3.62	3.41	3.13	3.38	3.13	2.83	3.50	2.83	3.20	3.40	3.20	2.67	2.78	2.78	3.80	3.85	3.75
32	3.40	3.63	3.46	3.13	3.38	3.13	2.83	3.50	2.83	3.20	3.40	3.20	2.78	2.78	2.78	3.80	3.88	3.75
33	3.47	3.68	3.47	3.20	3.50	3.25	2.83	3.50	2.83	3.20	3.50	3.20	2.78	2.78	2.78	3.85	3.92	3.84
34	3.49	3.69	3.49	3.25	3.50	3.25	2.83	3.50	3.25	3.30	3.50	3.30	2.78	2.78	2.84	3.85	4.05	3.85
35	3.51	3.73	3.51	3.25	3.63	3.28	3.25	3.50	3.25	3.30	3.50	3.30	2.78	2.89	2.89	3.88	4.05	3.85
36	3.58	3.76	3.55	3.38	3.63	3.38	3.25	3.75	3.25	3.30	3.50	3.30	2.78	2.89	2.89	3.90	4.10	3.90
37	3.61	3.81	3.58	3.38	3.63	3.38	3.25	3.75	3.25	3.30	3.50	3.30	2.78	2.89	2.89	3.94	4.10	3.95
38	3.64	3.82	3.63	3.38	3.63	3.38	3.50	3.75	3.25	3.40	3.50	3.30	2.89	2.89	2.89	3.95	4.12	4.05
39	3.68	3.84	3.67	3.44	3.75	3.50	3.50	3.75	3.50	3.40	3.55	3.40	2.89	2.89	3.14	3.96	4.14	4.05
40	3.71	3.87	3.69	3.50	3.75	3.50	3.50	3.75	3.50	3.40	3.60	3.44	2.89	2.89	3.14	4.05	4.20	4.10
41	3.73	3.96	3.71	3.50	3.88	3.50	3.50	3.75	3.50	3.50	3.60	3.50	2.89	3.14	3.14	4.10	4.24	4.14
42	3.78	3.98	3.73	3.50	3.88	3.50	3.50	4.20	3.50	3.50	3.60	3.60	3.01	3.14	3.14	4.10	4.24	4.14
43	3.78	4.03	3.77	3.50	3.88	3.50	3.75	4.20	3.50	3.50	3.60	3.60	3.14	3.24	3.14	4.14	4.29	4.19
44	3.81	4.06	3.80	3.63	4.13	3.50	3.75	4.20	3.50	3.50	3.70	3.60	3.14	3.29	3.14	4.18	4.31	4.22
45	3.84	4.08	3.82	3.63	4.13	3.63	3.75	4.20	3.50	3.50	3.70	3.70	3.14	3.29	3.29	4.19	4.38	4.24
46	3.88	4.10	3.88	3.75	4.13	3.63	3.75	4.20	3.57	3.60	3.70	3.70	3.14	3.29	3.29	4.24	4.38	4.29
47	3.91	4.12	3.91	3.75	4.18	3.63	3.75	4.20	3.75	3.60	3.70	3.70	3.14	3.43	3.29	4.29	4.38	4.29
48	3.91	4.16	3.93	3.75	4.25	3.63	4.07	4.20	3.75	3.60	3.70	3.79	3.14	3.43	3.43	4.29	4.47	4.32
49	4.02	4.22	3.98	3.88	4.25	3.75	4.20	4.40	3.75	3.70	3.80	3.80	3.29	3.43	3.43	4.33	4.48	4.34
50	4.04	4.24	4.02	3.88	4.25	3.75	4.20	4.40	3.75	3.70	3.80	3.80	3.29	3.43	3.43	4.33	4.52	4.38
51	4.10	4.29	4.04	3.88	4.36	3.88	4.20	4.40	3.75	3.70	3.80	3.80	3.29	3.43	3.54	4.38	4.52	4.38
52	4.13	4.35	4.08	3.88	4.38	3.88	4.20	4.54	3.75	3.80	3.80	3.80	3.29	3.57	3.57	4.43	4.58	4.43
53	4.13	4.35	4.12	4.13	4.38	3.88	4.40	4.60	4.20	3.80	3.80	3.90	3.29	3.57	3.57	4.48	4.62	4.43
54	4.15	4.37	4.15	4.13	4.38	4.13	4.40	4.60	4.20	3.80	3.90	3.90	3.29	3.57	3.57	4.48	4.66	4.48
55	4.19	4.38	4.17	4.13	4.50	4.13	4.40	4.60	4.20	3.80	3.90	3.90	3.43	3.57	3.71	4.52	4.71	4.52
56	4.20	4.40	4.25	4.25	4.50	4.13	4.40	4.60	4.20	3.80	3.90	3.90	3.43	3.64	3.71	4.52	4.71	4.54
57	4.23	4.44	4.26	4.25	4.50	4.13	4.40	4.78	4.20	3.90	3.90	3.90	3.43	3.71	3.71	4.57	4.73	4

Eleven

Sample Size		406			152			278														
Percentile	Total Score						ALG			DAT			GEO				ME			NUM		
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End				
1	1.24	0.84	1.29	0.00	0.00	0.00	0.50	0.00	0.00	0.20	0.00	0.00	0.03	0.17	0.26	0.62	0.67	0.56				
2	1.43	1.54	1.56	0.00	0.00	0.00	1.25	0.06	0.00	0.20	0.20	0.32	0.33	0.67	0.67	1.20	1.26	1.10				
3	1.53	1.86	1.81	0.12	0.36	0.00	1.25	0.50	1.25	0.40	0.63	0.40	0.67	1.06	0.67	1.52	1.84	1.60				
4	1.67	2.37	1.90	0.50	0.50	0.12	1.25	1.25	1.25	0.60	0.80	0.40	0.67	1.33	0.67	1.60	2.17	1.80				
5	1.83	2.43	2.04	0.50	0.50	0.50	1.50	1.25	1.25	0.60	0.80	0.60	0.93	1.33	1.30	1.74	2.48	1.90				
6	1.90	2.55	2.14	0.50	0.50	0.50	1.50	1.50	1.47	0.80	1.25	0.77	1.33	1.39	1.67	1.90	2.54	2.20				
7	2.19	2.57	2.23	0.50	0.50	0.50	1.50	1.50	1.50	0.80	1.25	1.25	1.33	1.67	1.67	2.16	2.69	2.20				
8	2.29	2.64	2.32	0.50	1.25	0.50	1.50	1.62	1.50	1.25	1.39	1.50	1.67	2.11	2.11	2.36	2.80	2.35				
9	2.38	2.69	2.50	0.50	1.25	0.50	1.75	1.75	1.50	1.41	1.50	1.75	1.99	2.19	2.11	2.50	2.80	2.50				
10	2.43	2.72	2.54	0.50	1.25	0.50	1.75	1.75	1.75	1.50	1.68	1.75	2.11	2.22	2.21	2.50	2.90	2.51				
11	2.52	2.81	2.60	1.25	1.50	0.50	1.75	2.17	1.75	1.69	1.89	1.75	2.11	2.22	2.22	2.69	3.05	2.69				
12	2.60	2.86	2.64	1.25	1.50	1.25	2.15	2.17	1.75	1.75	2.25	1.75	2.22	2.33	2.22	2.70	3.09	2.70				
13	2.64	2.89	2.71	1.25	1.75	1.25	2.17	2.21	1.75	1.75	2.25	2.25	2.22	2.33	2.33	2.80	3.10	2.80				
14	2.71	2.91	2.79	1.25	1.75	1.50	2.17	2.33	1.75	1.75	2.50	2.34	2.22	2.33	2.33	2.81	3.14	2.95				
15	2.79	2.96	2.82	1.30	1.75	1.50	2.17	2.33	2.17	2.25	2.50	2.50	2.22	2.43	2.33	2.93	3.20	3.06				
16	2.87	3.08	2.85	1.50	1.82	1.50	2.33	2.33	2.17	2.28	2.75	2.50	2.33	2.44	2.33	3.06	3.25	3.10				
17	3.02	3.11	2.94	1.50	2.33	1.50	2.33	2.50	2.17	2.50	2.75	2.50	2.33	2.44	2.33	3.15	3.25	3.15				
18	3.04	3.16	2.98	1.50	2.33	1.50	2.33	2.50	2.17	2.50	2.75	2.50	2.44	2.56	2.44	3.20	3.30	3.25				
19	3.08	3.18	3.07	1.75	2.33	1.75	2.33	2.50	2.17	2.58	2.75	2.75	2.44	2.67	2.44	3.25	3.41	3.30				
20	3.12	3.20	3.11	1.75	2.33	1.75	2.33	2.50	2.33	2.75	3.10	2.75	2.44	2.67	2.44	3.38	3.46	3.35				
21	3.16	3.27	3.17	2.33	2.33	1.76	2.50	2.50	2.33	2.75	3.10	2.75	2.56	2.67	2.51	3.48	3.50	3.40				
22	3.18	3.30	3.18	2.33	2.67	2.33	2.50	2.67	2.33	2.75	3.10	2.75	2.56	2.67	2.56	3.50	3.52	3.45				
23	3.21	3.34	3.20	2.33	2.72	2.33	2.50	2.67	2.44	2.96	3.10	2.75	2.56	2.67	2.56	3.55	3.55	3.45				
24	3.27	3.39	3.20	2.64	3.13	2.33	2.50	2.74	2.50	3.10	3.10	2.75	2.56	2.67	2.56	3.60	3.60	3.50				
25	3.31	3.43	3.24	2.67	3.13	2.42	2.67	2.83	2.50	3.10	3.20	3.10	2.56	2.70	2.56	3.65	3.75	3.56				
26	3.36	3.48	3.28	2.67	3.13	2.67	2.67	2.83	2.50	3.10	3.20	3.10	2.57	2.78	2.62	3.65	3.80	3.60				
27	3.38	3.52	3.32	3.13	3.13	2.67	2.67	2.83	2.67	3.10	3.24	3.10	2.67	2.78	2.67	3.70	3.85	3.65				
28	3.42	3.58	3.36	3.13	3.13	2.67	2.67	3.12	2.67	3.20	3.30	3.20	2.67	2.78	2.67	3.71	3.88	3.65				
29	3.47	3.66	3.38	3.13	3.13	2.67	2.67	3.25	2.67	3.20	3.30	3.20	2.67	2.89	2.67	3.75	3.91	3.70				
30	3.49	3.69	3.40	3.13	3.26	3.13	2.83	3.25	2.67	3.20	3.40	3.23	2.67	2.89	2.67	3.77	3.95	3.70				
31	3.51	3.71	3.44	3.13	3.38	3.13	2.83	3.25	2.67	3.30	3.40	3.30	2.67	2.89	2.78	3.82	4.07	3.75				
32	3.54	3.73	3.48	3.25	3.38	3.13	2.83	3.25	2.83	3.30	3.42	3.30	2.67	2.89	2.78	3.85	4.10	3.85				
33	3.59	3.74	3.53	3.25	3.38	3.13	3.25	3.25	2.83	3.30	3.50	3.30	2.78	3.01	2.78	3.85	4.12	3.85				
34	3.64	3.76	3.58	3.25	3.50	3.25	3.25	3.25	3.06	3.30	3.50	3.30	2.78	3.14	2.78	3.90	4.14	3.90				
35	3.65	3.81	3.58	3.38	3.50	3.25	3.25	3.40	3.25	3.40	3.50	3.40	2.78	3.14	2.78	3.90	4.25	3.90				
36	3.69	3.82	3.60	3.38	3.50	3.25	3.25	3.50	3.25	3.40	3.50	3.40	2.78	3.14	2.89	3.95	4.29	3.91				
37	3.71	3.87	3.62	3.50	3.50	3.38	3.25	3.50	3.25	3.40	3.50	3.40	2.78	3.14	2.89	4.05	4.29	4.05				
38	3.71	3.91	3.69	3.50	3.50	3.38	3.50	3.50	3.45	3.40	3.57	3.48	2.89	3.14	2.89	4.05	4.33	4.05				
39	3.75	3.93	3.71	3.50	3.50	3.38	3.50	3.50	3.50	3.40	3.60	3.50	2.89	3.14	2.89	4.10	4.33	4.10				
40	3.78	3.98	3.73	3.50	3.60	3.50	3.50	3.50	3.50	3.50	3.60	3.50	3.14	3.14	2.89	4.10	4.33	4.10				
41	3.82	4.01	3.78	3.50	3.63	3.50	3.75	3.50	3.50	3.50	3.60	3.50	3.14	3.14	2.89	4.14	4.33	4.14				
42	3.84	4.05	3.82	3.55	3.63	3.50	3.75	3.50	3.50	3.50	3.60	3.50	3.14	3.18	2.94	4.16	4.38	4.19				
43	3.87	4.06	3.84	3.63	3.63	3.50	3.75	3.75	3.50	3.60	3.60	3.50	3.14	3.29	3.14	4.19	4.38	4.24				
44	3.89	4.09	3.87	3.63	3.63	3.58	3.75	3.75	3.66	3.60	3.70	3.50	3.14	3.29	3.14	4.24	4.41	4.24				
45	3.93	4.12	3.90	3.63	3.63	3.63	3.75	3.75	3.75	3.60	3.70	3.60	3.29	3.29	3.14	4.24	4.43	4.29				
46	3.96	4.14	3.94	3.75	3.75	3.63	3.75	3.75	3.75	3.60	3.70	3.60	3.29	3.29	3.14	4.29	4.47	4.29				
47	4.02	4.15	4.02	3.75	3.75	3.63	3.75	4.20	3.75	3.60	3.70	3.60	3.29	3.42	3.16	4.33	4.52	4.29				
48	4.03	4.19	4.04	3.88	3.75	3.74	4.20	4.20	3.75	3.70	3.70	3.60	3.29	3.43	3.29	4.38	4.52	4.33				
49	4.09	4.21	4.06	3.88	3.75	3.75	4.20	4.20	3.75	3.70	3.70	3.60	3.43	3.43	3.29	4.38	4.57	4.41				
50	4.12	4.22	4.10	4.13	3.88	3.75	4.20	4.20	3.75	3.70	3.70	3.70	3.43	3.43	3.29	4.43	4.62	4.43				
51	4.14	4.23	4.11	4.13	3.90	3.75	4.20	4.20	4.20	3.70	3.80	3.70	3.43	3.43	3.29	4.43	4.62	4.45				
52	4.18	4.26	4.15	4.13	4.13	3.88	4.20	4.22	4.20	3.70	3.80	3.70	3.43	3.51	3.29	4.48	4.62	4.52				
53	4.21	4.31	4.17	4.13	4.13	3.88	4.25	4.40	4.20	3.70	3.80	3.70	3.57	3.57	3.29	4.48	4.65	4.57				
54	4.23	4.33	4.22	4.13	4.13	3.88	4.40	4.40	4.20	3.80	3.80	3.70	3.57	3.57	3.43	4.52	4.67	4.57				
55	4.25	4.37	4.25	4.25	4.25	4.13	4.40	4.40	4.20	3.80	3.84	3.70	3.57	3.59	3.43	4.52	4.70	4.62				
56	4.27	4.38	4.29	4.25	4.37	4.13	4.40	4.47	4.40	3.80	3.90	3.80	3.57	3.71	3.46	4.54	4.71	4.67				
57	4.29	4.38	4.29	4.32	4.38	4.13	4.40	4.60	4.40	3.80	3.90	3.80	3.71									

Twelve

Sample Size			326	119	144																		
Percentile	Total Score			ALG			DAT			GEO			ME			NUM							
	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End	Beginning	Middle	End					
1	1.07	1.65	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.33	0.07	0.15	0.66	1.40	1.25					
2	1.47	2.00	1.51	0.00	0.00	0.00	0.28	0.00	0.45	0.20	0.28	0.36	0.67	0.47	0.33	1.30	1.44	1.39					
3	1.80	2.14	1.64	0.00	0.00	0.00	0.50	0.00	0.50	0.20	0.40	0.40	0.67	0.67	0.45	1.67	1.50	1.50					
4	1.96	2.24	1.74	0.06	0.00	0.00	0.59	0.42	0.50	0.40	0.57	0.40	1.33	1.20	0.67	1.82	2.00	1.50					
5	2.08	2.25	1.86	0.50	0.50	0.13	1.25	0.54	1.25	0.40	0.61	0.65	1.45	1.67	0.84	2.10	2.31	1.53					
6	2.18	2.33	1.92	0.50	0.50	0.50	1.25	1.32	1.25	0.60	0.80	1.12	1.67	1.76	1.33	2.37	2.40	1.74					
7	2.21	2.36	2.11	0.50	0.50	0.50	1.25	1.50	1.25	1.25	0.80	1.25	1.67	2.11	1.67	2.60	2.49	1.80					
8	2.33	2.36	2.18	0.50	0.50	0.50	1.50	1.50	1.40	1.25	0.80	1.40	2.11	2.18	1.93	2.63	2.67	1.86					
9	2.48	2.38	2.21	1.25	1.17	0.54	1.50	1.50	1.50	1.50	0.80	1.50	2.16	2.22	2.12	2.70	2.79	1.90					
10	2.57	2.46	2.29	1.25	1.25	1.25	1.50	1.75	1.50	1.75	1.53	1.50	2.22	2.22	2.22	2.89	2.83	2.00					
11	2.64	2.48	2.39	1.25	1.25	1.25	1.75	1.75	1.50	1.75	1.75	1.74	2.33	2.22	2.22	3.06	3.05	2.39					
12	2.72	2.55	2.46	1.34	1.38	1.25	1.75	1.75	1.60	2.25	1.75	1.75	2.33	2.22	2.26	3.12	3.08	2.50					
13	2.83	2.61	2.53	1.50	1.50	1.46	2.17	2.06	1.75	2.25	2.12	1.75	2.44	2.22	2.33	3.20	3.14	2.59					
14	3.02	2.84	2.62	1.50	1.50	1.50	2.17	2.17	1.75	2.27	2.25	2.25	2.44	2.31	2.44	3.20	3.15	2.76					
15	3.11	2.89	2.78	1.50	1.50	1.50	2.17	2.17	1.75	2.50	2.50	2.25	2.56	2.33	2.44	3.30	3.20	3.01					
16	3.15	3.07	2.87	1.75	1.59	1.75	2.25	2.17	1.75	2.50	2.50	2.30	2.56	2.46	2.44	3.35	3.24	3.06					
17	3.20	3.09	2.92	2.33	1.75	1.75	2.33	2.17	1.75	2.50	2.50	2.50	2.56	2.56	2.52	3.40	3.33	3.17					
18	3.24	3.09	2.96	2.33	1.75	1.75	2.33	2.29	2.17	2.75	2.70	2.50	2.56	2.56	2.56	3.55	3.39	3.25					
19	3.27	3.18	2.99	2.33	2.32	2.07	2.33	2.33	2.17	2.75	3.10	2.64	2.56	2.56	2.56	3.55	3.40	3.28					
20	3.31	3.20	3.04	2.33	2.33	2.33	2.33	2.36	2.17	2.75	3.12	2.75	2.67	2.67	2.56	3.55	3.50	3.35					
21	3.35	3.23	3.12	2.67	2.33	2.33	2.50	2.50	2.24	3.10	3.20	3.10	2.67	2.67	2.56	3.60	3.50	3.37					
22	3.38	3.29	3.19	3.13	2.54	2.64	2.50	2.50	2.33	3.10	3.20	3.10	2.67	2.71	2.66	3.65	3.56	3.40					
23	3.42	3.34	3.22	3.13	2.67	2.67	2.50	2.50	2.33	3.20	3.20	3.10	2.67	2.78	2.67	3.70	3.68	3.47					
24	3.45	3.41	3.22	3.13	3.13	2.67	2.67	2.50	2.33	3.20	3.20	3.18	2.67	2.78	2.67	3.75	3.75	3.50					
25	3.49	3.56	3.31	3.25	3.13	2.67	2.67	2.50	2.50	3.20	3.20	3.20	2.78	2.78	2.67	3.80	3.80	3.51					
26	3.53	3.56	3.32	3.25	3.13	2.99	2.67	2.58	2.50	3.25	3.25	3.20	2.78	2.78	2.75	3.85	3.82	3.55					
27	3.61	3.58	3.34	3.32	3.13	3.13	2.83	2.78	2.67	3.30	3.30	3.20	2.78	2.78	2.78	3.85	3.85	3.55					
28	3.64	3.59	3.40	3.38	3.13	3.13	2.83	2.83	2.67	3.30	3.30	3.20	2.78	2.78	2.78	3.90	3.94	3.58					
29	3.71	3.62	3.44	3.38	3.13	3.13	2.83	2.83	2.67	3.30	3.30	3.20	2.78	2.78	2.78	3.90	3.96	3.60					
30	3.76	3.71	3.49	3.38	3.17	3.13	3.25	2.83	2.75	3.40	3.30	3.20	2.89	2.89	2.78	3.90	4.05	3.60					
31	3.80	3.82	3.51	3.46	3.25	3.13	3.25	2.83	2.83	3.40	3.30	3.30	2.89	2.89	2.78	3.95	4.08	3.65					
32	3.80	3.84	3.53	3.50	3.34	3.13	3.25	3.13	2.83	3.40	3.37	3.30	2.89	2.89	2.82	4.05	4.13	3.77					
33	3.84	3.87	3.57	3.50	3.38	3.23	3.50	3.25	2.83	3.46	3.40	3.30	2.89	2.89	2.89	4.05	4.19	3.80					
34	3.91	3.87	3.63	3.50	3.50	3.25	3.50	3.25	2.83	3.50	3.40	3.30	2.89	2.89	2.89	4.10	4.19	3.88					
35	3.92	3.91	3.64	3.60	3.55	3.25	3.50	3.34	3.15	3.50	3.44	3.38	2.89	3.14	2.89	4.19	4.19	4.03					
36	3.95	3.91	3.67	3.63	3.63	3.28	3.50	3.50	3.25	3.50	3.50	3.40	3.07	3.14	3.14	4.19	4.19	4.06					
37	3.98	3.94	3.69	3.63	3.63	3.38	3.75	3.50	3.25	3.57	3.50	3.40	3.14	3.14	3.14	4.24	4.23	4.10					
38	4.02	3.97	3.76	3.63	3.63	3.50	3.75	3.50	3.28	3.60	3.50	3.40	3.14	3.14	3.14	4.24	4.24	4.10					
39	4.05	4.01	3.78	3.63	3.65	3.50	3.75	3.55	3.50	3.60	3.52	3.46	3.14	3.14	3.14	4.29	4.25	4.10					
40	4.06	4.02	3.82	3.75	3.80	3.50	3.75	3.75	3.50	3.60	3.60	3.50	3.14	3.29	3.14	4.33	4.29	4.14					
41	4.08	4.05	3.83	3.75	3.88	3.56	3.75	3.75	3.50	3.60	3.60	3.50	3.14	3.32	3.29	4.33	4.34	4.16					
42	4.09	4.08	3.84	3.88	3.88	3.63	3.75	3.75	3.50	3.70	3.60	3.50	3.29	3.43	3.29	4.33	4.38	4.19					
43	4.12	4.08	3.90	3.88	4.13	3.75	3.75	3.75	3.59	3.70	3.60	3.50	3.29	3.43	3.29	4.38	4.48	4.24					
44	4.15	4.10	3.91	3.88	4.13	3.85	3.75	3.86	3.75	3.70	3.62	3.58	3.29	3.43	3.29	4.42	4.52	4.24					
45	4.15	4.12	3.92	3.88	4.13	3.88	4.20	4.20	3.75	3.70	3.70	3.60	3.29	3.43	3.29	4.43	4.54	4.30					
46	4.17	4.12	3.93	3.88	4.13	3.88	4.20	4.20	3.75	3.73	3.70	3.60	3.29	3.57	3.39	4.48	4.57	4.33					
47	4.19	4.15	3.96	4.13	4.13	4.13	4.20	4.20	3.82	3.80	3.70	3.60	3.39	3.57	3.43	4.48	4.61	4.33					
48	4.21	4.18	4.03	4.13	4.25	4.13	4.20	4.20	4.20	3.80	3.71	3.60	3.43	3.57	3.43	4.52	4.62	4.36					
49	4.21	4.21	4.08	4.25	4.25	4.25	4.20	4.26	4.20	3.80	3.80	3.70	3.43	3.68	3.57	4.52	4.67	4.38					
50	4.23	4.25	4.09	4.25	4.25	4.25	4.40	4.40	4.20	3.80	3.80	3.70	3.57	3.71	3.57	4.55	4.67	4.41					
51	4.25	4.31	4.13	4.38	4.25	4.25	4.40	4.54	4.20	3.80	3.80	3.70	3.57	3.71	3.57	4.57	4.70	4.48					
52	4.27	4.32	4.14	4.38	4.25	4.38	4.40	4.60	4.20	3.81	3.80	3.70	3.57	3.71	3.63	4.62	4.71	4.50					
53	4.31	4.33	4.17	4.48	4.38	4.38	4.40	4.60	4.37	3.90	3.81	3.70	3.61	3.71	3.71	4.67	4.76	4.52					
54	4.32	4.35	4.21	4.50	4.42	4.38	4.40	4.60	4.40	3.90	3.90	3.70	3.71	3.71	3.71	4.71	4.76	4.57					
55	4.35	4.38	4.25	4.55	4.50	4.38	4.60	4.60	4.40	3.90	3.90	3.70	3.71	3.86	3.71	4.71	4.76	4.57					
56	4.35	4.40	4.31	4.63	4.50	4.50	4.60	4.60	4.40	4.08	4.04	3.72	3.71	3.91	3.71	4.76	4.80	4.57					
57	4.39	4.41	4.31	4.63	4.50	4.50	4.60	4.60	4.53	4.08	4.08	3.80	3.86	4.11	3.71	4.81</							