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Executive Summary

This study extended the work of Wiley, Wyatt and Camara (2010) by applying similar methodology to scores on the PSAT/NMSQT®. In that study, they used a conjunctive model that made use of high school GPA (HSGPA), SAT® scores and a new metric they developed termed the Academic Readiness Indicator (ARI). To be considered college ready, Wiley et al. (2010) reported that students would need a B+ HSGPA, a composite score of 1550 on the SAT and a 10 on their ARI metric. In the current study, only PSAT/NMSQT scores were available to develop benchmarks, but schools, districts and states administering the PSAT/NMSQT could use benchmarks on the PSAT/NMSQT to identify students who are on track to be college ready as well as those who are at risk not to be college ready or even those students who are prepared for a more rigorous curriculum. Many educators believe that students and schools need to understand if students are on track for college readiness earlier. Prior research suggests that the academic preparation of many high school graduates leaves them unprepared for college-level course work. Less than 30 percent of surveyed college professors believe that public high schools adequately prepare students for the challenges of college (Achieve, 2005). This lack of preparation is further reflected in the high remediation rates of students entering higher education. The National Center for Education Statistics (NCES) estimated that 41 percent of students take at least one remedial course when entering college (2004). This number is even greater for underrepresented minority students, with 62 percent of African American and 63 percent of Hispanic students taking at least one remedial course (NCES, 2004). Results from this study indicate that, overall, 45 percent of 2008 10th-grade PSAT/NMSQT test-takers met the 11th-grade PSAT/NMSQT benchmarks, and 55 percent of 11th-grade PSAT/NMSQT test-takers went on to meet or exceed the SAT benchmark. This information can be useful to educators to intervene sooner and help students become college ready.

Background

The economic and societal benefits related to the attainment of a college degree are well understood within the education community and have encouraged increased focus on increasing the number of students seeking a postsecondary education. From an economic perspective, it has been estimated that full-time workers with a four-year degree earned 62 percent more than full-time workers with a high school diploma (Baum & Ma, 2007). Over a lifetime, males in the United States who earned a postsecondary degree earned $300,000 more than those who did not. Of the 71 jobs projected to grow by at least 20 percent, all will require some college, and 12 percent will require an associate degree or higher (Partnership for 21st-Century Skills, 2008). The economic advantages benefit the individual earning the degree as well as society in general. A further benefit to society is that citizens with college degrees are more likely to engage in volunteer work, become politically involved and refrain from engaging in unlawful behavior (Bowen & Bock, 1998; Goldberg & Smith, 2008).

While these benefits are well understood and have encouraged many students to consider obtaining a postsecondary degree, research suggests that the academic preparation of many high school graduates leaves them unprepared for college-level course work. Achieve (2005) reported that approximately 70 percent of college instructors said that they need to devote some of their first-year class time toward reviewing content they believed should have been taught in high school. Less than 30 percent of the instructors believed that public high schools adequately prepare students for the challenges of college.

The lack of preparation is further reflected in the high remediation rates of students entering higher education. NCES estimated that 41 percent of students take at least one remedial course when entering college (2004). This number is even greater for underrepresented minority students, with 62 percent of African American and 63 percent of Hispanic students taking at least one remedial course (NCES, 2004). Students who require remedial courses have graduation rates between 30 percent and 57 percent, depending on type and number of remedial courses, compared to a graduation rate of approximately 69 percent for students who do not need remedial courses (NCES, 2004).

With remediation so strongly tied to eventual graduation, more educational initiatives and organizations have focused on either enumerating or improving the knowledge and skills that students need to acquire during high school to better prepare them for the rigor of college-level work. The remainder of this section reviews some of the literature on college readiness metrics; readers are referred to Wiley, Wyatt and Camara (2010) for a more detailed review of college readiness literature and metrics. Understanding University Success, sponsored by the Association of American Universities and the Pew Charitable Trusts (Conley, 2003), recruited more than 400 faculty members from 20 research universities to identify the competencies that students needed to have to succeed in entry-level college courses in English, mathematics, natural sciences, social sciences, classical and foreign languages, and the arts. In addition to specifying what students need to do to succeed in entry-level courses, the study also concluded that certain habits of mind

are critical for overall college success. These habits of mind included critical and analytical thinking, problem solving, inquisitiveness, the initiative to take advantage of the resources at their attending university, openness to trying new things, and a willingness to fail and adjust based on feedback.

Another theoretical approach proposed by the Educational Policy Improvement Center (EPIC) in conjunction with the Bill and Melinda Gates Foundation (Conley, 2007) expanded the definition of college readiness and views habits of mind as being one of four concentric levels required for success. The other three areas are academic knowledge and skills, academic behaviors, and contextual skills and awareness. The academic behaviors are primarily focused on self-awareness and monitoring, as well as study skills. Self-monitoring enables students to determine if they have reached a comprehensive understanding of a topic, while study skills represent a wide range of key behaviors, such as time management, note taking, and other essential skills students must have in order to successfully navigate their way through college. Contextual skills and awareness focus on a student's ability to understand the university system as a whole, and the student's role within the university, which allows him or her to navigate through obstacles.

Other organizations have designed metrics to gauge whether students are prepared for college-level course work. For the most part, these attempts have utilized widely available extant data. The Southern Regional Education Board (SREB, 2002) created four categories of college readiness based on SAT or ACT scores: the basic (lowest-level) category, defined as preparation sufficient for admission to nonselective universities but in need of remediation, through the proficient (highest-level) category, defined as meeting the requirements for admission to a selective program (e.g., engineering) or university. Approximately 80 percent to 85 percent of students meet the requirements of the basic category, while 16 percent to 26 percent meet the requirements for the proficient category.

NCES constructed a measure of college readiness based on a student's cumulative grades in high school academic course work, senior class rank, National Education Longitudinal Study (NELS) 1992 test scores and college entrance examination scores (Bergner & Chavez, 1997). Scales ranged from very highly qualified to marginally or not qualified, and students were assigned based upon the highest value of any of the academic criteria. In addition, students were moved up one category if they took rigorous academic course work (at least four years of English, three years each of a natural science, social science and math, and two years of a foreign language) and demoted one category if they did not take such course work. According to this index, 65 percent of high school graduates were minimally qualified for admission to a four-year college or university. Among those seniors classified as marginally or not qualified for regular four-year college admission, half entered postsecondary education, but only 15 percent enrolled in a four-year college or university. Among those seniors who were minimally qualified, three-quarters enrolled in some postsecondary education, and 35 percent attended a four-year institution. Fifty-six percent of the somewhat qualified, 73 percent of the highly qualified, and 87 percent of the very highly qualified high school graduates enrolled in four-year institutions.

Wiley et al. (2010) developed an index for measuring student college readiness that combined SAT scores, high school GPA (HSGPA) and a measure of the academic rigor of students' high school courses (ARI). The index was created using students who graduated from high school in 2007 and immediately enrolled in one of 110 four-year colleges and universities. The ARI was derived from student questionnaire responses to course work questions in five areas: English, mathematics, natural science, social science and history, and foreign or classical languages. The complete algorithm for the ARI and further details can be found in Wiley et al. (2010).

Benchmark scores associated with a 65 percent probability of obtaining a first-year grade point average (FYGPA) in college of B- or better were obtained for each of the three benchmark components. These benchmark scores were B+ for HSGPA, a sum of 1550 for the three SAT test scores (each test is scored on a 200- to 800-point scale), and a score of 10 on the ARI. The College Readiness Index uses a conjunctive model in which a student must meet or exceed all three components in order to be considered college ready. Thus, a student would need a HSGPA of B+ or better, an SAT composite score of 1550 or better, and an ARI score of 10 or higher to be considered college ready. The index is intended to provide a useful metric for tracking and evaluating the state of college readiness for students graduating from high school. Kobrin, Patterson, Mattern and Wiley (in press) also investigated this issue and demonstrated a methodology for the calculation of benchmarks for each section of the SAT.

Although the college readiness index is a useful tool in establishing a measure for college readiness, the index cannot be used until students complete the SAT, most often late in the 11th or 12th grade. Many educators believe that students and schools need to understand if students are on track for college readiness earlier. In order for college readiness metrics to be most useful, they need to be transparent and measure if students in earlier grades are on a trajectory to become college ready upon completion of high school (Center for American Progress, 2009; Corwin & Tierney, 2007; Dounay, 2006). Ideally, feedback in the form of early indicators or markers of college readiness would be provided in earlier grades,

facilitating interventions where necessary with the goal of keeping students on track for college.

College Readiness Benchmarks for PSAT/NMSQT Students

In addition to the SAT, the College Board also administers the PSAT/NMSQT, which is taken by over 1.5 million 10th-grade students and another 1.5 million 11th-grade students every year. Data from the PSAT/NMSQT would allow the College Board to create benchmarks for college readiness for these students early in their sophomore and junior years. While most students may not be college ready at these earlier grades, indicators of students' trajectory toward college readiness can provide useful information to students and schools. An indicator of 10th- and 11th-grade students being on track toward college readiness that used scores on the PSAT/NMSQT could provide highly reliable indicators to schools, districts and states that administered the PSAT/NMSQT.

Proctor and Kim (in press) investigated the relation between scores from the 10th-grade PSAT/NMSQT and 11th-grade PSAT/NMSQT, as well as the 11th-grade PSAT/NMSQT and junior scores on the SAT that included writing. For the 10th-grade to 11th-grade PSAT/NMSQT analysis, the reported average score gains were 3 PSAT/NMSQT scale score points for critical reading, 4 points for mathematics and 3 points for writing. Across ethnic groups the score gains on critical reading ranged from 2 to 4 PSAT/NMSQT points, 3 to 4 points for mathematics and 2 to 5 for writing. For the 11th-grade PSAT/NMSQT to junior SAT analysis, the reported average score gains were 18 SAT points for critical reading, 16 points for mathematics and 23 points for writing. Score gains varied across ethnic groups and ranged between 9 and 20 SAT points for critical reading, between 8 and 17 points for mathematics, and between 11 and 26 points for writing. The average score change differed by the PSAT/NMSQT score, with students who scored lower on the scale gaining more, on average, than students at the high end of the scale. These differences are quite consistent with previous research on score changes for students taking the PSAT/NMSQT and SAT (College Board, 1998).

In addition to looking at the average score gains for students, Proctor and Kim (in press) also investigated the correlation between PSAT/NMSQT and SAT test scores. Overall, scores between like content sections on the SAT and PSAT/NMSQT were highly and positively correlated, with 0.87 for critical reading, 0.88 for mathematics and 0.83 for writing. Because of this strong correlation, PSAT/NMSQT benchmarks can be identified that are closely associated with the SAT benchmarks identified by Wiley et al. (2010).

Purpose

This report will present methodology for the creation of a PSAT/NMSQT test score benchmark to identify students who are on track toward college readiness when completing high school. The proposed benchmark could create useful early indicators of whether students in grades 10 and 11 are on track to be college ready upon high school graduation.

Method

Sample

Three different data sets were compiled and used for the completion of this study. First, for the analysis of the junior PSAT/NMSQT to junior SAT score changes, examinees were selected who took the PSAT/NMSQT (as a junior) in October 2007 and their first SAT in March, May or June of 2008. Students who took their first SAT prior to those specific administrations were excluded. Students who took the SAT more than once across those three SAT testing periods were included, but only scores from the first administration were used. Students also must have had valid scores on all three sections of both the PSAT/NMSQT and the SAT. This resulted in 585,947 students being included in this portion of the study.

The second data set was compiled for the analysis of the sophomore PSAT/NMSQT to junior PSAT/NMSQT score changes. This data set was composed of students who completed the PSAT/NMSQT in 2007 of their sophomore year and 2008 of their junior year. This resulted in 710,595 students being included in the study.

Last, the 2009 administration of the PSAT/NMSQT was compiled in order to evaluate the impact of the derived benchmarks on the population of PSAT/NMSQT test-takers. Students who had valid scores on all three test sections were used, which resulted in 1,517,231 students in 10th grade and 1,545,856 students in 11th grade being included in the analysis.

Measures

The PSAT/NMSQT is a 2-hour and 10-minute test with sections that measure critical reading, mathematics and writing. The test is composed of 52 critical reading items, 40 mathematics items and 39 writing items. Critical reading items measure students' ability to read critically, as well as their ability to think logically, analyze and evaluate information. Mathematics questions measure students' knowledge and skills in algebra and functions, geometry and measurement, numbers and operations, and data analysis, statistics and probability. The writing

section measures students' knowledge and skills in grammar, usage and word choice. Scores on each of the three sections range from 20 to 80.[1]

The SAT is a 3-hour and 45-minute test that consists of three sections: critical reading, with 67 items; mathematics, with 54 items; and writing, with 49 items and one essay. The content found on the SAT is similar to that as described above for the PSAT/NMSQT, though the SAT is slightly more difficult and includes an essay. Each section is measured on a 200- to 800-point scale.[2]

Procedures

In the first analysis, benchmark scores for 10th- and 11th-grade PSAT/NMSQT test-takers were created. In the case of the 11th-grade PSAT/NMSQT benchmark scores, logistic regression was used to obtain the minimum junior PSAT/NMSQT score associated with a 65 percent probability of obtaining the SAT college readiness benchmark. This is a methodology that has been employed in previous studies to set empirically based benchmarks for college readiness (Wiley et al., 2010). The SAT score used in this analysis is the student's first SAT score from March, May or June of 2008. Students who took their first SAT prior to those specific administrations were excluded. Students who took the SAT more than once across those three SAT testing periods were included, but only scores from the first administration were used. This analysis was done for composite scores as well as each of the individual sections. The 10th-grade PSAT/NMSQT benchmark scores were calculated by finding the minimum 10th-grade PSAT/NMSQT score associated with a 65 percent probability of obtaining the 11th-grade PSAT/NMSQT benchmark score as calculated above.

In the second analysis, contingency tables were established to show the percentage of students who went on to meet or exceed the SAT college readiness benchmark by PSAT/NMSQT score band. The percentage of 11th-grade PSAT/NMSQT students who met or exceeded the SAT benchmark was calculated for each 5-point PSAT/NMSQT score band. The same information was calculated for 10th-grade PSAT/NMSQT students, but in this analysis, rather than using the SAT benchmark, the 11th-grade PSAT/NMSQT benchmark was used.

The last step of the analysis involved using data from the 2009 PSAT/NMSQT test to evaluate the impact of the derived benchmarks on the population of PSAT/NMSQT test-takers. Benchmarks obtained in the first analysis were used in this step. This analysis was performed to validate the benchmarks determined from the previous analysis.

Results

Table 1 presents the PSAT/NMSQT benchmarks obtained for each test section and for the composite. For the 10th- and 11th-grade analyses, the scores for each section were consistent across sections, while the composite score was slightly higher than the sum of each of the three section scores.

Table 1
Test Scores Associated with a 65 Percent Likelihood of Meeting the SAT or 11th-Grade PSAT/NMSQT Benchmark, by Section and by PSAT/NMSQT Composite

	Critical Reading	Mathematics	Writing	PSAT/ NMSQT Composite
11th-Grade PSAT/ NMSQT	50	50	49	152
10th-Grade PSAT/ NMSQT	49	47	48	145

Results of the PSAT/NMSQT to SAT contingency tables can be seen in Tables 2 and 3 for each section of the test; results for the composite can be seen in Tables A1 and A2. The pattern of students being considered college ready is consistent across the three test sections. As can be seen in Table 2, students who score 55 or above as 11th-grade PSAT/NMSQT test-takers have a very high likelihood of becoming college ready on that SAT section. The same pattern holds true for students who score 55 or higher on the 10th-grade PSAT/NMSQT. On the overall test, juniors who obtain a composite score of 160 or above have a very high likelihood of eventually meeting the SAT benchmark of SAT college readiness; sophomores who obtain a 155 or above have a very high likelihood of meeting the junior PSAT/NMSQT benchmarks and being on track to be college ready by high school graduation. Overall, 45 percent of 2008 10th-grade PSAT/NMSQT test-takers met the 11th-grade PSAT/NMSQT benchmarks, and 55 percent of 11th-grade PSAT/NMSQT test-takers went on to meet or exceed the SAT benchmark.

1. *Further information on the PSAT/NMSQT can be found at http://professionals.collegeboard.com/testing/psat.*
2. *Further information on the SAT can be found at http://professionals.collegeboard.com/testing/sat-reasoning.*

Table 2
Percentage of Students Taking the PSAT/NMSQT in 11th-Grade Who Become College Ready on the SAT Indicator: By PSAT/NMSQT Score Band (n = 595,947)

	Critical Reading		Mathematics		Writing	
PSAT/NMSQT Score Band	% of Total	% College Ready on SAT	% of Total	% College Ready on SAT	% of Total	% College Ready on SAT
20–24	0.5	1.2	0.4	0.7	0.6	1.9
25–29	1.2	1.2	0.7	0.4	1.2	1.2
30–34	3.2	1.6	3.2	0.9	3.8	2.4
35–39	8.3	4.8	6.0	3.4	10.2	8.1
40–44	13.8	17.2	12.9	16.3	15.8	24.4
45–49	18.9	45.4	15.2	44.6	19.1	52.6
50–54	20.2	78.1	17.4	75.7	17.8	79.5
55–59	14.4	95.7	16.9	93.5	12.2	94.0
60–64	9.1	99.2	13.4	98.8	10.3	98.6
65–69	6.1	99.7	8.6	99.6	5.6	99.7
70–74	3.0	99.8	3.2	99.9	2.0	99.8
75–80	1.3	99.9	2.0	100.0	1.5	99.9
Total	100.0	60.4	100.0	65.1	100.0	59.7

Table 4 provides the percentage of students from the 2009 PSAT/NMSQT who met or surpassed the composite benchmark as well as the benchmarks for each section. As can be seen in the table, 36 percent of the 11th-grade students had scores that met or exceeded the 11th-grade composite benchmarks, while between 38 percent and 44 percent met or exceeded each of the section benchmarks. The percentage meeting the 10th-grade benchmarks was slightly lower, with 27 percent of the 10th-grade students meeting the composite benchmark score for 10th-grade students. Between 26 percent and 35 percent of students met or exceeded the benchmarks for each of the sections.

Table 3
Percentage of Students Taking the PSAT/NMSQT in 10th Grade Who Become College Ready on the 11th-Grade PSAT/NMSQT Indicator: By PSAT/NMSQT Score Band (n = 710,595)

	Critical Reading		Mathematics		Writing	
10th-Grade PSAT/NMSQT Score Band	% of Total	% College Ready on 11th Grade PSAT/ NMSQT	% of Total	% College Ready on 11th Grade PSAT/ NMSQT	% of Total	% College Ready on 11th Grade PSAT/ NMSQT
20–24	2.7	0.8	2.5	0.8	2.8	1.2
25–29	4.9	1.3	2.6	1.0	4.1	1.1
30–34	8.5	2.9	9.6	2.2	9.1	2.2
35–39	14.1	8.8	11.7	8.2	15.8	7.4
40–44	16.6	25.7	17.4	29.7	17.9	24.8
45–49	17.4	54.6	15.5	62.7	17.8	54.4
50–54	16.4	82.7	14.5	86.9	14.5	81.8
55–59	9.8	96.7	12.1	97.1	8.3	95.6
60–64	5.2	99.5	8.1	99.5	5.9	99.1
65–69	2.9	99.9	4.1	99.9	2.5	99.9
70–74	1.2	99.9	1.3	99.9	0.8	99.9
75–80	0.4	99.9	0.7	100.0	0.5	100.0
Total	100.0	47.9	100.0	54.5	100.0	44.9

Table 4
Percentage of the 2009 PSAT/NMSQT Test-Takers Who Met or Surpassed Benchmark Scores (See Table 1 for Benchmark Scores)

	Critical Reading	Mathematics	Writing	PSAT/ NMSQT Composite
11th-Grade PSAT/ NMSQT	40%	44%	38%	36%
10th-Grade PSAT/ NMSQT	27%	35%	26%	27%

Discussion

As college readiness continues to be a focus of the education community, an increasing need for early indicators of college readiness is being raised. This report extended the college readiness work of Wiley et al. (2010) and devised a method for using data from the PSAT/NMSQT to provide estimates for whether 10th- and 11th-grade students are on track for reaching college readiness by the end of their high school career.

One of the advantages of PSAT/NMSQT benchmarks is the ability to provide an early snapshot of whether students are on track for college. Although the College Readiness Index introduced by Wiley et al. (2010) is useful in indicating the students who are well prepared for college-level work, most students do not provide the information necessary to complete the index until spring of their junior year or later. Linking PSAT/NMSQT scores to the SAT would provide approximately 1.5 million sophomores and 1.5 million juniors the opportunity to gauge whether they are on track for college. The contingency tables could prove especially helpful in that they provide information on the percentage of students in each score band that go on to become college ready, providing educators with a sense of how close a student is to being college ready. Using the PSAT/NMSQT benchmarks of college readiness should be considered along with other academic (i.e., high school grades, school projects, etc.) and nonacademic (i.e., motivation, college aspirations, etc.) factors to gain a more complete understanding of students' college readiness.

Although linking the PSAT/NMSQT indicator to the SAT college readiness benchmark should be beneficial in providing early indicators of college readiness, there are some limitations. One limitation is that the early indicators rely on a single indicator. PSAT/NMSQT exam scores are the only benchmark provided, as HSGPA and academic rigor indicators have been omitted from these early indicators of college readiness. Sole reliance on single test scores has been criticized (Pinkus, 2009) and the Standards for Educational and Psychological Testing (AERA, APA, and NCME, 1999) recommend that educational decisions or characterizations should not be made on the basis of a single test score. The academic rigor component has been excluded because reliable course-level data is not collected from the PSAT/NMSQT registration form, and the academic rigor index can't be computed. Likewise, HSGPA has also been excluded because the relationship between 10th- and 11th-grade GPA and cumulative HSGPA has not been researched as thoroughly as the link between PSAT/NMSQT and SAT scores.

Despite these limitations, early indicators have the potential to serve as a marker for measuring whether a student is on track for college. The scores from the PSAT/NMSQT have been demonstrated to be valid and reliable measures of student performance. The PSAT/NMSQT undergoes an extremely rigorous test development process and provides a unique naturally standardized snapshot of student performance. Because of these advantages, the PSAT/NMSQT benchmarks created here should provide strong and reliable indicators of students' trajectory toward college readiness. In so doing, they could raise awareness about college readiness among students, parents and educators and hopefully act as a catalyst for college preparation. College readiness indicators may also assist schools and districts that offer the PSAT/NMSQT, or have consistently high participation rates, in evaluating curricula, instructional practices and other educational experiences over time.

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Appendix

Table A1
Percentage of Students Taking the PSAT/NMSQT in 11th-Grade Who Become College Ready on the SAT Indicator: By PSAT/NMSQT Score Band (n = 595,947)

PSAT/NMSQT Score Band	% of PSAT/NMSQT Test-Takers	% College Ready on SAT
60–64	0.0	6.3
65–69	0.0	0.0
70–74	0.1	0.3
75–79	0.1	0.4
80–84	0.2	0.3
85–89	0.4	0.4
90–94	0.6	0.3
95–99	0.9	0.1
100–104	1.3	0.5
105–109	1.8	0.3
110–114	2.5	0.3
115–119	3.3	0.6
120–124	4.2	1.1
125–129	5.0	2.6
130–134	5.8	6.4
135–139	6.3	14.2
140–144	6.9	26.9
145–149	7.0	45.2
150–154	6.9	64.0
155–159	6.7	80.1
160–164	6.3	90.7
165–169	5.7	95.9
170–174	5.1	98.3
175–179	4.6	99.2
180–184	4.0	99.5
185–189	3.4	99.6
190–194	2.8	99.8
195–199	2.3	99.8
200–204	1.8	99.8
204–209	1.4	99.9
210–214	1.0	99.9
215–219	0.7	100.0
220–224	0.5	100.0
225–229	0.2	100.0
230–234	0.1	100.0
235–240	0.1	100.0
Total	100.0	55.4

Table A2
Percentage of Students Taking the PSAT/NMSQT Composite in 10th Grade Who Become College Ready on the 11th-Grade PSAT/NMSQT Indicator: By PSAT/NMSQT Score Band (n = 710,595)

10th-Grade PSAT/NMSQT Score Band	% PSAT/NMSQT Test-Takers	% College Ready on 11th-Grade PSAT/NMSQT
60–64	0.1	0.3
65–69	0.2	0.1
70–74	0.6	0.2
75–79	1.0	0.3
80–84	1.5	0.3
85–89	2.0	0.4
90–94	2.5	0.4
95–99	3.1	0.5
100–104	3.7	0.6
105–109	4.3	0.9
110–114	4.9	1.2
115–119	5.4	2.6
120–124	5.8	4.9
125–129	6.2	10.6
130–134	6.4	21.1
135–139	6.4	36.1
140–144	6.4	55.0
145–149	6.1	72.8
150–154	5.7	86.0
155–159	5.1	93.8
160–164	4.5	97.7
165–169	3.9	99.1
170–174	3.3	99.6
175–179	2.7	99.8
180–184	2.2	99.8
185–189	1.7	99.9
190–194	1.3	99.9
195–199	1.0	99.9
200–204	0.7	100.0
204–209	0.5	100.0
210–214	0.3	99.9
215–219	0.2	100.0
220–224	0.1	100.0
225–229	0.1	100.0
230–234	0.0	100.0
235–240	0.0	100.0
Total	100.0	45.1


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