The True Value of the *GRE*® General Test in Graduate Admissions

This admissions season, thousands of graduate and professional school programs will use *GRE*® scores to successfully identify candidates who are academically prepared for graduate school. Still, some faculty may read articles and tweets questioning the *GRE*® General Test's impact on diversity in the admissions process and its ability to predict success metrics, such as program completion and student research productivity. It is critical that faculty have discussions and evaluate such assertions about the test and its value, and consider how their current admissions processes support institutional and program missions.

ETS believes strongly that it would be a mistake for a program to drop the one common, objective measure used to compare applicants from differing educational and cultural backgrounds. By doing so, admissions committees could only consider measures that are subjective or not directly comparable, which can heighten the role that implicit bias plays in the review and selection processes and result in other unintended consequences that are potentially harmful to applicants and institutions.

This document is intended to present a coherent, evidence-based argument against dropping the only measure of student skills that goes through a rigorous fairness review process and yields comparative data. The text that follows counters misunderstandings about the test by pointing to volumes of research that support its validity for both master's and doctoral programs. It also transparently presents limitations of the test. Finally, the document addresses questions of test bias and diversity. Together, these factors illuminate the true value of the GRE test and, we hope, present a compelling rationale for its continued use as part of a thoughtful and holistic admissions process.

What the GRE General Test Predicts

The GRE test was created to help graduate programs select students who are likely to succeed in their programs. The test provides a common measure of applicants' readiness for graduate-level, academic work by assessing skills that graduate, business and law schools have identified as requisite for academic success — verbal reasoning, quantitative reasoning, critical thinking and analytical writing. The test is not only a reliable predictor of grades in the first year of graduate and professional schools, but also is a useful indicator of cumulative graduate GPA.
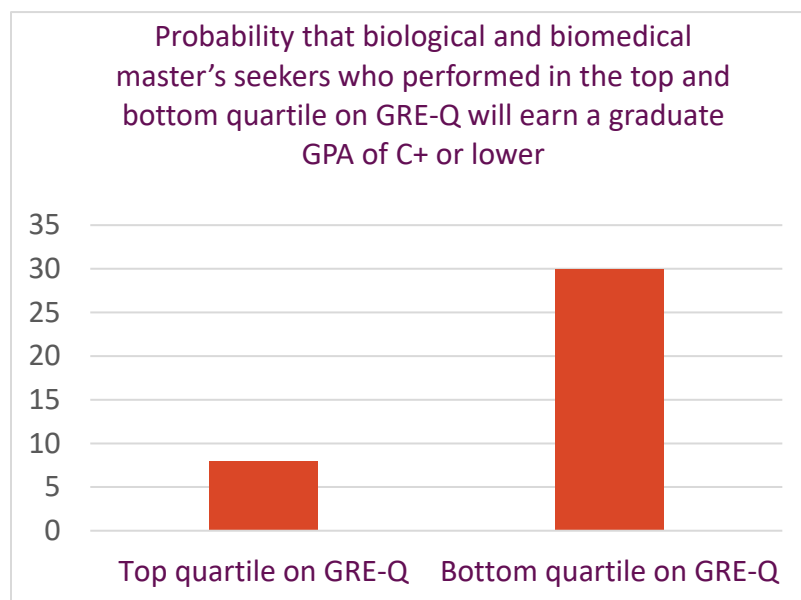
An extensive body of literature has documented validity evidence for the GRE General Test. A [meta-analysis by University of Minnesota researchers](), which investigated over 100 studies using data from master's and doctoral programs, demonstrated that the GRE test predicts first-

year and cumulative GPA — as well as faculty ratings of student performance — for both master's and doctoral program students.

Regarding research about the predictive validity of each test section, a study that examined the GRE test scores of 25,356 students enrolled in master's and doctoral programs at 10 institutions found that all three sections of the test were valuable in predicting cumulative graduate GPA across many programs of study ranging from the STEM fields to the humanities (Klieger et al., 2014). An examination of GRE test scores of MBA students from 12 institutions found that GRE Quantitative Reasoning and GRE Verbal Reasoning scores predicted both first-semester MBA GPA and cumulative MBA GPA, above and beyond undergraduate GPA (Young et al., 2014).

In MBA programs and in law schools, there is a stronger correlation between GRE scores and first-year grades (Young et al., 2014; Klieger et al., 2016) because students receive a wider range of grades. In many graduate schools, the majority of students receive a grade of B or better. This restriction in the range of grades leaves little evidence for any difference between relatively strong and relatively weak students.

GRE scores can be extremely useful in identifying students likely to struggle academically. A study using data from nine biological and biomedical sciences master's programs (Klieger et al., 2014) showed that even a test correlation that explains less than 4% of the difference across students in cumulative graduate school grades can be very useful for identifying these students' needs. The authors identified students within each program who were in the top or bottom GRE-Q quartiles, noted the percent of students receiving a graduate school grade of C+ or lower in each quartile, and averaged these across the programs. This information, depicted below, can help an admissions committee to identify students who may need more mentoring.

Probability that biological and biomedical master's seekers who performed in the top and bottom quartile on GRE-Q will earn a graduate GPA of C+ or lower

Limitations of the GRE General Test

The GRE test also cannot be expected to predict degree completion, and when we look closely at the factors that *are* associated with degree completion, it becomes apparent why not. In a study for the National Center of Education Statistics exploring the reasons why students did not complete graduate school programs ([Nevill & Chen, 2007](#)), researchers identified "change in family status" and "job/military conflict" as the top two of 15 reasons. The GRE test could never have predicted the impact these external influences could have on degree completion. Only 1% of interviewees indicated they were dropping out of their program due to academic problems. By using the GRE test in combination with other measures, the majority of graduate schools have been very successful in admitting only students with the reasoning, critical thinking and analytical writing skills needed for success. Therefore, very few students drop out because they lack these skills. Recent articles in *The Atlantic* ([2018](#) and [2016](#)) bring light to research that identifies mental distress and systemic issues at schools — not lack of academic ability — as factors that may lead students to drop out of graduate programs.

Of the many commonly requested materials in the admissions process, GPA and GRE scores are the most frequently researched admissions criteria in published studies because these criteria are the most easily quantifiable and can be used in statistical models examining correlations with various success outcomes, such as coursework examination results, research productivity, degree completion and time to degree. While these correlations may be interesting to study, results should be evaluated thoughtfully. Personal statements, letters of recommendation and other measures that indicate desirable attributes such as motivation and conscientiousness may be more appropriate as predictors of how much and how often a student will publish new research than a test that measures verbal and quantitative reasoning. When viewing criticisms of the limitations of the predictive utility of the GRE test, it is important to remember that the test was designed to measure academic *preparedness* for graduate-level work. To expect that GRE scores should be a strong predictor of how much and how often a student will publish new research is not reasonable, given how many variables can influence that outcome.

Questions about Bias

The very purpose for creating the GRE test more than 60 years ago was to level the playing field, so that graduate programs were accessible not only to students from privileged families who attended selective, private schools, but to all students who worked hard, showed initiative and perseverance, and earned their shot at success. That purpose still guides ETS and the GRE Program today, and toward that end, ETS goes to great lengths to make its assessments as fair and unbiased as possible. This includes training staff on the *[ETS Standards for Quality and Fairness](#)*, forming diverse teams to review test questions, and removing questions from tests that seem to unfairly bias any one group. ETS's rigorous processes to ensure test fairness are

carried out in accordance with standards set by the American Educational Research Association (AERA), the National Council on Measurement in Education (NCME) and the American Psychological Association (APA).

Despite all of the processes in place, GRE scores — like all standardized testing scores — tend to correlate with students' socioeconomic status, race and gender. This does not indicate that the test is biased. Rather, there are a number of factors that contribute to observed differences in scores, such as variation in course-taking patterns, interests, knowledge and skills, and educational, economic and social systems in which everyone does not receive equal opportunity. No test can fix societal inequalities, but the GRE program can help institutions understand performance differences among various groups and how to take them into consideration during the admissions process.

A report by researchers at The University of Texas MD Anderson Cancer Center UTHealth Graduate School of Biomedical Sciences ([Wilson et al., 2019](#)) concluded that:
- It is the practice of using cut scores (rather than the GRE test itself) that disproportionately affects doctoral applicants from underrepresented groups
- An admissions committee can mitigate GRE score variances between groups
- A multitiered holistic applicant review process can increase the diversity of the applicant pool without increasing the workload of the admissions committee

The report, written by a diverse group of researchers, also provides a blueprint for institutions that want to implement a data-driven approach — inclusive of GRE scores — to assess applicants holistically.

Using the GRE General Test to Achieve Institutional and Program Goals

The GRE test can provide a reliable basis for comparing academic potential among applicants. If the GRE test is optional then programs must evaluate how to weigh the objective evidence provided by GRE scores in light of other, unobjective information. The objective, comparative data that GRE scores yield is especially helpful when comparisons are difficult to make, such as when evaluating applicants from unfamiliar undergraduate institutions or from countries with different educational and grading systems.

No single measure can completely represent a person's potential, so it's critical that admissions committees consider multiple sources of evidence about an applicant's knowledge, skills and other attributes when making admissions decisions. In the _GRE® Guide to the Use of Scores_, the GRE Program discourages graduate programs from using GRE scores as the sole factor for making any decision, and certainly not as the sole factor for cut scores. Doing so lessens the importance of other components of a candidate's application — especially indicators of

desirable attributes like grit and conscientiousness — and can result in a less diverse student body.

Dropping test scores from the admissions process can negatively impact underrepresented groups and actually increase bias in the admissions process. Institutions that have dropped or made standardized tests optional in an effort to increase diversity have found later that their decision had no apparent effect on diversity, according to research published in *Educational Evaluation and Policy Analysis*. Students who opted to report scores typically reported higher scores, and without a common measure to compare students, the school relied more heavily upon measures that are subjective or not directly comparable. As a result, the institution became more selective about who to admit. In addition, this also could lead some potential applicants to not apply because, despite the school being test-optional, students with lower scores do not think they would be competitive due to the artificially inflated score means being reported. Rather than dropping the test, ETS recommends weighting GRE scores appropriately and looking for other strengths the program values, especially when evaluating applicants who have been out of school for many years, those from lower socioeconomic backgrounds, and those for whom English is not their first language. To assist programs and institutions that want to evolve their admissions practices to consider applicants more fairly, ETS developed holisticadmissions.org, a website with numerous resources including a digital holistic admissions implementation guide.

If Not the GRE Test, What?

In considering dropping the GRE General Test, or going test-optional, the GRE program encourages admissions committees to ask themselves this: If not the GRE test, then what? What other measure does the institution plan to use that is common and objective, that undergoes a rigorous fairness review process and that yields comparative data? While institutions have dropped standardized tests with the intention of increasing the diversity of their student bodies, going test-optional has had no apparent effect on diversity. There is no evidence that dropping the test has helped programs better achieve their objectives. Yet there are volumes — hundreds — of research reports that support the validity of the test and its value in the admissions process. The GRE test has its limitations, but ETS recommends not throwing out another piece of information about the applicant pool. Isn't it better to evaluate how scores are currently being used and consider weighting them differently than to rely solely upon measures that can introduce a greater level of bias to the application review and selection process? For applicants who may be adversely affected by programs that drop the GRE test, the answer is yes.

Helpful Links

Predictive Validity

- A meta-analysis of 100 studies of the validity of the GRE General Test
- A study that shows the predictive validity of the GRE General Test by section across multiple disciplines for master's and doctoral programs (Tables 13 and 14), and that shows the value of the GRE General Test in identifying students likely to struggle
- Studies that show that GRE scores predict first-year grades in business school and law school programs
- A compendium of studies of the extensive research efforts and other activities that led to the launch of the GRE General Test in 2011
- A study and two articles in *The Atlantic* (2018 and 2016) that analyze reasons why students do not complete graduate programs

The GRE Test, Score Use and Diversity

- A web page that describes the appropriate use of GRE scores and includes links to the GRE Board's statement regarding fair and appropriate use of GRE scores and the official *GRE® Guide to the Use of Scores*
- A website that offers holistic admissions resources, including a holistic admissions implementation guide
- A webpage that describes ETS's commitment to fairness and includes links to the *ETS Standards for Quality and Fairness* and eight documents that set forth ETS's fairness guidelines
- A new study that shows that the GRE test is not a barrier to diversity, and provides a blueprint for programs that want to use GRE scores as part of their holistic process
- A study of 180 undergraduate programs that shows that making the SAT® test optional had no effect on the diversity of their student bodies
- A new study that found that SAT-optional policies had no significant effect on diversity
- The GRE Fee Reduction Program, which aims to prevent the cost of taking the GRE test to be a barrier to graduate study for individuals who demonstrate financial need and for national programs that work with underrepresented groups, such as the McNair and Gates Millennium scholars programs