



GRE®

dataViews

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Validity of the GRE General Test: A Case Study of Veterinary Schools

Introduction

The ability of a test to predict future success on some meaningful criterion is often the touchstone by which users evaluate the usefulness of the test. Unfortunately, it has often been difficult to conduct good predictive validity studies for the GRE General Test because of insufficient data, unreliable criteria of success, and test scores or predictors of success that do not vary greatly across examinees (e.g., when test scores of admitted students cluster in a small, restricted portion of the score range). These factors can serve either to depress validity estimates or to make them appear more variable across graduate institutions than they actually are.

An opportunity to conduct a thorough validity study arose through the cooperation of colleges of veterinary medicine, most of which require applicants to submit scores from the GRE General Test. These schools have larger class sizes than most graduate departments, and they have relatively uniform curricula across institutions. In addition, the data that were available enabled statistical corrections for several factors that can lead to inaccurately low estimates of validity. The study also enabled the GRE Program to estimate the degree to which the *apparent* between-school variation in validity estimates is due to statistical artifacts, rather than to real differences in the predictability of success from school to school.

Because this project was able to control some of the problematic factors that plague most validity studies, it serves as a useful case study for the predictive validity of the GRE General Test.

Study Design and Findings

The study collected the following data about students applying or admitted to 16 veterinary colleges (1,400 admitted students and about 5,400 applicants): GRE scores, undergraduate grade point averages (UGPA), demographic characteristics, and — for admitted students — subsequent performance in school. Data analyses focused on the following questions often asked in graduate programs:

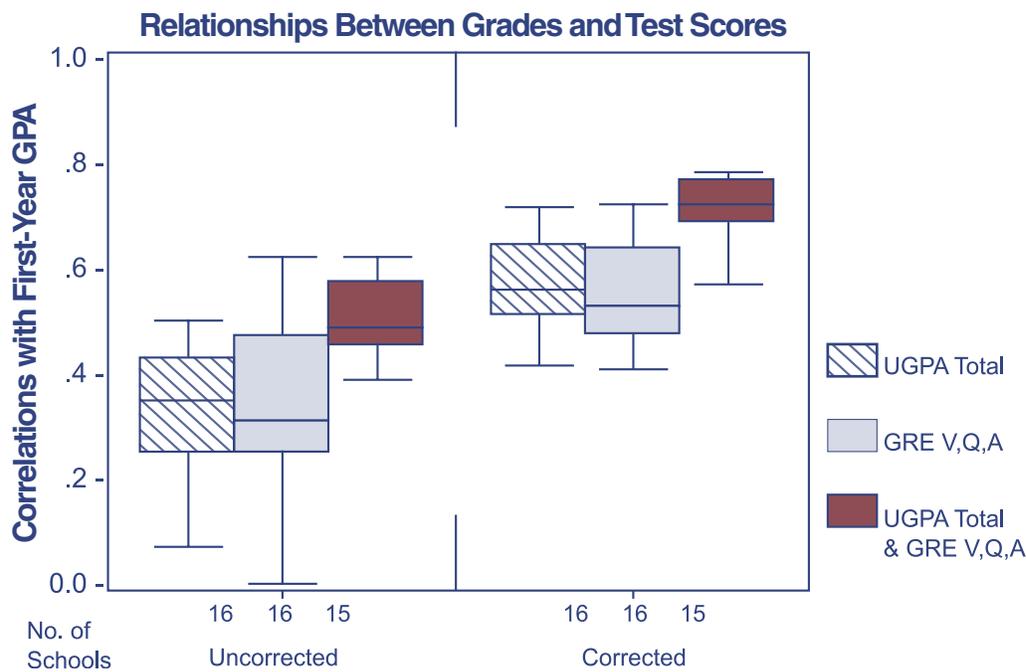
- What is the predictive power of the GRE General Test scores, UGPA, and both GRE scores and UGPA in combination?
- How much variation is there among colleges with respect to the predictive validity of GRE scores and of UGPA?
- How does the prediction of grades in key individual courses compare with the prediction of overall first-year graduate averages?

As anticipated, the highly selective nature of veterinary medical school admissions was clearly apparent in the limited range of test scores and UGPAs. Even with the dampening effects of these factors, however, both UGPA and GRE General Test scores exhibited significant positive relationships with first-year graduate grades in veterinary medicine. Moreover, when used together, grades and test scores constituted a more powerful predictor combination than did either used alone. More importantly, when statistical corrections were made to counteract the dampening effects of selection

and criterion unreliability, correlations with first-year GPA increased substantially. When fully corrected for limited range in test scores and in UGPA, and for unreliability in the criterion, the combination of UGPA and GRE General Test scores accounted, on average, for more than half the variation in first-year veterinary school grade averages. The figure below shows the uncorrected relationships between grades and test scores (left side), as well as the relationships corrected for restricted range and unreliability (right side). The “whiskers” around each box show the

variability in the correlations with first-year GPA. The line inside each box shows the point at which 50% of the correlations are above and 50% below; the top and bottom of each box show the 20% and 80% points, respectively.

The study found that, on average, individual course grades were less predictive than were first-year graduate grade point averages. However, there was clearly significant variability among courses with respect to the predictability of grades, and grades in some key individual courses were highly predictive.



Implications

By focusing on a single context — veterinary medical school admissions — ample data were collected to demonstrate the predictive validity of the GRE General Test. Unlike findings from validity studies based on single institutions, these findings provide an indication that the validity results are applicable across veterinary schools. With respect to the value of test scores, adding GRE General Test scores to undergraduate

grades had, on average, a significant impact on the prediction of first-year graduate grades — an effect that social scientists have usually considered to be “medium to large.”

For further information about this research project, see GRE Research Report 98-09, “Validity of GRE General Test Scores for Admission to Colleges of Veterinary Medicine” (by Donald E. Powers) on the GRE Web site at www.gre.org/respredict.html.

