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Support for the Validity of the Graduate Record Examination

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Acknowledgement:

[Sternberg and Williams \(June 1997\)](#) are rightly concerned about the validity of the Graduate Record Examination (GRE) and its use by graduate psychology programs in making admissions decisions. In their examination of the ability of GRE scores to predict the performance of graduate psychology students at Yale University from 1980 to 1991, they found weak and mostly nonsignificant correlations between GRE scores and first- or second-year grades, adviser ratings of students' abilities, and ratings of the quality of students' dissertations. There was a large amount of variation in the GRE scores, grades, and ratings. Nevertheless, the strongest correlation found was between GRE Analytical scores and ratings of dissertation quality for men (.47), and the median correlation across all the criterion variables was .12. These results were interpreted as demonstrating that "GRE scores were generally not valid or otherwise useful predictors of important aspects of success" (p. 636).

[Sternberg and Williams's \(1997\)](#) conclusion would be valid if GRE scores were the only variable used to make admissions decisions in Yale's psychology program. They note, however, that the program integrates information from several sources to arrive at admissions decisions. They did not specify which sources are used, but graduate programs commonly consider several factors that are believed to be predictive of success in graduate school (e.g., GRE or other relevant test scores, undergraduate grades, letters of recommendation, honors received, publications). When weighing the various data, most admissions committees also probably believe what Yale's psychology department does, namely, that "the lower the level of the [GRE] scores, the more an applicant needs compensating factors to gain admission" (p. 631).

Different programs are likely to weigh different application data differently, but an integrative procedure such as this is widely used. This is also the approach taken in psychological assessment generally because test scores are obviously not perfectly reliable or valid measures of psychological constructs (e.g., [Cronbach, 1990](#)). The validity of achievement test scores in particular is affected by factors such as test anxiety, illnesses or personal difficulties at the time of the examination, learning disabilities, and cultural influences (e.g., [Anastasi, 1988](#)). Consequently, failing to integrate data from multiple sources when conducting psychological assessments or making recommendations is ethically inappropriate (see Code 2.01 of the Ethics Code, [American Psychological Association, 1992](#)). If information regarding the past behavior of applicants who obtained low GRE scores suggests that they are nevertheless highly capable students (e.g., they obtained good grades from rigorous schools and received outstanding letters of recommendation), then admissions committees should consider that their GRE scores are unlikely to be valid predictors of their academic potential. It appears that Yale's psychology department also takes this approach and gives admissions offers only to applicants who are judged to be highly capable. Consequently, there would be little variance in accepted students' academic abilities, and low correlations between applicant variables and graduate school outcomes. Indeed, this is what [Sternberg and Williams \(1997\)](#) found.

Taking into consideration the way GRE scores were used for making admissions decisions in Yale University's psychology department, [Sternberg and Williams \(1997\)](#) used a misleading approach for analyzing their data. Predicting precise levels of achievement in graduate school from GRE scores alone when all admitted students are judged to be highly capable will necessarily result in low correlations. High achievement in any profession is dependent on a confluence of factors, and any single factor (e.g., ability, ambition, personality style, opportunity) will necessarily be a relatively weak predictor of level of success. It is only by combining data regarding such factors that this type of prediction is strengthened (e.g., [Ludwig, 1995](#)). Given that Sternberg and Williams's study focused on the use of GRE scores in making graduate admissions decisions, a more appropriate methodology for examining their data involves decision theory and selection accuracy. When this approach is used, a completely different conclusion is supported. Sternberg and Williams noted that students admitted into the psychology program at Yale rarely fail out ("typically one every several years" [p. 635], which suggests about three students over the 11-year period examined in the study). Therefore, basing admissions offers on GRE scores along with other relevant data resulted in a positive hit rate of 98% (i.e., approximately 164 successful acceptances out of their sample of 167). Perhaps the Yale psychology department faculty only rarely fails students even though many students' work is substandard. The applicant pool for that department may also be of such high quality that selecting applicants at random

would result in a high hit rate. If these possibilities are not the case, however, Sternberg and Williams's data answer their primary research question (i.e., "Does the Graduate Record Examination predict meaningful success in the graduate training of psychologists?" [p. 630]) in the opposite direction they proposed. Properly interpreted GRE scores were nearly 100% predictive of completing a prestigious and rigorous graduate psychology program, which one would hope represents meaningful success.

If [Sternberg and Williams \(1997\)](#) wish to provide a valid test of their hypothesis that GRE scores are only weakly predictive of graduate school success, they would need to use a methodology that would allow their hypothesis to be disconfirmed, such as examining the performance of students selected on the basis of GRE scores alone or selected from the applicant pool at random. To provide an even stronger test, they could identify all applicants whose GRE scores appear to be valid estimates of their general academic abilities and use a stratified random selection procedure to select applicants at all ability levels and then examine their performance in graduate school. It is unlikely that any university would allow the use of such admissions procedures, however, and these types of studies will probably never be conducted. Nevertheless, the ability of properly used GRE scores to predict superior academic achievement, as demonstrated by Sternberg and Williams is quite impressive.

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