

TITLE: Relationship between Praxis 1 scores and SAT/ACT scores :
A correlational study

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Abstract

The purpose of this paper is to test the premise that there is a significant correlation between Praxis1 scores and SAT scores among African American students who are applying for admission into the teacher education program. Data for the study included the Praxis 1 (reading, writing and math) scores and SAT (reading, writing and math) scores of African American students who attended a minority-populated institution between the years of 1998 and 2001. Sixty-four SAT math and 64 Praxis 1 math scores, 65 SAT writing and 65 Praxis 1 writing scores, and 68 SAT reading and 68 Praxis 1 reading scores were used in the statistical analysis and the scores were analyzed using the Statistical Analysis System (SAS). The results of the data analysis showed a statistically significant positive relationship between SAT reading, writing and math scores and Praxis 1 reading, writing and math scores. These results support the decision to substitute SAT scores for Praxis I scores in placing new students into teacher education programs, but also that the evidence for minority students is the same as that for majority ones.

Background

The testing of individuals for the purpose of certification in the field of education has become the norm as school districts, state departments of education, state legislatures and the federal government struggle to ensure that highly-qualified teachers are in every classroom. The tests developed under the Praxis series provide avenues to determine the suitability and the level of congruity of teachers to be aligned with students and school

system. While the Educational Testing Service (ETS, 2004) describes the Praxis Series assessments as providing educational tests and other services that states use as part of their teaching certification process, the impact of the tests has gone far beyond the gateway function as a method of entry for new teacher candidates. The results of Praxis testing have influenced major policy decisions by state departments of education as many states have used these data to implement alternative entry procedures to increase supply of teachers in times of acute shortage. The U.S. Department of Education reported that in 2005, thirty-three states required basic skills testing for initial certification (NCES, 2005), and some of these states have programs that base their state policies on the school districts' ability to meet the required standards for highly qualified teachers in the classrooms. Some states that do not require Praxis1 for initial licensure use high level passing rates on the Scholastic Aptitude Test (SAT) or American College Testing (ACT) as the entry requirement. An example is Virginia which allows the students who have earned 1,100 or more on the SAT to enter teacher education programs without Praxis 1. The open-enrollment requirements at many Historically Black Colleges and Universities (HBCU) do not include a cut off score in SAT. Thus, they tend to adversely affect students who could not make high enough scores in SAT and hence, be exempted from taking Praxis 1. This study was designed as an overview of students at such an institution.

Related Literature

The definition of the Praxis Series consists of a wide array of content-specific tests, pedagogical tests and basic skills tests that are used by states and other credentialing agencies to make decisions regarding teacher licensure. Colleges and universities also use the basic skills tests to make decisions regarding entrance into

teacher preparation programs. The series includes specific categories of tests that correspond to different milestones in the career of a professional educator (Educational Testing Service, 2004). According to the Standards for Educational and Psychological Testing (AERA, 1999), tests used for credentialing purposes (licensure and certification) focus on a candidate's current skill, knowledge, or competency in a particular domain, and the Praxis Series is designed to accomplish that purpose. Praxis 1 measures basic academic skills in reading, writing, and mathematics. Praxis II subject tests measure knowledge of core subject areas such as English, mathematics and biology and pedagogical knowledge germane for four grade levels (ETS, 2004). As mentioned earlier, the Education Department of Virginia has established a waiver for the Praxis 1 tests. Further, teachers coming to Virginia who have completed at least two years of successful, full-time experience teaching in an accredited public or non-public school outside of the Commonwealth are exempted from the Praxis 1 and II tests (VDOE, 2005).

Section 22.1–229 of the Code of Virginia states, “No teacher shall be employed by a school board or paid from public funds unless such teacher holds a license issued by the Board of Education”. The Code also gives the State Board of Education authority to “prescribe the requirements for licensure to teachers, and to approve programs for the preparation of teachers”. In accordance with this Code, the basic requirements for obtaining a regular renewable teaching license in Virginia are (a) a bachelor's degree in a content area meeting the endorsement requirements as defined in the licensure regulation; (b) completion of coursework; (c) completion of pre- and post-clinical experiences; and (d) satisfying the teacher testing requirements of Praxis I (reading, writing, and math) and

Praxis II in the subject area (VDOE, 2005), and Virginia Reading Assessment, if applicable.

In March of 2004, the Virginia State Board of Education voted unanimously to permit SAT/ACT scores in place of the Praxis 1 licensing exam and it went into effect immediately. According to the new regulation, if teacher candidates took the SAT after April 1995, they would need to have earned a combined score of at least 1,100 with at least 530 on the verbal and 530 on the math tests, and candidates who took SAT prior to 1995 need to have a combined score of at least 1,000 with at least 450 on the verbal and 510 on the math sections. Teacher candidates may also be waived from taking the Praxis 1 tests if their ACT scores met certain minimums. If the students took ACT prior to 1995, they should have earned at least a composite score of 21, with no less than 21 in mathematics and no less than 37 in English plus reading. Teacher candidates who took the ACT after 1995 should have earned at least a composite score of 24, no less than 22 in mathematics and no less than 46 in English plus reading. Those who did not earn the required SAT/ACT scores are required to take the Praxis 1 tests (VCCS Career Switcher Program, 2005).

Substituting Praxis 1 scores with SAT/ACT scores looks logical because there is evidence that those who passed Praxis 1 and II tests had higher average SAT/ACT scores than those who failed, and that the higher the Praxis passing score was set, the higher the SAT/ACT scores were on the passing population (The Renaissance Group, 2005). A study conducted by the Teaching and Learning Division of the Praxis Series (1999) also provides strong evidence for the predictive relationship between the SAT and the Praxis series. A study done by Blue, T. & O'Grady, R. (2002) indicates that low to moderate

correlations were found for students who entered college with low SAT scores when SAT Verbal and total SAT were compared to Praxis Series test scores. Additionally, no significant relationships were found for the same group between SAT Math and Praxis test scores, a pattern seen among those who scored high SAT scores. However, the same study found moderate to high correlations between total SAT scores and Praxis test scores. According to another research study (CDOE, 2001), prospective teachers who passed Praxis 1 had an average SAT total score of about 1032 and those who failed Praxis 1 had an average SAT score of about 855. Moreover, the average total SAT score for candidates passing Praxis 1 is similar to most published college entry requirements. The purpose of this paper is to test the premise that there is a significant correlation between Praxis 1 scores and SAT scores among African American students and discuss the implications of such a study for minority-populated institutions.

The outcomes of this study “Relationship between Praxis 1 scores and SAT/ACT scores: A correlational study” are expected to be two-fold. This study would determine if a correlation exists between Praxis 1 scores and SAT/ACT scores of African American students in a minority-populated institution and secondly, the results of this study would be used to make recommendations to the Admissions Office, regarding admission criteria in terms of SAT/ACT scores. Currently, the institution where this study was conducted requires SAT/ACT scores as part of the University admissions process; however, there is no prescribed score. “Students who are applying for admission as freshmen are expected to have completed a college-preparatory program in high school and have satisfactory scores on the Scholastic Aptitude Test (SAT) or American College Test (ACT) examination” (University, Undergraduate Catalog, 2004-2006, p.21). Not requiring a

specific score may be due to the fact that nonwhites are less likely to make higher SAT scores (Angrist & Guryan, 2005).

Methodology and Results

The researchers used a correlational research design that was appropriate to examine if a relationship existed among the Praxis I reading, writing, and math scores and SAT reading, writing and math scores. The relationship to be investigated in this study is a logical one and should make the interpretation of results meaningful since Gay and Airasian (2003) state that such a study allows the determination of the degree to which a relationship exists between two or more quantifiable variables. A study of this relationship is essential to the analysis of the substitution of SAT/ACT scores for Praxis 1 scores in Virginia. Data for the study included the Praxis 1 (reading, writing and math) scores and SAT (reading, writing and math) scores of students who attended this HBCU between the years of 1998 and 2001. Both SAT and Praxis are developed by ETS; the SAT measures verbal and mathematical reasoning (ETS, 2004) and the Praxis series is a set of rigorous and carefully validated assessments that provides accurate, reliable, information for use by state education agencies in making licensing decisions (ETS, 2004). The scores were retrieved from the Office of Institutional Research for blind reviews. Stratified sampling was used since the purpose of stratified sampling guarantees desired representation of relevant subgroups within the sample (Gay and Airasian, 2003).

Sixty-four SAT math and 64 Praxis 1 math scores, 65 SAT writing and 65 Praxis 1 writing scores, and 68 SAT reading and 68 Praxis 1 reading scores of students who attended a minority-populated institution between 1998 and 2001 were used in the

statistical analysis and were analyzed using SAS. The appropriate correlation coefficient used was the Spearman rho that revealed positive relationships between SAT math and Praxis 1 math scores ($r = +.60, p=.0001$), SAT reading and Praxis I reading scores ($r = +.63, p=.0001$), and SAT writing and Praxis I writing scores ($r = +.52, p=.0001$). The strongest relationship was noted between SAT reading and Praxis 1 reading scores ($r = +.63, p=.0001$)

Table 1: SAT Math and Praxis 1 Math

Test	N	Mean	Std	Sum	Minimum	Maximum
SAT Math	64	171.77	7.27	10993	154	187
Praxis 1 Math	64	396.56	70.13	25380	200	560

Rho Coefficient = .60

P = .0001

Table 2: SAT Reading and Praxis 1 Reading

Test	N	Mean	Std	Sum	Minimum	Maximum
SAT Reading	68	173.67	6.61	11810	160	185
Praxis I Reading	68	423.28	71.80	28820	230	600

Rho Coefficient = .63

P = .0001

Table 3: SAT Writing and Praxis 1 Writing

Test	N	Mean	Std	Sum	Minimum	Maximum
SAT Writing	65	172.88	4.69	11237	163	183
Praxis I Writing	65	427.23	72.06	27770	230	600

Rho Coefficient = .52

P = .0001

The correlations propose that students with higher SAT scores in reading, writing and math are likely to score higher in Praxis 1 reading, writing and math. The results of the data analysis show a statistically significant positive relationship between SAT reading, writing, and math scores and Praxis 1 reading, writing, and math scores.

Discussion

The results of this study match the evidence presented by the statistician with the Educational Testing Service (ETS) that those individuals who earned the cutoff scores on the SAT were more likely to attain the minimum scores that the state of Virginia required on the Praxis 1 exam (National Center for Alternative Certification, 2004). The outcome of this study that a statistically significant relationship exists between SAT math, reading, and writing scores and the Praxis 1 math, reading, and writing scores means that the evidence for minority students is the same as for the majority student population. This

trend cannot be surprising because it is already established that teacher candidates of color who passed both Praxis 1 and II scored much higher on the SAT than their ethnic group peers who did not pass (National Collaborative on Diversity in the Teaching Force, 2004). Since the data analysis showed a statistically significant relationship between the SAT and Praxis 1 scores, it may be suggested that the admission criteria be modified to require a higher SAT score than what is being currently required at this institution.

Currently, the minority-populated institution where this study was conducted requires SAT scores as part of the University admissions process; however, there is no prescribed score. Looking at the results of this study, it may be recommended that a specific SAT score be required of students for admission purposes and a higher SAT score may help those students who are planning to enter the teacher education program to use the SAT scores rather than having to take Praxis 1. However, it is crucial to understand that requiring higher SAT scores may lower the admission rate of African American students into this institution. Research shows that Black and Hispanic applicants are less likely to pass the Praxis II and perhaps other teacher tests as well (Angrist and Guryan, 2004). For example, Gitomer, Latham, and Ziomek (1999) report a pass rate of 91% for Whites, as opposed to 69% for Blacks and only 59% for Hispanics, the ethnic group with the highest Praxis failure rate.

Limited data are available on the test results of minority teachers. However, the available data from the National Collaborative on Diversity in the Teaching Force, (2004) bring out the following:

- In most instances, fewer than 50% of African Americans pass teacher tests.
- Overall, more minority teachers pass Praxis II – the subject matter tests. The pass rates are higher for secondary than for elementary teachers.
- There are positive correlations between SAT and ACT scores, grade point averages, and performance on teacher tests for all ethnic groups.

Conclusion

Though the study clearly indicates the presence of a strong linear relationship between Praxis 1 scores and SAT scores, yet the question that badgers educators is whether testing requirements enhance teacher quality or whether it stops high-quality applicants from joining the teaching force. Every effort should be taken to increase the number of students entering the teacher education program especially in minority-populated institutions because while the nation's school population is becoming increasingly racially diverse, the teaching force is becoming less diverse (Pratt and Rittenhouse, 1998). However, the testing requirements in the name of improved teacher quality, educational reform, and accountability may be a barrier to entry into the teacher education program especially for minority students. Perhaps what is needed in the preparation of teachers today is a committed and a well-trained diverse teaching force to teach and reach all students.

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