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ABSTRACT

Like many states, California has included a literacy screen, the California Basic Educational Skills Test (CBEST), in the requirements that aspiring teachers must meet. In a state where demographic data indicate an increasing ethnic diversity among elementary and secondary student populations and an imminent teacher shortage that will be especially acute for ethnic minorities, the potential impact of a test such as the CBEST is very important. Ample precedents indicate that standardized tests have ethnic, and sometimes gender, correlates which therefore impact on a minority applicant's accessibility to a teaching credential. This study seeks to evaluate the degree to which CBEST scores correlate with Hispanic ethnicity. The sample consists of 660 candidates who took the CBEST in 1990; test scores were tabulated by ethnicity, gender, and whether the test-taker was a first-timer or a repeater. Results suggest that there are striking differences in the probability of passing the test, depending upon the candidate's ethnic membership; the probabilities based on gender are also different, but less dramatic. The data suggest an inherent conflict between screening candidates' basic literacy skills as a provision for access to teacher education and attempting to ensure that a candidate's exclusion from a career is not influenced by ethnicity or gender. (LL)

Between Rocks and Hard Places: Teacher Competency Testing and the Makeup of the Teaching Force

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Historically, elementary and secondary education have been important elements in Americans' social mobility. The value lies not just in the opportunities that a sound education provides for the developing student, but also in the social progress available to those from working class backgrounds who become teachers. Since the early days of the normal school, teacher training institutions have been far more accessible than most other professional training schools to those from the lower classes.

Recently, however, educational dynamics have changed in a way that impacts those who will, and those who will not teach. Declining student aptitude scores has fostered an accountability movement (Frechtling, 1991), a subset of which is the evaluation of *teacher* competency. Frequently the evaluation is conducted with pencil-and-paper tests.

Like many states, California has included a literacy screen in the requirements that aspiring teachers must meet. It is the "California Basic Educational Skills Test " (CBEST) developed by ETS. To the degree that scores on this test follow the pattern common on other standardized tests, results bear an ethnic group (and by implication, a social class) correlate. Consequently, the screening device can have an impact on the makeup of the teaching force.

California demographics recently reached a watershed. Most elementary and secondary school students are now members of ethnic minority groups, and the growth of the minority populations relative to what has been the majority group (non-Hispanic Caucasians) is projected to continue. Fresno County in California's Central Valley is an example. Of the 150,000 K-12 students living in the county in 1990, 39% were non-Hispanic Caucasians and 42% were Hispanic (Saldana, Harris, and Moody, 1991). A national report recently observed that,

> Demographic data indicate a rapidly changing student population in terms of culture, ethnicity and socio-economic background. The data also foreshadow a severe teacher shortage at the end of this decade that will be especially acute for ethnic minorities. The student population is becoming more heterogeneous while the population of teachers is becoming more homogeneous. . . . (Presidents' Commission, 1991)

In a state and country where the trend is increasing ethnic diversity, the potential impact of a test such as the CBEST is very important.

This study was designed to examine some of these issues more closely. Specifically, we sought to evaluate the degree to which CBEST scores correlate with Hispanic ethnicity. We will view the findings in terms of the implications they may have for a) the social mobility of ethnic minorities via the teaching ranks, and b) the progress of elementary and secondary school students through a system of teachers which, instead of becoming increasingly representative of the larger population, may *decreasingly* represent the diversity of the population from which the students come. Since standardized test data tend to also correlate with gender, we c) will also evaluate scores in terms of that criterion.

Method

The sample consisted of 660 candidates who took the CBEST and requested that their scores be reported to a Central California university during successive October and December, 1990 administrations. Ethnicity was determined by three judges who independently analyzed candidates' surnames, a procedure McManus (1990) demonstrated to be reliable.

The current standard for passing the test is a minimum score of 37 out of the 80 available on each of the three subtests, and a cumulative score of at least 123. There is no sliding cut-score, no adjustment made in the required score for first-time test-takers vs. repeaters. Candidates need repeat only those sections of the test that they choose to repeat. The cumulative score reported for purposes of meeting the state requirement is the highest score on each subtest even if the scores are from three different administrations of the test. Test scores were tabulated by ethnicity, by gender, and by whether the test-taker was a novice or a repeater.

Results

The ethnicity, gender, and test-taking status (first-time/repeat) of the 660 candidates are indicated in Table 1. Three university faculty members, two of them Hispanic, participated in the judgements of candidates' ethnicity. On a randomly selected group of 65 names, the inter-rater reliability among judges was calculated to be ____.

Place Table 1 About Here

Test results indicate rather pronounced scoring differences which correlate with ethnicity, gender, and with test-taking status. Furthermore, Table 1 suggests that the pattern for repeating the test is substantially different for Hispanics than for non-Hispanics. Note that the number of first-time test-takers who were Hispanic was about half the number of Hispanics who repeated the test. Among non-Hispanics it was the opposite, about half the number of repeaters compared to first-time test-takers. Although one might argue that there is a higher level of persistence among Hispanic test-takers, a more plausible explanation in light of existing research, is that the correlation between standardized test scores and ethnicity which is noted for the Scholastic Aptitude Test (SAT), for example, is also characteristic of CBEST data. The Hispanic candidates have more difficulty with the test and, consequently, a higher proportion of them repeat the test than is true for non-Hispanics. The results presented in Tables 2 and 3 bear this out.

Place Tables 2 & 3 About Here

There are pronounced scoring differences corresponding to ethnicity. Those correlating with gender are less dramatic, but still in evidence. Among first-time test-takers, non-Hispanics scored substantially higher than Hispanics on each of the three subtests. The pattern is repeated among test-repeaters with the exceptions that Hispanic males averaged .1 better than non-Hispanic females on the math test, and the differences between groups on all three tests are less dramatic.

Specifically, for the reading and math subtests, the pattern from highest to lowest score is as follows: Male non-Hispanics, female non-Hispanics, male Hispanics, and female Hispanics. On the writing test, the pattern from highest to lowest is female non-Hispanic, male non-Hispanic, female Hispanic, and male Hispanic. The pattern is almost exactly the same among test-repeaters. The exception is that the mean math score for

Hispanic males is .1 higher than the mean math score for non-Hispanic females.

The comparative passing rates of the different groups are presented in Table 4, and they indicate what the mean scores imply: the differences related to ethnic group and to gender are substantial.

Place Table 4 About Here

Ignoring group membership and prior test experience, there is a .52 probability that the average test-taker will pass the test on a given administration. However, for Hispanic candidates, whether first time or subsequently, the probability never rises above .39 which is the passing rate for Hispanic males taking the test for the first time. The probability of passing dips as low as .18 for Hispanic females repeating portions of the test.

Of the 660 candidates in this sample, 389 took the test for the first time. The passing rate for all first-time test-takers is 66%, nearly identical to the rate for the largest group, non-Hispanic females, but substantially beyond the passing rate for Hispanic candidates of either gender.

Using the data from Table 4, one can determine that all males enjoy the highest probability of passing the test on the first administration, .72. Females have a .62 probability of passing. All non-Hispanics have a .70 probability of passing the test first time, for Hispanics the probability drops to .39. Among repeaters it is even more abysmal. The probability for Hispanics passing the test on a second or subsequent try is .24.

Discussion

There are ample precedents indicating that standardized tests have ethnic, and sometimes gender correlates. Therefore, they also have an impact on the minority applicant's accessibility to the teaching credential. In other words, employing a standardized test as a credential requirement has implications for the ethnic and gender makeup of the teaching force. This study was conducted to evaluate those implications. Results suggest that there are striking differences in the probability of passing the test, depending upon the candidate's ethnic membership. The probabilities based on gender

are also different, but less dramatic. Because results bear an ethnic group correlate, the tests influence the degree to which teaching is available to the ethnic minorities. An historic gateway to social mobility is less accessible than it once was.

Standardized testing introduces an important variable into the discussion of ethnic representation in the teaching force. Indeed, the data suggest an inherent conflict between screening candidates' basic literacy skills as a provision for access to teacher education, and attempting to ensure that a candidate's exclusion from a career is not influenced by his/her ethnicity or gender. Since ethnicity and social class correlate, the social mobility which teaching provided historically is more restrictive in some ethnic groups than in others. Besides the social mobility of the teacher, the teacher's ethnicity becomes particularly important in areas where the student population is largely minority and where the teachers' background and experiences are vastly different from those of the students (Presidents' Commission, 1991).

There have been a variety of responses among those who evaluate the test data. Denigrating the test and offering test preparation seminars are two of the more common. Attacking the test because one is unhappy with the results is a form of 'killing the messenger.' Test preparation seminars are frequently also wide of the mark as they seek score improvement through increasing test-wiseness, rather than by actually building the skills/knowledge that the test is designed to measure. Assuming that the test has supportable validity, the problem is differences in reading, math, and writing skills which correlate with ethnicity, and to some extent gender. A more promising (though perhaps more painful) approach lies in determining what curriculum will help those who wish to teach to develop the reading, or math, or writing skills which effective teaching is thought to require.

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Table 1
Characteristics of the Sample

First-time Test Takers				Test-repeaters			
Hispanics		Non-Hispanics		Hispanics		Non-Hispanics	
Female	Male	Female	Male	Female	Male	Female	Male
39	18	213	119	72	39	120	40

Table 2

CBEST Scores for First-time Test-takers:

Reading, Math, and Writing Means & Std. Deviations by

Ethnic Group and by Gender

Ethnic Group	Gender	Read. mean	Read. s.d.	Math mean	Math s.d.	Writing mean	Writing s.d.
	Female	38.5	10.9	40.8	12.2	41.1	6.0
Hispan.							
	Male	43.1	12.0	47.6	15.3	38.9	12.7
	Female	49.3	13.2	50.7	14.5	45.8	9.0
Non-H.							
	Male	53.3	13.3	59.1	12.8	43.4	8.5

Table 3

CBEST Scores for Test-repeaters:

Reading, Math, and Writing Means & Std. Deviations by

Ethnic Group and by Gender

Ethnic Group	Gender	Read. mean	Read. s.d.	Math mean	Math s.d.	Writing mean	Writing s.d.
	Female	32.2	6.9	31.6	6.3	36.3	7.1
Hispan.							
	Male	33.5	8.8	35.1	11.3	34.1	9.0
	Female	34.7	8.4	35.0	9.8	38.4	7.5
Non-H							
	Male	37.0	7.6	42.2	12.6	37.0	7.8

Group	# Passing	# Failing	Group Total	% Passing
Hisp. Female	15	24	39	38
Hisp. Male	7	11	18	39
Non-H. Fem	141	72	213	66
Non-H. Male	92	27	119	77
Hisp. Fem R	13	59	72	18
Hisp. Male R	14	25	39	36
Non-H. Fe R	42	78	120	35
Non-H. M R	19	21	40	48
All Groups	343	317	660	52

* "R" indicates repeating.