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ABSTRACT

The participation in and performance on the California High School Proficiency Examination (CHSPE), a state-mandated test designed to measure the attainment of cognitive requirements for early high school graduation, were analyzed. Objectives of the study were to identify the characteristics of high schools which had a large proportion of students taking the test and to identify characteristics of students who received high scores. Data were collected for individuals who took the test; individual high schools; school districts; and counties. Although the analysis was incomplete, some conclusions were drawn: (1) information about the availability and desirability of taking the CHSPE was not made uniformly available by all schools; (2) test scores were positively associated with the educational attainment of household heads and grades in academic subjects; (3) test scores were negatively associated with Black and Hispanic students and with having a language other than English spoken at home; and (4) students from upper socioeconomic backgrounds performed better than students from lower socioeconomic backgrounds. (Data are appended). (MH)

PARTICIPATION IN AND PERFORMANCE ON THE CALIFORNIA HIGH SCHOOL PROFICIENCY EXAMINATION

A Correlational Analysis of Data on High Schools and Individual Test-Takers

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PARTICIPATION IN AND PERFORMANCE ON THE CALIFORNIA HIGH SCHOOL PROFICIENCY EXAMINATION

Introduction

In 1972 the California legislature voted to create a new early graduation option for high school students. The legislature directed the California State Department of Education to design an examination to measure what students should know before leaving high school. The resulting instrument, called the California high School Proficiency Exam, was first administered officially in December, 1975. Students who are 16 years old or in the second semester of tenth grade are eligible to take the CHSPE. If they pass and obtain parents' permission (not necessary for students 18 or older), they may leave high school. By statute, they are automatically eligible to attend a two-year California Community College, from which they may later be able to transfer to a four-year college.

The original proponents expected CHSPE to appeal to substantial numbers of "bright but bored" students. In fact, the proportion of eligible students taking CHSPE each year has been surprisingly small-- on the order of four or five percent. The unexpectedly low rate of overall participation calls for some explanation. The present paper is concerned, first, with identifying characteristics of individual high schools which are associated with a larger proportion of students taking the CHSPE, and with changes in that proportion over time. Empirical analysis of variation in the CHSPE-taking rate across schools and over time is of some interest in itself, and will also give some insight into why

the overall CHSPE-taking rate has been so low.[1]

The second objective of this paper is to discover which characteristics of individual students-- as reported on a short questionnaire administered to all students at the time they take CHSPE-- are associated with higher scores on the examination. Some analysis of this kind was done by the California State Department of Education for students who took CHSPE in December, 1975.[2] The present study extends the analysis for December, 1975, using additional data on high schools, and compares the results with those for later test dates. (Results for later test dates are not included in this paper.)

Data and Sources

We have compiled data from the following sources:

1. For individual CHSPE-takers from the first seven test administrations: data from the CHSPE registration form, pre-test questionnaire, test score and whether passed. We also have the data from the California State Department of Education (SDE) follow-up survey of a 10 percent sample of CHSPE-takers from December, 1975.

2. For high schools: data from 1977 California SDE survey of high schools on practices related to CHSPE. Annual California Assessment Program data on regular High schools, including grade 12 enrollment, average academic achievement test scores, sex, ethnicity, and socio-economic background. Data on cortinuation schools for 1976-77, including enrollment, data on methods of school assignment and leaving, sex, and ethnicity.

3. For districts in which high schools are located: average daily attendance; financial data, including expenditures on guid-

ance and compensatory/bilingual programs; graduation requirements, course availability, and smoking rules; 1970 U.S. Census data, aggregated by district, on socio-economic and labor force characteristics.

4. For counties: unemployment rates, characteristics of labor force, number of pregnant minors.

The merged data file enables us to examine interactions between characteristics of students and the school context in determining participation in, and performance on, CHSPE.

Findings

Table 1 groups individuals into 72 categories by ethnicity, gender, and region of the state. The table shows what percentage (from 0 to 100) of students enrolled in grade 12 in regular public high schools were reported to be in each category in 1975-76, 1976-77, and 1977-78.[3] (The total grade 12 enrollments in regular public high schools in those years were 273,235, 278,521, and 281,352, respectively.) The table permits comparison between the percentage distribution of enrollment and of CHSPE-takers among categories. (The total numbers of CHSPE-takers were 33,054 in 1975-76; 34,655 in 1976-77; and 32,818 in 1977-78.)

No precise conclusions can be drawn from Table 1 about whether any particular category is over- or under-represented in the CHSPE-taker distribution compared to the enrollment distribution. One reason is that grade 12 students in regular public high schools do not comprise even a majority of all individuals eligible to take

CHSPE. The total group of eligibles includes anyone age sixteen or over on the day of the test, and anyone under age sixteen who is a second semester sophomore in any public, private or parochial school. Comparison of the two distributions in Table 1 therefore gives only a very rough idea of whether the number of CHSPE takers in a given category was a relatively large or small proportion of the number of eligible individuals in that category.

Another problem in Table 1 is that substantial percentages of CHSPE takers appear in the categories of "Indian" and "ethnicity unknown". The question that elicited these responses, on the questionaire given to CHSPE-takers just prior to the examination itself, was:

> In which of the following groups do you believe you most nearly belong?
>
> American Indian or Alaskan Native (persons having origins in any of the original peoples of North America)
>
> Asian or Pacific Islander (persons having origins in the Far East, Southeast Asia, or the Pacific Islands-- this area includes, for example, China, Japan, Korea, the Philippine Islands, and Samoa)
>
> Black, not of Hispanic origin (persons having origins in any of the black racial groups)
>
> Hispanic (persons of Mexican, Puerto Rican, Cuban, Central or South American origins, or of Spanish culture or origin, regardless of race)
>
> White, not of Hispanic origin (persons having origins in any of the original peoples of European, North Africa, the Middle East, or the Indian subcontinent)

These are the standard U.S. Office of Education descriptions for use in educational research. Apparently, substantial numbers of CHSPE takers either misunderstood the question or deliberately answered it wrong, and others simply did not answer. The result

is that the ethnic composition of CHSPE takers cannot be determined precisely.

Table 1 also reports the percentage (from 0 to 100) of CHSPE takers in each category who passed. It is apparent that passing rates in 1975-76 were higher for males than for females in almost all regions and ethnic groups, but the reverse is true in 1976-77 and 1977-78. This reversal may be attributable to a change in the scoring procedure: in 1975-76 it was possible to pass by correctly answering a sufficient number of items in the multiple-choice section of the test, even if the essay section was unsatisfactory. But in 1976-77 and 1977-78 it was necessary to pass both the essay and the multiple-choice section in order to pass the test. If larger proportions of females than males were able to pass the essay, this could account for the observed change.

It is also apparent in Table 1 that passing rates in all categories of gender and region were generally highest for Whites, followed by Asians, Hispanics, Blacks, "Indians", and ethnicity unknown. This pattern appeared in all three years. However, the incompleteness of the self-reported ethnicity data makes this pattern somewhat unclear. For example, if the "Indian" and unknown ethnicity categories contain large enough numbers of Whites who failed and Blacks who passed, the real difference between White and Black passing rates would be less than is apparent in Table 1, and might even be reversed.

Another approach to the question of who takes CHSPE is through analysis of data on schools rather than individuals. The basic problem is that we do not yet have data on individuals who do not take

CHSPE, so we cannot make direct comparisons between those who do and those who do not. However, by analyzing the relationship between characteristics of schools and the preparation of students who take CHSPE, we may make some indirect inferences. This analysis, furthermore, does not have to rely on self-reported data from CHSPE takers.

Tables 2.1 and 2.2 show lists of predetermined variables and estimated regression coefficients (with standard errors). The predetermined variables are characteristics of schools, including some grouped characteristics of students in each school. The coefficient on a particular predetermined variable measures the predicted difference in CHSPE participation rate between any two schools that would be associated with a difference of 1.0 in the predetermined variable, if the values of all other predetermined variables were the same for the two schools. The ratio between the estimated coefficient and its estimated standard error is approximately distributed as Student's t, and may be used to test the null hypothesis that the true value of the coefficient is zero.[4]

The dependent variable in each regression equation is the number of CHSPE takers (either the total number in the school or the number in some category, e.g., males) divided by grade 12 enrollment (again, either the school total or the number in some category, e.g. males). This ratio is the best available measure of the proportion of eligible students in school who take CHSPE in a given year. It is also the observed probability that students in the school take CHSPE.

Given the assumption stated in footnote 4, it may be inferred from Table 2.1 that the probability of a student taking CHSPE in

1975-76 was

(1) negatively associated with being black or Hispanic;

(2) positively associated with the amount of publicity reportedly given to CHSPE in the school in December, 1975;

(3) positively associated with location outside a metropolitan area;

(4) positively associated with being in a school district where students are allowed to smoke on high school campuses;

(5) positively associated among females, and negatively associated among males, with the rate of unemployment in the county;

(6) positively associated among students whose parents have a college education or more, and negatively associated among students whose parents do not have a B.A., with the rate of unemployment in the county;

(7) positively associated among females, and negatively associated among males, with the proportion of males in the school.

Table 2.2 shows results for 1977-78. Here the predetermined variables include the school's CHSPE participation rates in the previous year.[5] Not surprisingly, this produces substantially higher values of R^2: participation rates in 1977-78 are very sharply associated with participation rates the year before. With last year's participation rate in the equation, the estimated coefficients on other variables tend to be smaller, both in absolute value and relative to their estimated standard errors. This is particularly true of variables which did not change in value from year to year: location of the school, type of district, and whether smoking was allowed (this may have changed in fact, but we had

data on this variable only for one year). In addition, findings (1) and (7) for 1975-76 remain true, but (5) does not.

Finally, Table 3 presents estimates, for 1975-76, of regression coefficients from equations for various groups of CHSPE-takers, in which the dependent variable is an individual's score on the "core items", or multiple-choice section, of the test. The variables treated as predetermined in step 1 are assumed not to be caused by either the dependent variable or the additional variables treated as predetermined in step 2. All variables treated as predetermined in step 2 are assumed not to be caused by the dependent variable. However, the variables added in step 2 may be affected by unobserved variables which also affect the dependent variable. If so, the equation in step 2 would be unidentified; the estimated coefficients would be meaningless if no further logical restrictions could be put on the model. Among the following inferences from Table 3, therefore, the first five are the most valid. Core item score in 1975-76 is

(1) positively associated with being male;

(2) negatively associated with reporting oneself as Black (this is the self-reported questionaire data);

(3) positively associated, especially among the group that includes Whites, with reported educational attainment of the head of household;

(4) negatively associated with a language other than English being spoken at home;

(5) positively associated with higher average academic achievement scores for the school as a whole;

(6) negatively associated with being 17 or older in grade 11 or 18 or older in grade 12;

(7) positively associated with higher reported grades in academic subjects, except for mathematics among students in continuation high schools;

(8) positively associated with reporting oneself as more often absent from school;

(9) negatively associated with reportedly planning to work full time after high school;

(10) positively associated with reportedly planning to attend a community college or a four-year college or university.

Discussion

This is work in progress. We have not finished analyzing the existing data, and we have not yet even begun to analyze the data from our own survey of high school students, including both CHSPE-takers and others. Still, some comments are in order at this point.

CHSPE was created by the State of California, not by local school districts. Students who pass receive a California Certificate of Proficiency, not a regular high school diploma (unless they go on to fulfill the regular requirements for graduation, which some do). Local school districts even have some incentive to prevent students from taking CHSPE since the California system of school finance makes resources available to local districts in direct proportion to average daily attendance. On the other hand, some high school counselors may view CHSPE as an attractive alternative for certain kinds of students. Local policy about what to tell, or not to tell, students about CHSPE can therefore be expected

to influence the numbers and types of students who take the exam, in spite of the fact that CHSPE is given under state, not local, auspices.

In addition, in any particular school, individual students vary in their likelihood of obtaining information about CHSPE, their probability of taking it, and their chances of passing it. The test purports to measure "survival skills"-- information-processing abilities thought to be necessary for functioning as an adult-- rather than more strictly academic skills and information. On the other hand, it is normed so that the average high school senior has only a fifty-fifty chance of passing. This makes CHSPE anomalous: it is a non-academic test, designed to legitimize leaving high school early rather than to screen students for college, but at the same time it is a difficult test to pass.

The findings at this point are consistent with the view of CHSPE as an anomaly in conventional status-attainment theory. Score on the exam is positively associated with educational attainment of household head and with grades in academic subjects. It is negatively associated with being Black or Hispanic, and with having a language other than English spoken at home. It seems apparent that individuals with more "upscale" socioeconomic backgrounds generally do better on CHSPE, but CHSPE is not designed, nor is it perceived, as a credential for admission to high-status colleges or jobs. At this time, CHSPE is mainly seen as a way out, not as a way up, and it seems useful mainly to individuals who could go either way.

Footnotes

[1]Another part of the same research project, not reported in this paper, is a survey of high school students to find out, among other things, what kinds of students are actually aware of CHSPE, and what they think of it. The entire project is being performed under contract to the National Institute of Education.

[2]William Padia: The California High School Proficiency Exam: Examinee Characteristics and Secondary School Response. California State Department of Education. Office of Program Evaluation and Research, 1978.

[3]The ethnic composition of each school as a whole was estimated by an Ethnic Census in the fall of 1973, and again in the fall of 1977. The percentages for each school in 1973 were multiplied by grade 12 enrollment in 1975-76 to give an approximation to the number of grade 12 students in each school in each ethnic category for 1975-76. For 1976-77 and 1977-78, the approximation multiplied the Ethnic Census percentages for 1977 by the grade 12 enrollment for the given year. In each year, total grade 12 enrollments in each Ethnic category were then computed by summing the approximations for individual schools.

[4]The particular assumptions underlying these assertions are as follows: (1) Each student has some "true" probability of taking CHSPE in a given year. Denote this as p. (2) The true probability of a student taking CHSPE is a function of the student's own characteristics and certain characteristics of the environment. (3) The environmental characteristics which affect a student's true probability of taking CHSPE do not include characteristics or behaviors of other students in the school. (4) In the regression equation for an individual student,

$$y = p + e,$$

y is a numerical code for the student's observed behavior of taking CHSPE or not, and e is an error term, the expected value of which is assumed to be zero. In theory, the numerical code for y could be any pair of numbers which satisfies this assumption. For example, if y = 0 when the student takes CHSPE, then we would have y = p/(1-p) when the student does not; this combination of numbers satisfies the assumption that e has zero expected value. In practice, it is convenient to let y = 0 if the student does not take CHSPE and y = 1 if the student does; then the assumption is satisfied and the code for y does not depend on p. (5) On a given trial, each student has some value of e. The correlation between e and each predetermined variable can in theory be computed across students. The expected value of this correlation across all trials, --like hypothetical repeated tosses of a set of coins with certain observable properties-- is assumed to be zero.

These assumptions are sufficient for the coefficients in Table 2.1 and 2.2, which are estimated from grouped data, to be unbiased estimates of the parameters of a linear function which approximates the function defined in assumption 2, for individuals.

Since the data are grouped by school, the square root of a school's grade 12 enrollment was used to weight the data, to increase the efficiency of the least-squares estimation.

[5]It is possible that some unobserved variables which affected a school's participation rate in 1976-77 also affect its participation rate in 1977-78. If the values of such unobserved variables are correlated between the two years, then the coefficients in Table 2.2 are biased.

TABLE 1

Distribution of California Grade 12 Enrollment in Regular High Schools and Distribution of CHSPE-Takers, by Ethnicity, Gender, and Region; and Percentage in Each Category Passing CHSPE; 1975-76, 1976-77, and 1977-78

	1975-76			1976-77			1977-78		
	% of enrollment, Grade 12 Reg. h.s.	% of CHSPE takers	% passing CHSPE	% of enrollment, Grade 12 Reg. h.s.	% of CHSPE takers	% passing CHSPE	% of enrollment, Grade 12 Reg. h.s.	% of CHSPE takers	% passing CHSPE
Asian, male, SMSA north	1.31	0.64	37.56	1.06	0.55	37.37	1.06	0.51	36.31
SMSA south	2.30	0.43	41.96	0.99	0.49	30.59	0.98	0.47	38.56
rural	0.12	0.12	28.21	0.20	0.10	42.42	0.98	0.47	33.33
region unknown	0	0	—	0	0.02	14.29	0	0.21	34.78
Asian, female, SMSA north	1.40	0.59	35.71	1.12	0.53	41.08	1.10	0.48	37.18
SMSA south	2.62	0.38	39.37	1.02	0.42	40.82	1.00	0.45	46.94
rural	0.12	0.11	40.54	0.20	0.11	41.03	0.21	0.12	61.54
region unknown	0	0.01	0	0	0.01	20.00	0	0.16	31.37
Asian, gender unknown, SMSA north	0	0	—	0	0	—	0	0+	100
SMSA south	0	0	—	0	0	—	0	0	—
rural	0	0	—	0	0	—	0	0	—
region unknown	0	0	—	0	0	—	0	0	—
Black, male, SMSA north	0.72	0.31	12.75	1.47	0.36	19.84	1.44	0.24	26.25
SMSA south	0.61	0.48	17.50	2.80	0.61	9.48	2.88	0.55	23.33
rural	0.11	0.05	12.50	0.13	0.06	28.57	0.12	0.02	14.29
region unknown	0	0.02	0	0	0.01	0	0	0.17	8.93
Black, female, SMSA north	0.75	0.45	14.67	1.56	0.51	21.02	1.54	0.32	29.81
SMSA south	0.63	0.70	8.23	3.10	0.83	14.53	3.20	0.71	16.31
rural	0.11	0.06	5.26	0.13	0.07	24.00	0.13	0.02	12.50
region unknown	0	0.03	0	0	0.04	0	0	0.15	10.42

TABLE 1 (Cont'd)

	1975-76			1976-77			1977-78		
	% of enrollment, Grade 12 Reg. h.s.	% of CHSPE takers	% passing CHSPE	% of enrollment, Grade 12 Reg. h.s.	% of CHSPE takers	% passing CHSPE	% of enrollment, Grade 12 Reg. h.s.	% of CHSPE takers	% passing CHSPE
Black, gender unknown,									
SMSA north	0	0	—	0	0	—	0	0	—
SMSA south	0	0+	0	0	0	—	0	0	—
rural	0	0	—	0	0	—	0	0	—
region unknown	0	0	—	0	0	—	0	0	—
Hispanic, male, SMSA north	1.84	1.08	27.53	1.93	1.02	27.27	1.90	0.74	30.17
SMSA south	4.05	1.56	25.19	4.74	1.39	24.56	4.66	1.38	30.84
rural	1.02	0.51	27.38	1.17	1.39	24.58	1.14	0.38	36.80
region unknown	0	0.05	33.33	0	0.06	27.27	0	0.49	33.33
Hispanic, female,									
SMSA north	1.90	1.21	26.50	1.95	1.26	26.15	1.97	0.94	29.32
SMSA south	4.16	1.48	20.08	4.89	1.50	31.54	4.86	1.48	29.57
rural	1.02	0.49	26.54	1.19	0.57	28.43	1.20	0.41	37.50
region unknown	0	0.04	30.77	0	0.07	20.00	0	0.50	24.24
Hispanic, gender unknown,	0	0	—	0	0	—	0	0	—
SMSA north	0	0+	100	0	0	—	0	0	—
SMSA south	0	0+	0	0	0+	0	0	0	—
rural	0	0+	0	0	0	—	0	0	—
region unknown									
"Indian", male, SMSA north	0.05	2.27	21.47	0.14	1.36	21.70	0.14	1.20	22.65
SMSA south	0.07	2.73	23.84	0.15	1.81	18.95	0.14	1.48	24.95
rural	0.08	1.58	24.52	0.15	0.96	17.17	0.15	0.86	24.91
region unknown	0	0.02	0	0	0.03	16.67	0	0.50	21.34
"Indian", female, SMSA north	0.05	1.57	21.62	0.14	1.21	29.93	0.14	0.96	29.43
SMSA south	0.07	2.10	19.88	0.15	1.46	28.60	0.15	1.19	32.13
rural	0.08	1.26	24.22	0.14	0.85	29.25	0.14	0.90	31.86
region unknown	0	0.04	8.33	0	0.04	7.14	0	0.36	26.27

TABLE 1 (Cont'd)

	1975-76			1976-77			1977-78		
	% of enrollment, Grade 12 Reg. h.s.	% of CHSPE takers	% passing CHSPE	% of enrollment, Grade 12 Reg. h.s.	% of CHSPE takers	% passing CHSPE	% of enrollment, Grade 12 Reg. h.s.	% of CHSPE takers	% passing CHSPE
"Indian", gender unknown,	0	0.01	66.67	0	0	—	0	0	—
SMSA north	0	0+	0	0	0	—	0	0	—
SMSA south	0	0	—	0	0	—	0	0	—
rural	0	0	—	0	0	—	0	0	—
region unknown									
White, male, SMSA north	11.71	9.23	54.70	11.23	9.15	42.06	11.21	7.43	48.42
SMSA south	17.46	11.14	49.66	15.48	11.44	42.62	15.36	9.93	46.95
rural	8.01	5.32	51.65	7.80	4.46	40.39	7.95	4.46	45.05
region unknown	0	0.12	43.90	0	0.28	32.65	0	3.18	44.59
White, female, SMSA north	12.07	9.22	43.81	11.45	10.53	48.27	11.44	8.87	50.12
SMSA south	17.53	11.09	41.93	15.64	12.71	46.20	15.47	11.72	47.71
rural	7.99	5.82	40.78	7.82	5.84	49.33	8.04	4.95	46.00
region unknown	0	0.15	32.65	0	0.32	30.63	0	2.86	48.03
White, gender unknown,	0.03	0.01	25.00	0.01	0.01	0	0.02	0.01	100
SMSA north	0.01	0.03	44.44	0.03	0.01	25.00	0.02	0	—
SMSA south	0+	0.02	20.00	0.02	0.01	40.00	0.02	0.01	50.00
rural	0	0	—	0	0	—	0	0.01	50.00
region unknown									
Ethnicity unknown, male									
SMSA north	0	4.65	19.78	0	3.81	12.12	0	3.39	12.84
SMSA south	0	6.09	20.11	0	6.30	16.17	0	5.65	18.82
rural	0	2.50	20.12	0	2.90	19.60	0	2.12	16.64
region unknown	0	0.13	13.95	0	0.23	5.13	0	2.58	8.85

TABLE 1 (Cont'd)

	1975-76			1976-77			1977-78		
	% of enrollment, Grade 12 Reg. h.s.	% of CHSPE takers	% passing CHSPE	% of enrollment, Grade 12 Reg. h.s.	% of CHSPE takers	% passing CHSPE	% of enrollment, Grade 12 Reg. h.s.	% of CHSPE takers	% passing CHSPE
Ethnicity unknown, female,									
SMSA north	0	3.93	17.49	0	3.67	14.14	0	3.39	13.50
SMSA south	0	5.57	16.52	0	5.94	18.46	0	5.84	16.65
rural	0	2.50	15.76	0	3.30	20.47	0	2.27	11.96
region unknown	0	0.09	3.45	0	0.25	12.50	0	1.88	11.18
Ethnicity unknown, gender unknown,									
SMSA north	0	0.01	25.00	0	0.02	0	0	0.01	50.00
SMSA south	0	0.01	0	0	0.01	0	0	0.01	50.00
rural	0	0+	0	0	0.01	50.00	0	0	—
region unknown	0	0	—	0	0	—	0	0.01	0

TABLE 2.1

Weighted Regressions for CHSPE Participation Rate among All Students and Selected Sub-Groups, in Regular High Schools, for California as a whole, 1975-76

Predetermined Variables	All Students	All Students	Males	Females	Students whose parents have B.A./no B.A. degree	degree
% AFDC in school, 1975-76 (CAP)	0.036 (0.03)	0.014 (0.03)	0.006 (0.04)	0.053 (0.04)	0.073 (0.08)	0.035 (0.03)
Mean combined academic achievement score in school, 1975-76 (CAP)	-0.135 (0.08)	-0.080 (0.07)	-0.093 (0.09)	-0.049 (0.10)	-0.531 (0.20)	0.284 (0.08)
% Black or Hispanic in school, 1973-74 (Ethnic Survey)	-0.112 (0.02)	-0.095 (0.02)	-0.101 (0.02)	-0.101 (0.02)	-0.233 (0.05)	-0.053 (0.02)
CHSPE publicity index in school, 1975-76 (1977 State survey)	0.222 (0.08)	—	—	—	—	—
Smoking allowed in district high schools (1977-78 State data)	0.664 (0.47)	0.668 (0.41)	1.113 (0.57)	0.761 (0.60)	0.746 (1.24)	1.027 (0.53)
Unified school district	0.939 (0.48)	0.961 (0.42)	0.895 (0.57)	0.827 (0.60)	1.621 (1.24)	1.481 (0.53)
Expenditure per pupil in district, 1975-76	0.002 (0.001)	0.002 (0.001)	0.003 (0.001)	0.003 (0.001)	0.006 (0.002)	0.001 (0.001)
Unemployment rate in county, 1975	0.008 (0.15)	0.045 (0.13)	-0.067 (0.18)	0.210 (0.19)	0.615 (0.39)	-0.003 (0.17)
Northern California metropolitan region	-2.147 (0.86)	-1.692 (0.77)	-2.168 (1.04)	-1.501 (1.09)	-2.781 (2.26)	-1.697 (0.97)
Southern California metropolitan region	-3.425 (0.86)	-3.050 (0.77)	-4.463 (1.03)	-3.339 (1.08)	-4.706 (2.24)	-3.564 (0.96)
Square root of grade 12 enrollment in school, 1975-76 (CAP)	12.429 (6.26)	12.327 (5.25)	28.585 (7.60)	-4.955 (8.05)	35.166 (16.75)	-11.681 (7.18)
% male in grade 12 in school, 1975-76 (CAP)	—	—	-0.247 (0.07)	0.263 (0.08)	0.025 (0.16)	0.002 (0.07)
Constant	42.876 (13.88)	32.077 (11.59)	-2.692 (15.55)	44.239 (16.28)	15.048 (33.86)	27.238 (14.51)
Dependent variable mean	163.987	161.364	190.693	186.909	217.050	147.318
R^2	0.25	0.26	0.28	0.18	0.09	0.24
Residual d. of f.	509	690	689	689	689	689

Numbers in parentheses are estimated standard errors of coefficient estimates.

TABLE 2.2

Weighted Regressions for CHSPE Participation Rate among All Students and Selected Sub-Groups, in Regular High Schools, ~~Rural Region~~ for California as a whole, 1977-78

Predetermined Variables	All Students	Males	Females
% AFDC in school, 1977-78 (CAP)	0.010 (0.01)	0.007 (0.02)	0.041 (0.02)
Mean combined academic achievement score in school, 1977-78 (CAP)	-0.012 (0.04)	-0.020 (0.05)	-0.021 (0.06)
% Black or Hispanic in school, 1977-78 (Ethnic Survey)	-0.021 (0.007)	-0.011 (0.01)	-0.036 (0.01)
Smoking allowed in district high schools (1977-78 State data)	0.129 (0.20)	0.418 (0.27)	-0.009 (0.32)
Unified school district	0.368 (0.19)	0.440 (0.25)	0.114 (0.30)
Expenditure per pupil in district, 1977-78	0.0001 (0.00004)	0.00009 (0.00005)	0.00009 (0.00006)
Unemployment rate in county, 1976	0.167 (0.06)	0.238 (0.08)	0.149 (0.10)
Northern California metropolitan region	-0.341 (0.37)	-0.037 (0.05)	-0.735 (0.58)
Southern California metropolitan region	-0.269 (0.37)	-0.620 (0.48)	-4.155 (5.75)
Square Root of Grade 12 enrollment in school, 1977-78 (CAP)	-0.308 (2.62)	2.257 (3.76)	-10.480 (4.52)
Mean CHSPE participation rate in school on 3 test dates in 1976-77	1.357 (0.06)	1.479 (0.08)	1.677 (0.10)
Mean CHSPE passing rate in school on 3 test dates in 1976-77	2.044 (0.71)	2.539 (0.93)	1.421 (1.12)
% male in grade 12 in school (CAP)	—	-0.039 (0.04)	0.244 (0.04)
Constant	15.496 (5.91)	..231 (7.82)	18,248 (9.40)
Dependent variable mean	99.623	106.88	123.916
R^2	0.57	0.48	0.46
Residual d. of f.	704	703	703

Numbers in parentheses are estimated standard errors in coefficient estimates.

TABLE 3

Regressions for Individual Core Item Score, December 1975

Variables Treated as Predetermined	CHSPE Takers in Regular High Schools, Grades 11 and 12								CHSPE Takers in Continuation High Schools	
	All Ethnic Groups		Black		Hispanic		White, American Indian or Asian			
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
Female	-4.46 (.43)	-7.81 (.41)	-2.88 (4.23	-4.94 (4.59)	-7.70 (1.74)	-11.3 (1.59)	-4.25 (.45)	-7.57 (.43)	- .99 (1.13)	-3.54 (1.12)
Ethnic Minority:										
Black	-13.86 (1.65)	-14.31 (1.45)	—	—	—	—	—	—	-24.27 (5.3)	-22.89 (4.85)
Asian	- .62 (1.33)	-1.14 (1.17)	—	—	—	—	—	—	.55 (4.02)	-2.57 (3.69)
Hispanic	-2.85 (.93)	-2.13 (.81)	—	—	—	—	—	—	-1.74 (2.31)	-2.76 (2.12)
Education of head of household (5-point scale)	1.96 (.17)	.97 (.16)	4.84 (1.63)	3.36 (1.77)	1.03 (.74)	.31 (.67)	1.98 (.18)	.97 (.16)	2.08 (.45)	1.69 (.42)
Language other than English spoken at home	-5.59 (.67)	-5.79 (.59)	-8.88 (7.8)	-12.84 (7.90)	-2.57 (1.91)	-3.61 (1.73)	-6.26 (.71)	-6.35 (.62)	-5.18 (1.69)	-4.9 (1.55)
Age 17+ in grade 11 or 18+ in grade 12	—	-6.01 (.55)	—	-4.28 (5.17)	—	-7.40 (2.05)	—	-5.98 (.57)	—	-4.73 (1.52)
Reported grades (5-point scale) in										
English	—	2.09 (.23)	—	2.01 (2.87)	—	2.95 (.91)	—	2.04 (.24)	—	.54 (.64)
Social Studies	—	2.43 (.23)	—	4.21 (2.77)	—	2.67 (.90)	—	2.37 (.24)	—	1.44 (.63)
Science	—	1.26 (.22)	—	4.11 (2.71)	—	.67 (.85)	—	1.28 (1.28)	—	1.09 (.58)
Mathematics	—	3.08 (.19)	—	1.31 (2.17)	—	4.05 (.79)	—	3.03 (.19)	—	4.59 (.49)
Plan to work full-time soon after leaving high school	—	-1.55 (.45)	—	.60 (4.9)	—	-1.84 (1.81)	—	-1.43 (.47)	—	-2.15 (1.23)
Plan to attend university (or 4-year college) as some future time	—	1.01 (.42)	—	4.92 (5.37)	—	.61 (1.7)	—	1.13 (.44)	—	.20 (1.13)
Plan to stay in school and receive regular diploma if Pass CHSPE	—	- .07 (.55)	—	-6.45 (6.74)	—	- .33 (2.2)	—	.01 (.56)	—	3.58 (1.7)
Plan to enroll in a community college soon after high school	—	1.07 (.44)	—	.93 (5.0)	—	3.59 (1.84)	—	.98 (.41)	—	- .72 (1.17)
Active in at least one extra-curricular school program	—	.16 (.40)	—	-3.4 (5.0)	—	.25 (1.62)	—	.18 (.41)	—	1.67 (1.04)
How often absent from school	—	.91 (.23)	—	1.52 (2.6)	—	1.78 (.91)	—	.83 (.24)	—	2.57 (.59)
School mean combined academic achievement score, 1975-76 (CAP)	.32 (.06)	.43 (.05)	.25 (.33)	.52 (.35)	.28 (.21)	.27 (.19)	.33 (.06)	.45 (.05)	—	—
School located in SMSA:										
Southern California	- .18 (.65)	- .31 (.57)	-6.37 (11.0)	-6.22 (11.2)	.14 (2.8)	.82 (2.48)	- .19 (.66)	- .38 (.58)	- .78 (1.66)	-1.46 (1.52)
Northern California	.43 (.68)	.69 (.60)	-9.97 (10.7)	-10.9 (10.8)	1.60 (2.9)	2.70 (2.56)	.49 (.70)	.68 (.61)	-1.72 (1.79)	-1.93 (1.64)
Constant	83.91 (3.76	46.67 (3.58)	73.76 (24.4)	16.7 (29.7)	84.77 (13.9)	48.5 (13.3)	82.68 (4.0)	46.0 (3.8)	98.07 (2.0)	69.68 (3.5)
Dependent Variable Mean	106.65	106.65	91.73	91.73	100.0	100.0	107.48	107.48	101.13	101.13
R^2	.09	.30	.12	.29	.07	.31	.07	.29	.107	.24
Residual d. of f.	5535	5524	93	82	397	386	5034	5023	864	853

Numbers in parentheses are estimated standard errors of coefficient estimates.