

PRELIMINARY REPORT ON THE RELATIONSHIP BETWEEN
UNDERGRADUATE MAJOR AND BAR EXAMINATION SCORES

Prepared for

The Committee of Bar Examiners
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Prepared by

Stephen P. Klein
GANSK & ASSOCIATES
Los Angeles, California

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PURPOSE

The study described in this report investigated the relationship between undergraduate major and general bar examination scores as well as whether this relationship was the same across sex and racial/ethnic groups.

SAMPLE AND PROCEDURES

All those applying to take July 1980 General Bar Examination (GBX) in California were asked to complete and return a questionnaire prior to its administration. This questionnaire asked applicants to indicate which one of the categories listed below was the best description of their undergraduate major. An applicant that returned the questionnaire but did not indicate a major was placed in category 9.

- 1 Economics, Business, Accounting
- 2 Physical Science, Engineering, Mathematics, Biology
- 3 Social Science (Anthropology, Psychology, Sociology)
- 4 History, Government, Political Science
- 5 English, Journalism, Classical Studies, Philosophy
- 6 Fine Arts
- 7 Education
- 8 Other
- (9) No response

Questionnaires were returned by 7,112 (96 percent) of the 7,349 applicants that took both the Multistate Bar Examination (MBE) and essay portions of the July 1980 GBX. Within the group of 7,112 applicants, 79 applicants were not in one of the four racial/ethnic groups studied in this research. These groups were: Anglo, Asian (including Philipino and Pacific Islander), Black, and Hispanic. Sex and/or racial/ethnic group data were not available for another 18 applicants. The remaining 7,015 applicants served as the sample for the analyses described in this report.

RESULTS

Table 1 shows the percentage of applicants in each racial/ethnic and sex group that were in each category of undergraduate major as well as the total number in each group. These data indicate that males were more likely than females to have majored in the fields included in categories 1 and 4. The reverse was true for categories 3, 5, and 8. About one third of all applicants majored in category 4.

Differences among racial/ethnic groups in the relative proportion in each category were generally much smaller than they were among sex groups. The largest difference among racial/ethnic groups was in category 4. This category accounted for 40 percent of the Hispanic applicants, but only 32 percent of the Asian applicants. The differences among racial/ethnic groups in category 4 were not explained by systematic differences in the relative percentages of males and females within each racial/ethnic group. The percentage of Anglos, Asians, Blacks, and Hispanics that were female were: 30, 29, 38, and 24. The corresponding percentages of females in each racial/ethnic group that were in category 4 were: 26, 32, 29, and 32.

Table 1

PERCENTAGE IN EACH SEX AND RACIAL/ETHNIC GROUP IN EACH CATEGORY OF UNDERGRADUATE MAJOR AND THE TOTAL NUMBER IN EACH GROUP AND CATEGORY

	% in each undergraduate major category									% of	
	1	2	3	4	5	6	7	8	9	Total	Total
Male	20	9	11	37	10	1	1	6	4	70	4923
Female	7	4	21	27	16	4	3	12	6	30	2092
Anglo	16	8	14	33	12	2	2	8	5	84	5916
Asian	19	9	16	32	8	1	0	10	4	4	300
Black	15	7	20	34	9	1	3	7	5	6	400
Hispanic	12	4	19	40	8	1	2	10	3	6	399
% of Total	16	8	14	34	12	2	2	8	5	100	--
Total N	1129	550	1004	2365	830	138	112	565	322	--	7015

Analyses of variance conducted on MBE, essay, and total GBX scores indicated that differences in average scores among racial/ethnic and sex groups were statistically significant. The same was true for undergraduate major category. However, the combination of all three variables accounted for less than 10 percent of the variance in scores. In other words, most of the differences in scores among applicants could not be explained by differences in their undergraduate major, sex, or racial/ethnic group.

Previous research (Klein, 1980 and 1981) has shown that almost all of the variance attributable to racial/ethnic and sex group could be explained by differences among each group's average Law School Admission Test (LSAT) scores and law school grades (LGPA).

Undergraduate major by itself accounted for only 1 percent of the variance in MBE, essay, and total GBX scores. Moreover, there were no significant two way or three way interactions among race, sex, and undergraduate major on any of the dependent variables. This finding indicates that the general differences between racial/ethnic and sex groups were reflected within each category of undergraduate major. Similarly, the differences in average score among categories were maintained across racial/ethnic and sex groups. Any deviations from these trends were therefore most likely due to chance.

Table 2 shows the average essay, MBE, and GBX scores for each category of undergraduate major. Standard deviations within categories were quite similar to the standard deviations in the total sample (54.8 for essay, 45.7 for MBE, and 92.0 for total GBX). If an applicant had only three essay answers scored as a result of the multiphased grading process, then that applicant's essay score was multiplied by 3.0 in order to place it on a comparable scale of measurement with essay grades assigned to applicants that had all nine answers graded.

Table 2

AVERAGE GBX SCORES IN EACH CATEGORY OF UNDERGRADUATE MAJOR

Category	Average Score		
	Essay	MBE	Total
1 Economics, Business, Accounting	617	430	1047
2 Phys Science, Engineering, Mathematics, Biology	615	434	1049
3 Social Science	617	423	1039
4 History, Government, Political Science	619	423	1041
5 English, Journalism, Classical Studies, Philosophy	629	433	1062
6 Fine Arts	616	418	1034
7 Education	600	408	1008
8 Other	616	422	1038
9 No response	612	416	1028
0 Total Sample	618	425	1043

Table 3 shows the percentage passing in each category. Its also shows the difference in the percentage passing the MBE and essay in each category. For the purposes of this table, scores of 630, 420, and 1050 were needed for passing the essay, MBE, and total GBX.

Table 3

PERCENTAGE PASSING EACH GBX SECTION AND THE DIFFERENCE IN PERCENTAGE PASSING THE MBE AND ESSAY IN EACH CATEGORY OF UNDERGRADUATE MAJOR

Category	Essay	MBE	Total	MBE -
				Essay
1 Economics, Business, Accounting	42	57	49	15
2 Phys Sci, Engineer, Math, Biol	42	62	49	20
3 Social Science	42	53	45	11
4 History, Gov't, Political Sci	43	52	46	9
5 English, Journ, Class, Phil	50	61	55	11
6 Fine Arts	43	49	44	6
7 Education	27	37	30	10
8 Other	40	50	42	10
9 No response	39	50	41	11
0 Total Sample	42	54	46	12

The data in Tables 2 and 3 indicate that in general, a group's relative standing on one portion of the GBX was a good indicator of its standing on the other portion. For instance, applicants in category 5 (English, Journalism, Classical Studies, and Philosophy) had the highest average essay score and were within 1 point of the highest average MBE score while applicants in category 7 (Education) had the lowest average scores on both measures (see Table 2).

The one major exception to this trend occurred with the applicants in category 2 (Physical Science, Engineering, Mathematics, and Biology). These applicants had the highest average MBE score but a below average essay score. This led to the unusually large difference between MBE and essay passing rates in this category (see Table 3).

Table 4 shows the average scores and the percent passing on the essay and MBE in category 2, category 5, and the total sample by sex group. These data indicate that the anomaly observed in category 2 was due mainly to male applicants performing less well on the essay than would have been expected on the basis of their MBE scores. For instance, 21 percent fewer males in category 2 passed the essay than passed the MBE compared to the 15 percent difference in passing rates on these two parts in the total sample.

The female passing rate on the essay in category 2 was 16 percent higher than the male rate as compared to the 9 percent difference that would have been expected on the basis of the difference between males and females on the essay in the total sample. Female applicants in category 2 and 5 also performed slightly better on the MBE than would have been expected on the basis of total sample data. For example, the female applicants in these two categories had average MBE scores that were only 2 points rather than the usual 4 points below the average score for males.

The total sample columns in Table 4 show that female applicants tended to have higher essay scores than males while the reverse was true on the MBE. Mean scores and passing rates were not always parallel because of random perturbations in score distributions. For instance, females in category 5 had a higher essay average but a lower percent passing the essay than females in category 2.

Table 4

AVERAGE SCORE AND PERCENTAGE PASSING BY SEX GROUP FOR TWO CATEGORIES OF UNDERGRADUATE MAJOR AND THE TOTAL SAMPLE

Variable	Sex group	Essay			MBE		
		Cat 2	Cat 5	Total	Cat 2	Cat 5	Total
Average score	Male	613	624	614	434	434	426
	Female	630	635	626	432	432	422
Percent passing	Male	40	47	40	61	61	55
	Female	56	55	49	59	61	51

The number of males and females in category 2 were 460 and 90, respectively. The corresponding numbers in category 5 were 495 and 335.

DISCUSSION

The foregoing findings suggest that an applicant's undergraduate major in and of itself is unlikely to enhance or inhibit that applicant's score on either section of the examination. However, undergraduate major may interact with other variables in affecting the relationship between MBE and essay scores. For example, males in category 5 had a 7 percent higher pass rate on the essay than males in category 2 but there was no difference in their pass rate on the MBE. Although this might suggest that majoring in the fields included in category 5 helped essay performance, no such trend was found among female applicants in these two categories. This led to the highly statistically significant interaction between sex, undergraduate major, and type of bar score (essay versus MBE) being investigated.

The effect of undergraduate major on the relationship between bar scores and other variables may be of particular interest to law school admissions officers. Most law school selection systems ignore undergraduate major and use first year (essay) grades to develop the prediction system. Thus, they may be screening out a group of applicants who might do especially well on the MBE portion of the bar examination. Law school counselors also might use undergraduate major along with other measures in order to identify students who might need additional help in developing their writing skills.

Most of the differences in passing rates among categories are probably due to the general ability levels of the applicants in these categories. For instance, previous research has shown that the combination of law school admissions test (LSAT) scores and law school grade point average (LGPA) accounts for 50 percent of the variance in bar scores among applicants. In this study, undergraduate major by itself accounted for only 1 percent of the variance. It also is unlikely that the amount of variance accounted for would be significantly increased by adding undergraduate major to a prediction system that already included LSAT and LGPA (because major category is probably already highly correlated with LSAT and LGPA).

SUMMARY

This study investigated the relationship between undergraduate major and an applicant's sex and racial/ethnic group. The results indicated that among California applicants to the bar:

- o The choice of undergraduate major was related to an applicant's sex; males were more likely to have majored in business and hard science related fields whereas females were more likely to have majored in literary and social science fields.
- o Undergraduate major by itself accounted for about 1 percent of the variance in MBE, essay, and total GBX scores. There were no significant interactions among undergraduate major, sex, and racial/ethnic group in predicting any one of these three types of bar scores.
- o There was a significant interaction between undergraduate major, sex, and the type of bar score (essay versus MBE) being measured. This was due primarily to males who majored in the hard sciences scoring higher on the MBE than would be expected on the basis of their essay scores. This trend was not found for females.