NEW YORK UNIVERSITY
LAW REVIEW

THE THREAT TO DIVERSITY IN LEGAL EDUCATION: AN EMPIRICAL ANALYSIS OF THE CONSEQUENCES OF ABANDONING RACE AS A FACTOR IN LAW SCHOOL ADMISSION DECISIONS

LINDA F. WIGHTMAN*

The use of affirmative action policies in school admissions has been a continuing source of controversy. In the wake of Hopwood, *it is unclear if their continued use will even be possible. In an effort to inform the debate, Professor Wightman has engaged in a comprehensive empirical analysis to examine the impact of abandoning considerations of race and ethnicity in the law school admission process. Using data obtained from students who applied to law schools in 1990-1991 and from Fall 1991 first-year law students, she examined the likely effects of an admission policy that relied exclusively on LSAT scores and undergraduate grade-point averages. Countering arguments that affirmative action policies merely reallocate minority students among schools, Professor Wightman's study indicates that such a "numbers only" policy would result in a sharp increase in the number of minority applicants who would be denied access to a legal education, not just at the schools to which they applied, but to any of the law schools included in the study. In striking contrast to the decline in admission rates, Professor Wightman found*

1

*no significant differences in the graduation rates and bar passage
rates between those minority students who would have been accepted
to law schools and those who would not. Thus a "numbers only"
policy would deny a legal education to many minority applicants who
were fully capable of the rigors of legal education and of entering the
legal profession. Professor Wightman also examined whether any of
several factors, such as socioeconomic status, could serve as an effec-
tive proxy for race and ethnicity in order to achieve a diverse student
body. None of the factors she studied indicated satisfactory results.
In short, Professor Wightman's study shows that affirmative action
policies are likely a necessary prerequisite to maintaining a diverse
yet capable law school student body.*

INTRODUCTION

Questions about what role, if any, race should play in a variety of
decisions ranging from awarding government contracts to offering ad-
mission to undergraduate, graduate, or professional school programs
have attracted considerable public attention and debate in recent
years.[1] This study focuses on empirical data related to only one of
those questions—the role of race as a factor in the law school admis-
sion process. In order to bring forward current data and statistical and
psychometric models that can inform the discussion, this study exam-
ines, first, statistical evidence that law school admission practices pro-
vide preference to applicants of color and, second, the potential effect
on the ethnic makeup of legal education today if those practices are
abandoned. The results reported here sometimes support—and other
times refute—assertions about the applicant pool, the Law School
Admission Test (LSAT), and the admission process that frequently
are incorporated into the competing legal and social arguments put
forth during discussion of affirmative action issues.

The debate over the role of affirmative action in the law school
admission process is closely linked to the difference in opinions about
the role of the two most commonly used quantitative predictors of
future academic performance—undergraduate grade-point averages
(UGPAs) and scores on the LSAT, a standardized multiple-choice test

---

[1] See, e.g., Stephen L. Carter, Reflections of an Affirmative Action Baby (1991) (dis-
cussing case for and against affirmative action from author's perspective as black profes-
sional in era of affirmative action); Cornel West, Race Matters 63-67 (1993) (supporting
affirmative action as necessary to redistributive measures in America); Stephanie M.
Wildman, The Dream of Diversity and the Cycle of Exclusion, in Privilege Revealed: How
Invisible Preference Undermines America 103, 103-37 (1996) (discussing obstacles to ob-
tainment of nondiscrimination in area of law school faculty hiring).

of acquired reading and reasoning skills.[2] The disagreement is fueled, in part, by a perceived tension between two approaches to admissions. On the one hand, there is support for achieving diversity in student enrollment through consideration of the race of applicants as one of the numerous factors evaluated. On the other, there is support for limiting consideration strictly to competitive indicia of an applicant's individual academic achievement by relying heavily on quantifiable factors such as LSAT score and UGPA.[3]

In the world of high stakes, competitive law school admissions, the LSAT score and UGPA provide readily available, quantifiable, and apparently objective aids to admission decisionmaking. Partly at issue in the debate is the proper role of grades and test scores in the admission process.[4] Should their role be limited to providing evidence that the applicant is likely able to meet the academic rigors of the legal education program to which she is applying? Or should comparatively higher test scores and grades alone warrant being preferred in all cases for a seat in a particular law school over all applicants with lower test scores or grades? Data are available to inform this debate, and this study analyzes and summarizes some of those data.

Part I examines data from law school applicants and matriculated law school students to empirically evaluate several assertions about affirmative action practices and outcomes in legal education. First, the analyses presented in this study address the question of whether aggressive affirmative action admission practices are still necessary in legal education. Results from data analyses are presented to demonstrate both the extent to which affirmative action appears to play a role in law school admission decisions and the overall consequences, in terms of ethnic makeup of law school classes, of abandoning consideration of race in admission decisionmaking. In Part II, the appropriate role for numerical indicators is scrutinized. Data about the validity of using the quantitative measures for law school admission in general, and for minority applicants in particular, are presented and discussed. In addition, data about law school graduation and bar passage for law students who might not have gained admission absent

---

2 See, e.g., James Q. Wilson, Sins of Admission, The New Republic, July 8, 1996, at 12-16 (discussing affirmative action in undergraduate and graduate admissions). See generally Paul M. Sniderman et al., The New Racism, 35 Am. J. Pol. Sci. 423 (1991) (discussing tension between affirmative action and negative images of blacks as lazy and irresponsible).

3 See Leigh H. Taylor, A Faulty and Narrow Understanding of Merit and Qualification in University Admissions, Chron. Higher Educ., Sept. 15, 1995, at B3 (criticizing overreliance on standardized test scores and grades in law school admission process and emphasizing importance of nonnumerical factors).

4 See id.

some consideration of race in the admission process are compared with similar data for students who would have been admitted strictly on numerical indicators. The first part of the discussion addresses the question of appropriate use from the perspective of whether the LSAT score and UGPA are valid for the purpose for which they are intended. The second part focusses on the ability of those who would be systematically excluded from legal education by these two factors to complete law school successfully and gain entry to the profession. Part III of this study then examines several nonnumerical factors to evaluate whether they might be useful alternatives to considerations of race in order to achieve an ethnically diverse law school class.

I

THE ROLE OF AFFIRMATIVE ACTION IN LAW SCHOOL
ADMISSION DECISIONS

A. Methodologies

1. The Samples

Two samples were used in this study. The first includes applicants to 173 law schools approved by the American Bar Association (ABA).[5] This study examined application and decision data for 90,335 applicants from the 1990-1991 application year, each of whom completed LSDAS,[6] had reports sent to one or more law schools, and had at least one admission decision reported by a law school.[7] These 90,335 applicants generated 416,005 applications to multiple schools. More than half of these applicants (57%) received an offer of admission to at least one law school.

The second sample includes Fall 1991 first-year students, from 163 ABA-approved law schools located in the United States, who

---

[5] Although the ABA approves law schools located in Puerto Rico, those schools were excluded from this study.

[6] The Law School Data Assembly Service (LSDAS) is offered by the Law School Admission Council (LSAC) to organize and summarize the biographic and academic information of law school applicants. Almost all LSAC-member law schools in the United States require applicants to subscribe to this service. Through LSDAS, law schools are provided with a report containing standardized summaries of academic work, copies of college transcripts, LSAT scores, and writing samples.

[7] More than 99,000 applicants are reported for the 1990-1991 application year in Law School Admission Council, National Statistical Report, 1986-87 through 1990-91, at 18 (1992). The smaller number of applicants included in this study results primarily from the exclusion of applicants for whom LSAT score, UGPA, or both were missing. There were approximately 6600 applicants with missing data. In addition, applicants who applied only to law schools located in Puerto Rico were also excluded. A final source of the discrepancy is some incomplete reporting of decision data by individual law schools. With regard to the last source, the amount of missing data is too small to affect the aggregate statistical findings based on data from so large a sample.

agreed to participate in the *LSAC Bar Passage Study*.[8] The over-whelming majority of students who entered law school in Fall 1991 are found in the 1990-1991 applicant pool.[9] Thus, the second sample is essentially a subset of the first sample. Indeed, the 1990-1991 applicants were selected for analyses in this study primarily because the *LSAC Bar Passage Study* provides extensive data about the Fall 1991 entering class, including socioeconomic status (SES) data, law school graduation data, and bar examination data.[10] These students represent approximately 70% of the Fall 1991 first-year students at ABA-approved law schools in the United States (excluding Puerto Rico and Hawaii), and by every indication are an unbiased representative sample of that entering class.[11]

2. *Developing a Model*

In order to test the several assertions about affirmative action practices and outcomes, a model was built of an admission process that relies exclusively on LSAT scores and/or UGPAs.[12] Two different

---

[8] The *LSAC Bar Passage Study* is a national longitudinal study on legal education and entry into the profession that is being sponsored by the Law School Admission Council. The study has followed a sample from the class that entered law school in the fall of 1991 through graduation and entry to the bar. Entering credentials; extensive background data gathered at the time they entered law school (including information about their goals, aspirations, self-concepts, and perceptions, as well as their extracurricular activities, personal responsibilities, and employment aspirations); law school performance data; and bar examination data are available for the sample, which includes approximately 70% of the Fall 1991 entering class. The students from the sample remain in the active bar passage study file for three years after graduation (six bar examination administrations) or until they pass a bar exam, whichever comes first. See generally Linda F. Wightman, Law Sch. Admission Council, LSAC Bar Passage Study: Study Design (Mar. 1991) (providing basic description of original design; note, however, that study has changed considerably from this design). The study is ongoing and will produce a series of reports. For the first two reports published using this data, see infra notes 11, 51.

[9] A small and nonsignificant number of first-year students did not go through the LSDAS process for some reason or went through it at an earlier time and deferred their date of entry until Fall 1991.

[10] Participants in the *LSAC Bar Passage Study* agreed to the release of their law school performance data and their bar examination performance data for research purposes.

[11] See Linda F. Wightman, Legal Education at the Close of the Twentieth Century: Descriptions and Analyses of Students, Financing, and Professional Expectations and Attitudes 18 n.11 (Law Sch. Admission Council Research Report Series 1995) (noting that data in this report can be generalized to entire Fall 1991 entering class, due to large participation rate among law schools and wide distribution among clusters).

[12] The statistical models used in this study do not suggest that law schools rely exclusively and solely on LSAT scores and UGPAs (or a combination of these measures) in admitting either white students or students of color. In fact, as will be discussed later, the results demonstrate that in the admission of law students, law schools do consider factors that are not numeric and that, therefore, cannot be accounted for by the models developed for this study. The purpose of the models is to evaluate differences in admission practices between and among applicants from selected ethnic groups, as well as to estimate the im-

methodological approaches were utilized to build the model. One method, the Logistic Regression Model, mimicked the relationship between the two predictor variables and the actual admission decision uniquely for each school by using each school's applicant and admission decision data. Thus, 173 regression models were developed, one for each of the 173 schools included in the study. The second method, called the Law School Grid Model, collapsed applicant and decision data across all schools to obtain a more conservative estimate of the impact of an admission process that does not take race into consideration. This second method was also used to test the claim that eliminating affirmative action admission practices would not reduce the number of law students of color overall, but rather would reallocate them to less selective law schools.[13]

    a. The Logistic Regression Model. For the first method, logistic regression models were employed. The logistic procedure used in this study fits linear logistic regression models for binary data by the method of maximum likelihood for the purposes of (1) investigating the relationship between the admission decision (translated to a binary response of admitted or not admitted)[14] and the LSAT score and UGPA (the explanatory variables) and (2) determining whether the same admission model could be used to predict admission decisions for applicants of color as accurately as it predicts for white applicants. In order to test for comparable prediction accuracy among applicants of color, the logistic regression models predicting admission decisions (admitted/not admitted) from LSAT score alone (model 1), UGPA alone (model 2), and LSAT score and UGPA in combination (LSAT/UGPA-combined) (model 3) were developed separately for each law school using only application and admission data for white applicants to that school.[15]

---

pact of discontinuing consideration of the race of applicants on admission decision outcomes. And, as will be shown, such factors do account for a significant amount of the variance in the admission decisions.

   [13] See Clyde W. Summers, Preferential Admissions: An Unreal Solution to a Real Problem, 1970 U. Tol. L. Rev. 377, 384-86 (concluding that preferential admission standards do not increase total number of minority law students, but rather have effect of shifting minority students from law schools whose normal standards they meet to law schools whose normal standards they do not meet).

   [14] For a more complete discussion of binary-response model methodology, see generally D.R. Cox & E.J. Snell, Analysis of Binary Data (2d ed. 1989).

   [15] A probability-of-admission model was produced for each law school using a binary-response model logistic regression procedure. That is, the response variable was allowed to take on only one of two possible values—admitted or not admitted. For the data analyzed in this study, $Y = 1$ if the applicant is admitted and $Y = 2$ if the applicant is not admitted. The linear logistic model has the form:

Before results from these analyses were used to address the questions posed, the fit of each of the three models was evaluated to determine the adequacy of a model based on these variables to predict admission decisions. A likelihood-ratio chi-square test statistic was used to test the joint significance of the predictor variables used in each model separately for each school. Additionally, the overall correlations between the predicted admission decisions based on each logistic regression model and the actual decision were calculated.[16]

After it was established that the models fit the observed data reasonably well,[17] the next step was to determine whether applicants with the same LSAT score and UGPA who were members of a different ethnic group had the same probability of admission as did the white applicants upon whom the model was built. This was accomplished by identifying an ethnic group of applicants (e.g., all black applicants) for evaluation. The likelihood that each individual in that group would be admitted to law school was estimated using the logistic function calculated for each law school to which she or he applied. The likelihood estimates were summed to obtain the proportion of the group that would be expected to be admitted based exclusively on LSAT scores and UGPAs. This sum of the probabilities provides an estimate from the model of the proportion of applicants who would be admitted. The estimated proportion can be compared with the proportion of applications in the studied group that actually was admitted. The extent to which the predicted proportion differed from the actual proportion provides information about the prevalence of affirmative action admission practices in legal education. For that reason, the statistic of primary interest is the residual selection rate. The residual selection rate is calculated by subtracting the proportion predicted to be admitted from the proportion actually admitted. If the proportion actually

---

$\text{logit}(p) = \log(p/(1-p)) = \alpha + \beta'x$

where, for the model examined in this study,

x is a vector of LSAT scores for model 1, UGPAs for model 2, and LSAT scores and UGPAs for model 3;

p is the probability that the applicant is admitted given his or her LSAT score and/or UGPA ($\Pr(Y = 1-x)$);

α is the intercept parameter;

β' is the vector of slope parameters.

Using the logit estimate produced by the logistic model described above, the probability of each individual applicant being accepted is calculated as follows:

$p = e^{\text{logit}(p)} / (1 + e^{\text{logit}(p)})$.

[16] The correlation coefficient is a measure of the degree of relationship between the predictor variables (e.g., LSAT score and UGPA) and the criterion (e.g., admission decision). A correlation coefficient of 0 indicates no relationship, while a value of ± 1 indicates a perfect positive or negative relationship.

[17] See discussion infra Part I.B.1 (Evaluating the Logistic Regression Model).

admitted exceeds the proportion predicted to be admitted, the residual is positive. A statistically significant positive residual for a studied group would suggest affirmative action admission practice for applicants in that group.

The logistic regression procedures described above developed separate regression weights for each school using applicant data for that school, but then summed actual decisions and probabilities across schools to obtain summary data. Many applicants submitted more than one law school application. Those applicants were counted once within each school to which they applied and, thus, more than once in the across-school summary data. These data are appropriate for estimating and analyzing residuals but are inadequate to approximate the actual number of individual students from different ethnic groups who would be admitted to at least one law school by these models. Thus, the final step was to determine whether each individual applicant would have been admitted to the schools to which they applied if only LSAT score and/or UGPA were used to make the admission decision. This was accomplished by first determining the number of admission offers made by each law school in the 1990-1991 application year. Applicants were then ranked in descending order with respect to their probability of admission to each school to which they applied. Within each law school, the applicant whose rank order equaled the number of admission offers made by that law school in 1990-1991 defined the probability value that separated admitted from not admitted applicants. That is, all applicants whose probability met or exceeded that of the defining applicant were identified as predicted to be admitted "on the numbers" and those with a lower probability as predicted not to be admitted "on the numbers." For example, if a school offered admission to 400 applicants, applicants with a probability of admission, based on the school's logistic regression model, equal to or higher than that of the 400th ranked applicant were identified as predicted to be admitted and those with a lower probability as predicted not to be admitted.

As noted previously, three different models (LSAT only, UGPA only, and LSAT/UGPA-combined) were considered. Using different models provided information about the impact on applicants of color of including the LSAT in the numerical models of the admission process given that, on average, the discrepancy between applicants of color and white applicants is larger for LSAT scores than for UGPAs. In fact, frequently the LSAT is seen by applicants of color as the major barrier to admission to law school. For that reason, even though the data demonstrate that the LSAT/UGPA-combined model produced the most accurate prediction of admission decisions, a model

that relied only on UGPA for admission decisions was also evaluated. That is, analyses were undertaken to determine whether eliminating LSAT scores from consideration and relying only on UGPA (the UGPA-only model) would eliminate the impact on racial diversity among admitted applicants.

  b. *The Law School Grid Model.* The second method to model the admission process uses a mathematically and conceptually simpler model that collapses the data nationally. Again, LSAT score and UGPA were the only factors included in the model. The model was built under the assumption that if race were not a factor in the decisions, patterns of admission decisions observed for white applicants would also hold for applicants of color.[18] The first step was to represent the LSAT scores and UGPAs of the 1990-1991 white applicants in a two-way table similar to the admission grids provided by many law schools in *The Official Guide to U.S. Law Schools.*[19] For the data reported in this study, UGPAs were divided into nine groups and LSAT scores into eight groups. For example, LSAT scores greater than or equal to 45[20] defined one LSAT score group; scores from 40 to 44 inclusive, the second group. This produced an LSAT/UGPA grid with seventy-two cells. To build the model, the number of white applicants in each LSAT/UGPA cell who were admitted to at least one of any of the law schools included in the study was summed. The probability of gaining admission for applicants in a given LSAT/UGPA range, as defined by each cell, was estimated by dividing the number of admitted white applicants in the cell by the total number of white applicants with scores and grades in the range of that cell. Next, the number of applicants who fell into each LSAT/UGPA cell was counted separately for each nonwhite group, resulting in a separate nine-by-eight grid of applicants for each group. The final step was to multiply each cell of the nonwhite-applicant grids by the proportion observed in the corresponding cell of the white-applicant grid. Summing these products produced an alternative estimate of the consequences of an admission model that depends on the LSAT score and UGPA independent of the race of the applicants. The reasonableness of the

  [18] The second method used in this study is similar to and based on one used by Frank Evans. See Franklin R. Evans, Applications and Admissions to ABA Accredited Law Schools: An Analysis of National Data for the Class Entering in the Fall of 1976, in Reports of LSAC Sponsored Research: Volume III, 1975-1977, at 551, 579-85 (Law Sch. Admission Council Report No. LSAC-77-1, 1977).

  [19] See, e.g., Law Sch. Admission Council, The Official Guide to U.S. Law Schools 97, 351 (1997 ed. 1996) [hereinafter Official Guide].

  [20] The LSAT scores used in this study were reported on a scale that ranged from 10 to 48. That scale was set in 1982 to a mean of 30 and a standard deviation of 10.

assumptions underlying this model is discussed later in this Article when the results from these analyses are presented.[21]

B. Results

The first questions of interest are (1) to what extent does consideration of race impact law school admission decisions, and (2) what would be the consequences, in terms of ethnic diversity in legal education, of abandoning the use of race as a factor. Results from analyses of a within-school logistic regression admission model are provided as one method to evaluate relevant data.[22] Sound statistical practice dictates that the adequacy of a proposed model be evaluated before the consequences of applying it to the questions of interest are examined.

1. Evaluating the Logistic Regression Model

The first evaluation task is to determine how well the data fit the model. Results presented in this section show that the data used in this study fit the model very well when LSAT score and UGPA are used in combination. They fit less well when UGPA is used alone, and they do not fit at all when LSAT score is used alone.

A model that uses LSAT score and/or UGPA to predict admission decisions is reasonable only if there is a relationship between each of the variables and actual admission decisions. For the data from white applicants, the correlation between LSAT scores and actual admission decisions is .33;[23] the correlation between UGPAs and actual admission decisions is .28. Correlations of data for white applicants are relevant because those are the data that were used to build the models.[24] Comparison with other admission-test data helps put these correlations in perspective. In a study to evaluate admission de-

---

[21] See infra Part I.B.5 (countering assumption that students of color would, in fact, attend any school to which they were admitted).

[22] See supra notes 14-17 and accompanying text (describing logistic regression models developed for this study).

[23] Note that while the magnitudes of these correlation coefficients demonstrate the reasonableness of using them in a model of law school admission practices, they do not determine which of these variables will fit the logistic regression model better, nor that either one alone or in combination will provide a satisfactory model fit. This is a consequence of the fundamental differences between a logistic regression model and a linear least-squares regression model. In the linear model, the regression coefficients are those that produce the smallest sums of squared distances between the observed and the predicted values of the dependent variable. In contrast, the logistic regression model is nonlinear. Therefore, an iterative algorithm is used to identify the coefficients that would make the actual admission decisions the most probable or "likely."

[24] The correlation between actual admission decision and LSAT score and between actual decision and UGPA differs slightly within other ethnic groups, as follows. The differences are not of sufficient magnitude or in a direction to suggest that these variables are not appropriate to include in the admission decision model.

cisions for undergraduate schools, Warren Willingham reports a corre-
lation of .37 between Scholastic Aptitude Test (SAT) score and
undergraduate admission decisions, and .36 between high school
grade-point average and undergraduate admission decisions.[25] These
data suggest a slightly stronger relationship between high school
grades and undergraduate admission decisions than between college
grades and law school admission decisions, although the lower corre-
lation might be a consequence of more severe restriction of range in
the UGPAs of law school applicants.[26] Regardless, the law school
data support the contention that the LSAT score and UGPA are use-
ful measures to include in a model designed to predict admission deci-
sions. Additionally, for the LSAT/UGPA-combined model, the
likelihood-ratio chi-square test statistics were significant ($p < .001$) for
each individual school, attesting to the joint significance of LSAT
score and UGPA to predict admission decisions.

   The final statistic used to evaluate the model is the correlation
between the predicted and actual admission decisions made by the
school. For the LSAT/UGPA-combined model, the correlation for
white students is .78. This correlation is very high, indicating that
these two variables account for approximately 60% of the variance in
admission decisions for white students. Another way to think about
these correlations is that the higher the composite of LSAT and
UGPA, the greater the probability of gaining admission.

   Neither of the other models—LSAT-only and UGPA-only—fit
the data as well as the LSAT/UGPA-combined model. The correla-
tion between decisions predicted by the LSAT-only model and actual
decisions is .07 for white applicants, and the model diagnostics con-
firm a lack of fit.[27] For the UGPA-only model, the correlation for
white applicants is .49, suggesting a far better fit than the LSAT-only

TABLE N1
CORRELATION OF ACTUAL ADMISSION DECISION WITH LSAT AND UGPA

Ethnic Group	LSAT Score	UGPA
American Indian	0.28	0.18
Asian American	0.29	0.25
Black	0.45	0.30
Hispanic	0.34	0.29
Mexican American	0.45	0.34
Puerto Rican	0.34	0.30
White	0.33	0.28

[25] See Warren W. Willingham, Admissions Decisions, in Testing Handicapped People
71, 71-81 (Warren W. Willingham et al. eds., 1988).

[26] See infra text accompanying notes 73-74 (explanation of restriction of range).

[27] The likelihood-ratio chi-square statistic is not significant for any school. Examining
the measures of association of predicted probabilities and observed responses reveals that

model, but not nearly so good a fit as the LSAT/UGPA-combined model.

Because the LSAT-only model simply does not fit the data, predicted admission decisions based on that model are not estimated and that model is not considered in any further analyses. Additionally, because the fit of the LSAT/UGPA-combined model is so superior to the fit of the UGPA-only model, results from the majority of the analyses reported in this study include only the estimates provided by the LSAT/UGPA-combined model.

2. Evaluating the Prevalence of Affirmative Action Admission Practices in Legal Education

The 1990-1991 law school application and admission data suggest widespread use of affirmative action admission practices in legal education. Results from analyses of data that support this conclusion are presented next.

The first goal of the logistic regression analyses was to determine whether the admission model developed from data from white applicants fit the data from applicants of color equally well. If affirmative action admission practices are prevalent, the proportion of actual admission offers would be expected to exceed the proportion predicted by the model, and the data for applicants of color would not fit the model as well. One way to evaluate the data is to compare the correlation between predicted and actual admission decisions for applicants of color when decisions are predicted from the models developed using data from white applicants. The correlations are not nearly as high for any group of nonwhite applicants as they are for white applicants. When the LSAT/UGPA-combined model is used to predict, the correlations range from a low of .34 for black applicants to a high of .67 for Asian American applicants. These substantially lower correlations support the assertion that factors other than LSAT and UGPA play a more important role in admission decisions for applicants of color than for white applicants. The correlation between actual and predicted admission decisions is also higher for white applicants than for any group other than Asian Americans when the UGPA-only model is used.[28]

The residual selection rate is another important statistic for evaluating the prevalence of affirmative action admission practices in legal

---

the percentage of concordant pairs is approximately equal to the percentage of discordant pairs consistently across schools.

[28] The correlations of actual admission decisions with predicted admission for selected ethnic groups using the combined model and the UGPA-only model are as follows:

education.[29] As a statistical consequence of the regression model, the proportion of applications from white applicants that are predicted to be admitted equals the proportion actually admitted. As noted previously, the data reported in Table 1 represent the number of applications, not the number of individual applicants. Thus, individual applicants who made more than one application are counted more than once. If the model fits data from applicants of color equally well, the proportion predicted would be approximately equal to the proportion actually accepted for each of the ethnic application groups. Table 1 shows the proportion of applications predicted to be admitted, the proportion actually admitted, and the residual selection rate for different ethnic groups. These data show that actual admission decisions result in approximately equal proportions of admission offers across ethnic groups. Specifically, approximately 26% of the applications from white applicants result in offers of admission. Among the other groups, offers vary from 24% of the applications from Puerto Rican applicants to 32% of the applications from Mexican American applicants.[30] This is in stark contrast to the proportions predicted by the model, under which predicted admission offers to members of various ethnic groups would range from a high of 15% of the applications from Asian Americans to a low of 3% of applications from blacks, compared with 26% of those from whites. The residual selection rate among the applications submitted by nonwhite applicants is positive, large, and statistically significant for every group. The magnitude and direction of the residuals strongly support the claim that law schools

TABLE N2
CORRELATION OF ACTUAL ADMISSION DECISION WITH PREDICTED DECISION

Ethnic Group	LSAT/UGPA-Combined Model	UGPA-Only Model
American Indian	0.49	0.34
Asian American	0.67	0.48
Black	0.34	0.32
Hispanic	0.58	0.45
Mexican American	0.46	0.37
Puerto Rican	0.49	0.41
White	0.78	0.49

[29] See supra text following note 17 (explanation of residual selection rate).

[30] These relatively small proportions partly reflect the multiple applications that are submitted and the practice by many applicants of making application to one or more schools at which their chances of gaining admission are uncertain. See, e.g., Linda F. Wightman, Analysis of LSAT Performance and Patterns of Application for Male and Female Law School Applicants 45 & tbl.21 (Law Sch. Admission Council Research Report Series No. 94-02, Dec. 1994). As reported later in this study, the proportion of individual applicants receiving at least one offer of admission is substantially larger than the proportion of applications that result in an offer of admission. See infra text accompanying notes 40-41 & Table 5 at p. 22.

use different criteria or additional factors or information for making admission decisions about applicants of color than they do for making decisions about white applicants. When LSAT and UGPA are modeled as the only factors used to make decisions, not only do they predict actual decisions far more accurately for white applicants than for applicants of color, but the number of applicants of color predicted to be admitted under the model is statistically significantly lower than the number actually admitted.

TABLE 1

PREDICTED ADMISSION RATES, ACTUAL ADMISSION RATES,
AND RESIDUALS FOR 1990-1991 LAW SCHOOL APPLICANTS
BY ETHNIC GROUP

Ethnic Group	Number of Applications	Proportion[a] Predicted Admitted	Proportion Actually Admitted	Residual (Actual-Predicted)
American Indian	2,113	0.12	0.30	0.18*
Asian American	23,317	0.15	0.26	0.11*
Black	29,362	0.03	0.26	0.23*
Hispanic	11,320	0.12	0.27	0.15*
Mexican American	5,383	0.09	0.32	0.23*
Puerto Rican	3,078	0.06	0.24	0.18*
White	329,864	0.26	0.26	0

*$p < .001$
[a]Admission was predicted using the LSAT score and UGPA combined logistic regression model.

3. The Consequence of Abandoning Consideration of Race as Estimated by the Logistic Regression Models

The next step in the analyses is to determine the effect of abandoning consideration of race on the number of individual applicants who might be admitted to law school (as opposed to the previous analyses, which were based on the number of applications). The analyses reported in this section show that if admission decisionmakers had used a process modeled by either of the logistic regression models (i.e., the UGPA-only or the LSAT/UGPA-combined models),[31] the consequence would have been a substantial reduction in the overall number of applicants of color who were offered admission to ABA-approved law schools. Predicted admission decisions were calculated separately for the UGPA-only and for the LSAT/UGPA-combined

---

[31] See discussion supra notes 14-17 and accompanying text (explaining logistic regression models).

prediction models,[32] and the results, comparing the number of appli-
cants who actually were admitted to at least one law school to which
he or she applied with the number predicted to be admitted, are
presented in this section.

The distribution of actual admission decisions and predicted deci-
sions for individual applicants, based on the two logistic regression
models, is shown separately by ethnic group in Table 2. These data
count an individual as admitted (or predicted to be admitted) if she or
he was admitted (or predicted to be admitted) to at least one law
school to which she or he applied. The first column in Table 2 identi-
fies the ethnic group, the second divides the group into two actual-
admission-decision groups—accepted or not accepted—and the third
divides each actual decision group into two—those predicted by the
model to be admitted or not admitted. Although somewhat complex
in format, the layout of Table 2 provides an opportunity to examine
how many applicants in each ethnic group who were actually accepted
to at least one law school were also predicted to have been accepted
or not accepted by the UGPA-only and the LSAT/UGPA-combined
prediction models. The table provides the same information for appli-
cants who were not actually accepted to any law school.

Overall, the data in Table 2 confirm that the impact of either of
the tested models on the ethnic diversity of the admitted students
would be devastating. Among the 3435 black applicants who were
accepted to at least one law school to which they applied, only 687
would have been accepted if the LSAT/UGPA-combined model had
been used as the sole means of making admission decisions. Although
the LSAT frequently has been targeted as the primary obstacle to law
school admission for students of color, the data in Table 2 show that
even if it is eliminated from consideration, only 945 of those black
applicants who were offered admission in 1990-1991 would have been
offered admission using a UGPA-only selection model. These data
also show that an additional 391 black applicants who were not of-
fered admission would have been accepted if a UGPA-only model
were used. Ignoring for the moment the issue of whether something
in the applicants' records or other application materials eliminated
them from consideration despite their academic performance records,
these data suggest that even a model that relies only on UGPA as an
arbiter of relative merit would result in reducing the number of admit-
ted black applicants to approximately a third of what it was in the

---

[32] The LSAT-only model is not included because analyses show that the data do not fit
that model. See supra text accompanying note 27 (explaining that results show data fit
LSAT/UGPA-combined model, but not LSAT-only model).

TABLE 2
DISTRIBUTION OF 1990-1991 APPLICANTS BY ETHNIC GROUP,
ACTUAL ACCEPTANCE, AND ACCEPTANCE PREDICTED BY
UGPA ALONE, AND LSAT/UGPA-COMBINED LOGISTIC
REGRESSION MODELS

Ethnic Group	Actual Decision	Predicted Decision	Number Predicted by UGPA	Number Predicted by Combined	Actual Number Admitted
American Indian	Accepted	Yes	115	137	302
		No	187	165	
	Not Accepted	Yes	35	16	
		No	152	171	
Asian American	Accepted	Yes	1,199	1,449	2,312
		No	1,113	863	
	Not Accepted	Yes	277	44	
		No	1,122	1,355	
Black	Accepted	Yes	945	687	3,435
		No	2,490	2,748	
	Not Accepted	Yes	391	24	
		No	3,257	3,624	
Hispanic	Accepted	Yes	652	667	1,351
		No	699	684	
	Not Accepted	Yes	150	33	
		No	803	920	
Mexican American	Accepted	Yes	238	252	629
		No	391	377	
	Not Accepted	Yes	63	8	
		No	417	472	
Puerto Rican	Accepted	Yes	127	100	324
		No	197	224	
	Not Accepted	Yes	32	2	
		No	272	302	
White	Accepted	Yes	26,744	35,966	42,287
		No	15,543	6,321	
	Not Accepted	Yes	7,283	4,392	
		No	23,172	26,063	

1990-1991 application year. Similar patterns are evidenced for each of the other ethnic minority groups, although the impact appears more severe for black applicants than for any other group.

The data for white applicants also provide an interesting insight. These data demonstrate that although one result of affirmative action admission practices might be to offer admission to some applicants of color who have LSAT scores and UGPAs that are lower than those of white applicants who are denied, lower-scoring applicants of color are not the only ones who are given special admission consideration. Specifically, the data in Table 2 show that the number of white applicants who were not admitted, but would have been if decisions were based entirely on numerical indicators, is not so large as the number of white students who were admitted, but would not have been based on LSAT and UGPA alone. For example, the LSAT/UGPA-combined model

identified 4392 white applicants who were not accepted to any school although they were predicted to be admitted based on their LSAT scores and UGPAs alone. But the model also identified 6321 white students who *were* admitted who were predicted not to be admitted to any school.

It is also important to note that in all ethnic groups there were some applicants who were not admitted, but who would have been if the decision were based exclusively on the two quantitative predictors. These data suggest either that some information in these students' files other than academic performance excluded them from admission or that they were not so strong on some additional factors valued by the law schools to which they applied as were students with lower grades and LSAT scores. Thus, the data do not support an assumption that every white student with higher quantitative predictors who was denied admission would necessarily have been admitted but for affirmative action. This conclusion is supported further by the analysis of model fit presented earlier.[33] That is, although the LSAT/UGPA-combined model fits the data very well, there still is a substantial amount of unexplained variance in the model. Information obtained from sources such as misconduct files, letters of recommendation, and personal statements is identified by most law schools as important for consideration in admission decisions. Among many publicly supported schools, state of residence may also be a relevant factor, with in-state residents receiving some preference over out-of-state residents.

Unfortunately, although a substantial number of data elements were available for this study, no additional factors were found among them that improved the model fit (i.e., resulted in more accurate prediction of actual admission decisions). For example, an expanded logistic regression model that included state of residence as a dichotomous variable was tested using data from each of the public law schools to determine the impact of that factor on prediction. When state of residence was added to the model already containing LSAT and UGPA, no improvement in prediction was observed. The correlation between actual and predicted admission decisions was .79 when the state of residency was added to the two-predictor model for public institutions, compared with .78 when only LSAT and UGPA were included. Although no improvement in model fit was found among the data available about the applicants included in this study, the amount of variance still unaccounted for in the two-factor model supports the assertion by the law schools that other factors play a role

---

[33] See supra Part I.B.1 (evaluating how well data fit logistic regression model).

in the admission decision process for all students.[34] Future research should attempt to capture and quantify the additional factors that are used.

4. The Consequence of Abandoning Consideration of Race as Estimated by the Law School Grid Model

The Law School Grid Model is more conservative, and arguably less realistic in its assumptions,[35] than the logistic regression models, and its estimate of the consequence of abandoning consideration of race is less severe than the estimates obtained from either of the logistic regression models. Even so, the results presented in this section show that the estimated number of applicants of color who would have been offered admission to law school based on this model is still substantially lower than the actual number admitted.

One reason for interest in the Law School Grid Model is that it is a simple method to evaluate national law school admission possibilities for applicants of color without regard for the schools to which they actually applied. Determining whether there is any ABA-approved law school to which applicants of color might be admitted

---

[34] Such assertions are commonplace in law school recruiting. Each year, the Law School Admission Council publishes a law school guidebook for applicants. See Official Guide, supra note 19 (providing admission profiles of each U.S. LSAC-member school submitted by the schools themselves). In the most recent edition, all but 17 of the 178 schools represented state that some factors other than grades and LSAT are considered in the admission process for some, if not all, applicants. See, e.g., id. at 133 (discussing admission policy at Cornell University Law School). Further, those schools that do not make such a statement do not necessarily state that LSAT and grades are the only factors considered—they simply do not address the issue. The discussion by New York University of this issue, while lengthier than most, is typical in spirit:

> An applicant's undergraduate record and LSAT, while important, are not the sole determinants for admission. No index or cut-off is used in reviewing applications. An applicant's transcripts are analyzed for breadth and depth of course work, trend in grades, and rank; the competitiveness of the school and major are taken into account, as are special honors and awards. A strong undergraduate record and LSAT score are most important for those applying to law school directly after graduating from college. In all cases, however, other aspects of the application significantly influence the decision. Letters of recommendation, activities, and work experience are reviewed for evidence of significant nonacademic or professional achievement, and for qualities including rigor of thought, maturity, judgment, motivation, leadership, imagination, and social commitment. Factors beyond the undergraduate record are particularly important for older applicants, for international students, for those who have experienced educational or socioeconomic disadvantage, and for those who have racial or ethnic identities that are underrepresented in the student body and legal profession.

Id. at 262-63.

[35] See supra notes 18-21 and accompanying text (explaining Law School Grid Model); infra Part I.B.5 (questioning assumption of this model).

using an LSAT/UGPA-based quantitative admission model provides one conservative approach to evaluating the long-term consequences of an admission process that relies exclusively on competitive evaluation based on quantifiable indicators of individual achievement and, therefore, does not consider the race of the applicant.

A related reason for exploring the Law School Grid Model is to test the proposition that admission programs that take race into account do not necessarily result in a net increase in the total number of minority law students. For example, Professor Clyde Summers suggests that affirmative action admission programs do not increase the total number of minority law school students.[36] Rather, he argues, such programs simply shift minority students from those law schools popularly perceived as less prestigious to those perceived as more prestigious.[37] He further contends that minority applicants who were admitted to one or more highly selective schools as a result of an affirmative action admission practice most likely would have gained admission to a less selective school without need for affirmative action programs.[38] The data from the 1990-1991 application year do not support Summers's hypothesis. At the simplest level, as shown in Table 3, the means on both LSAT score and UGPA are significantly lower for applicants of color than for white applicants for every group except Asian American applicants. The differences are both statistically and practically significant.[39] These data suggest that if these quantitative measures of prior academic attainment are used as the only input to an admission model, students of color as a group are likely to be systematically excluded from law school admission opportunities.

As noted previously, the Law School Grid Model provides a vehicle to examine the probability of admission independent of the law schools to which applications were made. This ability is necessary to test the assertion that affirmative action admission programs do not necessarily result in a net increase in the total number of minority law students. The first step was to calculate the proportion of admitted white applicants to total white applicants within each of the seventy-two cells in the LSAT/UGPA grid developed for this study. The results from this calculation are shown in Table 4. These data demonstrate that the proportion of admitted applicants is higher within cells

---

[36] See Summers, supra note 13, at 384-86 (asserting that practice of preferential admissions does not add substantially to total number of minority law students).

[37] See id.

[38] See id.

[39] Practical significance is measured using Cohen's *d*. A *d* value of .20 is a small effect size; a *d* of .50 is a medium effect size. See Jacob Cohen, Statistical Power Analysis for the Behavioral Sciences 20-27 (2d ed. 1988) (explaining effect size index for variable *d*).

TABLE 3

LSAT AND UGPA MEANS AND STANDARD DEVIATIONS BY
ETHNIC GROUP FOR 1990-1991 LAW SCHOOL APPLICANTS

	Ethnic Group						
	American Indian	Asian American	Black	Hispanic	Mexican American	Puerto Rican	White
N	489	3,711	7,083	2,304	1,109	628	72,742
LSAT							
Mean	30.27	33.22	25.00	30.13	29.70	27.56	34.35
Standard Deviation	7.09	7.32	7.07	7.19	7.18	7.88	6.29
UGPA							
Mean	2.87	3.07	2.70	2.95	2.90	2.89	3.09
Standard Deviation	0.47	0.51	0.46	0.45	0.44	0.45	0.46
LSAT difference*	−0.58	−0.16	−0.33	−0.60	−0.66	−0.97	
UGPA difference*	−0.44	−0.03	−0.82	−0.28	−0.39	−0.41	

* The mean difference is in *d* units (Cohen, 1988): (ethnic group mean - white mean)/total group standard deviation. A minimum *d* value of ±.2 is required to be considered a practically significant effect.

representing high LSAT scores and high UGPAs than in cells representing low LSAT scores and low UGPAs. In general, the proportions also decrease within a given UGPA range as the LSAT ranges go from higher to lower. Likewise, there is a decrease in proportion within a given LSAT range as the UGPA ranges go from higher to lower. As an example, look at the column representing LSAT scores in the 40-44 range. As the UGPA range decreases from greater than or equal to 3.75 to less than 2.00, the proportion of admitted applicants decreases from .96 to .48. The few exceptions are attributable partially to additional factors considered in the admission process and partially to the small sample sizes found in some cells. For example, the number of white applicants with an LSAT score greater than or equal to 45 and a UGPA less than 2.00 is only four.

The Law School Grid Model functions under the assumption that in an admission environment that does not take race into consideration, ethnic and white applicants would be admitted in the same proportions within the same LSAT/UGPA grids. The data in Table 5 show the estimated number and percentage of applicants from each ethnic group who would have been admitted to at least one law school using this model, as well as the number who actually were admitted and the number who would have been admitted using the LSAT/UGPA-combined logistic regression model. For example, the table shows that among 1109 Mexican American law school applicants in 1990-1991, 629, or 57%, were offered admission to at least one school. If admission decisionmakers had used LSAT score and UGPA exclusively in the way modeled by the Law School Grid Model, only 439

TABLE 4

PROBABILITY OF LAW SCHOOL ADMISSION OBTAINED BY DIVIDING
THE NUMBER OF WHITE 1990-1991 ADMITTED APPLICANTS BY THE
TOTAL NUMBER OF WHITE APPLICANTS IN EACH CELL

UGPA	LSAT Scores								
	GE45	40-44	35-39	30-34	25-29	20-24	15-19	LT15	Total
GE 3.75	0.98	0.96	0.92	0.78	0.49	0.34	0.14	0.00	0.88
3.5-3.74	0.98	0.93	0.88	0.71	0.43	0.21	0.24	0.00	0.81
3.25-3.49	0.93	0.90	0.84	0.61	0.32	0.19	0.13	0.00	0.71
3.00-3.24	0.89	0.87	0.77	0.51	0.26	0.21	0.16	0.00	0.60
2.75-2.99	0.90	0.80	0.68	0.36	0.22	0.17	0.05	0.00	0.47
2.50-2.74	0.78	0.73	0.53	0.30	0.22	0.14	0.03	0.00	0.37
2.25-2.49	0.73	0.54	0.45	0.25	0.21	0.08	0.04	0.00	0.29
2.00-2.24	0.68	0.55	0.37	0.24	0.14	0.03	0.02	0.00	0.23
LT 2.00	0.75	0.48	0.36	0.20	0.07	0.04	0.00	0.00	0.20
Total	0.93	0.87	0.74	0.47	0.26	0.15	0.07	0.00	0.58

(40%) would have received at least one offer to a law school—but not
necessarily a law school to which they applied or desired to attend due
to factors such as cost or geographic location. The table also shows
that only 260 (23%) are predicted by the logistic regression model to
have received an offer to at least one school to which they applied.
The results of the analyses using the Law School Grid Model, on their
face, are somewhat more encouraging than the results obtained using
the logistic regression models. Even so, the data show that the overall
effect of using a decision process that relies only on LSAT scores and
UGPA without consideration of race would be to reduce substantially
the proportion of applicants of color who obtained offers of admission
to law school. The number of students of color who would be admit-
ted to at least one law school is 66% of the number actually admitted
if Asian American applicants are included, and 57% if they are ex-
cluded. Most severely affected would be black applicants. In the
1990-1991 application year, nearly half of the black applicants were
admitted to at least one school to which they applied. The LSAT/
UGPA-combined model predicts that only 10% of them would have
been admitted to at least one school to which they applied. The Law
School Grid Model suggests that only 23% would have qualified for
admission to at least one law school in the study.[40]

---

[40] An alternative way to think about the impact of the two LSAT/UGPA models of
admission decisions is in terms of the proportional representation from selected ethnic
groups that would result from their application. The percentage distribution of 1990-1991
admitted students, as well as the percentage distribution predicted under each of the
LSAT/UGPA models is as follows:

TABLE 5

NUMBER AND PERCENTAGE OF STUDENTS ADMITTED COMPARED
WITH THOSE PREDICTED TO BE ADMITTED TO LAW SCHOOL FROM
TWO MODELS FOR ESTIMATING THE IMPACT OF ADMISSION
DECISIONS BASED ON LSAT SCORE AND UGPA WITHOUT
CONSIDERATION OF RACE

Ethnic Group		Number of Applicants	Number Admitted	Predicted Law School Grid Model	Predicted Combined Logistic Regression Model
American Indian	Number	489	302	201	153
	Percent*		61.76	41.06	31.29
Asian American	Number	3,711	2,312	2,026	1,493
	Percent		62.30	54.60	40.23
Black	Number	7,083	3,435	1,631	711
	Percent		48.50	23.02	10.04
Hispanic	Number	2,304	1,351	974	700
	Percent		58.64	42.26	30.38
Mexican American	Number	1,109	629	439	260
	Percent		56.72	39.60	23.44
Puerto Rican	Number	628	324	213	102
	Percent		51.59	33.97	16.24
White	Number	72,742	42,287	42,287	40,358
	Percent		58.13	58.13	55.48
Total	Number	88,066	50,640	47,771	43,777

* Percent shows the percentage of the total number of applicants in each ethnic group who were actually admitted or predicted to be admitted by the models.

5. Questioning the Assumptions of the Law School Grid Model

A necessary assumption underlying the suggestion that affirmative action admission programs simply reallocate students of color to

TABLE N3

	Percent Applicants	Percent Law School Grid Model	Percent Logistic Regression Model	Percent Actual
American Indian	0.56	0.42	0.35	0.60
Asian American	4.21	4.24	3.41	4.57
Black	8.04	3.41	1.62	6.78
Hispanic	2.62	2.04	1.60	2.67
Mexican American	1.26	0.92	0.59	1.24
Puerto Rican	0.71	0.45	0.23	0.64
White	82.60	88.52	92.19	83.51

These data show, for example, that black applicants make up approximately 8% of the total applicant pool and just under 7% of the pool of 1990-1991 admitted applicants. Under the Law School Grid Model they are predicted to make up 3.4% of the admitted applicants, and under the logistic regression model, 1.6%.

more selective schools[41] is that students of color would, in fact, attend any school to which they were admitted. The data and analyses reported in this study counter such an assumption.

The grid data for black applicants show that more than half of the applicants who would have been admitted to some school fall in approximately the lower right quadrant of that table.[42] These are applicants with LSAT scores less than 35 and UGPAs less than 3.25. In order to examine the kinds of schools that accepted students with scores and grades in these ranges in 1990-1991, results from a cluster analysis study of law schools were revisited.[43] The purpose of the cluster analysis study was to "determine whether a discrete and stable grouping of law schools exists when a variety of characteristics of the schools and their students are considered simultaneously."[44] In the study, the seven characteristics of size, cost, selectivity of the school, faculty/student ratio, percent of students who are minority, median LSAT score, and median UGPA were identified as ones on which law schools might differ in ways that are important to the outcomes of many research studies about legal education.[45] The results from the study suggest six groupings of law schools, with the number of schools per group ranging from fifty-three to eight.[46] Although there was no inherent rank order to the groupings or "clusters" as they were developed, the six clusters are sorted for purposes of this study by median LSAT and median UGPA of their entering class, with the highest median cluster designated Cluster 1 and the lowest median cluster designated Cluster 6.[47]

The Fall 1991 entering students with LSAT scores less than 35 and UGPA less than 3.25 were identified for the purpose of learning where they were attending law school. The number of these students attending each law school was then summarized by cluster rather than by individual school. The data reveal that 74% of the white students in that LSAT/UGPA group attended Cluster 4 or Cluster 5 schools. An examination of both the overall distribution of students across

---

[41] See Summers, supra note 13, at 384 ("[E]ach law school, by its preferential admission, simply takes minority students away from other schools whose admissions standards are further down the scale.").

[42] See, e.g., Table 4, supra p. 21.

[43] See Linda F. Wightman, Clustering U.S. Law Schools Using Variables that Describe Size, Cost, Selectivity, and Student Body Characteristics (Law Sch. Admission Council Research Report No. 93-04, Dec. 1993). Cluster analysis is an empirical classification methodology.

[44] Id. at 1.

[45] See id. at 5.

[46] See id. at 25-26.

[47] The average scores on each of the clustering variables for schools in each cluster are as follows:

clusters and the ethnic distribution of students across clusters suggests that finding 74% of the white students from that score range in Clusters 4 and 5 schools is disproportionate in that just under 45% of all Fall 1991 first-year students and 47% of all white students attended Cluster 4 or Cluster 5 schools. The question of interest is whether the same high proportion of applicants of color might be willing and able to attend schools in these clusters if they were the only schools to which the applicants were accepted. There are two characteristics in particular about the schools that make up Clusters 4 and 5 that place doubt on the assumption that students of color would have either made application to those schools or attended them. First, the schools in these two clusters enroll the lowest proportion of minority students of any of the clusters.[48] Second, the schools in Cluster 4 are primarily private (98%) and are among the most costly of the schools—being exceeded only by the eighteen schools included in Cluster 1.[49]

The cost issues appear even more compelling when socioeconomic status (SES) data[50] are taken into account. The relationship between SES and ethnicity is statistically significant for the entire Fall 1991 entering class,[51] but it is even stronger within the particular sub-

TABLE N4

| Variable | Cluster | | | | | |
	1	2	3	4	5	6
Tuition	13,659.89	11,153.92	3,481.18	11,428.94	6,141.97	3,136.92
Enrollment	704.06	1,466.68	606.54	797.67	516.08	347.63
Selectivity	0.17	0.26	0.28	0.34	0.50	0.33
Percent minority	20	19	15	12	8	58
Faculty/student ratio	22.04	28.14	21.14	24.73	21.64	17.77
LSAT	42.06	39.53	37.65	35.51	32.29	29.25
GPA	3.50	3.34	3.29	3.09	3.05	2.86
Percent private	88	60	4	98	56	29
Number of schools in the cluster	18	19	52	53	21	8

[48] See Table N4, supra note 47 (listing percent of minority enrollment).

[49] See id. (listing tuition figures and proportion of private institutions).

[50] A description of methodology used to define SES categories is found infra notes 96-99 and accompanying text.

[51] Data show that SES is not independent of ethnic group for the longitudinal sample of 1991 first-year law students participating in the *LSAC Bar Passage Study*. See Linda F. Wightman, Women in Legal Education: A Comparison of the Law School Performance and Law School Experiences of Women and Men 115 n.3 (Law Sch. Admission Council Research Report Series 1996) (showing distribution of sample by SES and ethnicity). For a description of the bar passage study, see supra note 8. Note that in the study from which these data are extracted, Mexican American, Puerto Rican, and Hispanic student data are collapsed into a single category labeled "Hispanic." See Wightman, supra, at 6 (noting composition of group identified as "Hispanic"). The distribution by SES and ethnicity is shown below:

set of students who fall in the less-than-35 LSAT score, less-than-3.25 UGPA cells on the LSAT/UGPA grids. That is, only 24% of the white students in the group who had LSAT scores and UGPAs within the less-than-35 and less-than-3.25 range are classified as lower-middle SES compared with 53% of the black students, 58% of the Puerto Rican students, and 63% of the Mexican American students.[52] These data suggest that students of color from lower SES groups are less likely to attend high-tuition Cluster 4 schools.

Next, consider the logistic regression models, which focus only on decisions made by schools to which the students actually made application, as a means of questioning the assumptions of the Law School Grid Model. These data provide an alternative means for evaluating the overall reallocation of nonwhite students across law schools that would occur from use of a strictly quantitative admission model. Overall, the 1990-1991 law school applicants made an average of 4.9

TABLE N5					
Socioeconomic Group	Ethnic Group				
	Asian American	Black	Hispanic	White	Total
Upper					
Number	209	396	150	750	1,505
Percent	25.43	27.75	16.45	24.75	24.31
Upper-middle					
Number	239	115	140	759	1,253
Percent	29.08	8.06	15.35	25.05	20.24
Middle					
Number	172	202	178	844	1,396
Percent	20.92	14.16	19.52	27.85	22.55
Lower-middle					
Number	202	714	444	677	2,037
Percent	24.57	50.04	48.68	22.34	32.90
Total					
Number	822	1427	912	3,030	6,191
Percent	100.00	100.00	100.00	100.00	100.00

Id. at 115 n.3.

[52] The relationship between ethnicity and SES for the group of students who fall in the less-than-35 LSAT score, less-than-3.25 UGPA cells on the LSAT/UGPA grids is both statistically and practically significant. Due to the fact that small differences may be statistically significant when sample sizes are large, measures of effect size frequently are reported to serve as a measure of practical significance. The effect size for these data is .33. The effect size is measured using Cohen's w, which is $w =$

$$\sqrt{\chi^2/N} \ .$$

Values for w of .1 are typically considered to be small effect sizes; values of .3 are considered medium effect sizes. See generally Cohen, supra note 39, at 216-26 (discussing effect size index of Cohen's w).

applications[53] each (only Asian American students applied to signifi-
cantly more schools than white students—6.7 compared with 4.8).
Most students applied to a range of schools. Further, the number of
students who were accepted to at least one school to which they ap-
plied greatly exceeds the number who matriculated.[54] This is true for
both students of color and for white students. These data do not sug-
gest that applicants of color would attend any school that offered
them admission.

Another important fact is that all first-year seats in the law
schools reported herein were filled in Fall 1991. Although some stu-
dents who failed to gain admission might readily lower their aspira-
tions and accept admission at a less selective institution, they could do
so only with the consequence of displacing another student at that
institution. It does not necessarily follow that open seats in the less
selective schools would become available for applicants of color as a
result of white students at those schools gaining a place in the more
selective schools. Rather, some of the seats at the more highly selec-
tive schools could be taken by white applicants who made no applica-
tion to the less selective schools, or who did not choose to attend the
less selective school. Thus, some of the white students who lost a seat
at a less selective school might not have been admitted to any school.

The assumptions of Summers's argument (i.e., that applicants
would lower their expectations and apply to and attend less selective
schools if there were no affirmative action admission practices)[55] are
questionable, as suggested in the previous discussion. Even if those
assumptions were not questionable and applicants indeed would apply
to and attend less selective schools, questions about how applicants of
color would be allocated across different law schools are of interest.
This interest results partly from the belief that career opportunities
and social mobility are not independent of the reputation of the law
school attended. A second issue of concern related to allocation of
applicants, and thus students, across law schools is the benefits to the
educational experiences of all law students that are a consequence of
interaction with a diverse student body. Previous research, using data
from Fall 1991 first-year students, has examined the allocation of stu-

---

[53] This average is based on all applications made by all 1990-1991 applicants, including
applications to non-U.S. law schools. See supra note 7.

[54] For example, the data in Table 2, supra p. 16, identify 50,640 admitted applicants,
while the ABA reports 44,050 Fall 1991 first-year students. See American Bar Ass'n Sec-
tion of Legal Educ. and Admissions to the Bar, A Review of Legal Education in the
United States: Fall 1992, at 67 (1993) (providing legal education and bar admission
statistics).

[55] See Summers, supra note 13, at 384 (arguing that preferential admission policies
merely reallocate minority law students to more prestigious schools).

dents of color across law schools categorized by various definitions of prestige or similarity.[56] A distinguishing feature of one of these clusters, Cluster 6, was the high percentage of minority students in attendance. Approximately 19% of black students attended a school in Cluster 6. The data show that with the exception of Cluster 6, which is partly distinguished by the high proportion of minority students,[57] students of color were proportionally better represented among the three clusters with the highest median LSAT scores and UGPAs than among the other clusters, and they were fairly evenly represented among the three highest LSAT/UGPA clusters.[58] For example, 6% of the students attending Cluster 1 schools are black, as are 6% of those attending Cluster 2 schools and 7% of those attending Cluster 3 schools. Analyses were undertaken to sort the admission prediction data reported in Table 2 to identify the school in the highest cluster to which each student was accepted (using only LSAT score and UGPA to define relative positions). An earlier study of students' application and decision patterns demonstrated that among schools to which they were accepted, applicants were most likely to choose to attend the school with the highest median LSAT score and UGPA.[59] Consistent with the findings of Braun and Szatrowski,[60] Table 6 was built using the assumption that applicants would choose to attend a school in the highest LSAT/UGPA cluster to which they were accepted. There are obvious exceptions to this assumption for individual applicants, but it is useful for illustrating the overall impact on the demographic distribution of students across law schools of an admission model that uses only LSAT score and UGPA. The data in Table 6 illustrate a dramatic reallocation of applicants of color across law school clusters. The percent columns show the percentage of the total applicants accepted or predicted to be accepted within each cluster. For example, white applicants make up 78.6% of the total applicants actually accepted to Cluster 1 schools and 87.76% of the applicants predicted to be ac-

---

[56] See Wightman, supra note 11, at 25-28 (showing distribution of entering students among law schools based upon stratum and cluster of schools). The clusters given in that study are numbered differently such that Clusters 5, 4, 1, 3, 2, and 6 correspond respectively with Clusters 1, 2, 3, 4, 5, and 6 in this study. See id. at 21.

[57] See id. at 28 (showing that white students comprised only 42% of students in Cluster 6).

[58] See id. (showing general distribution of law students based on ethnicity for each law school cluster).

[59] See Henry I. Braun & Ted H. Szatrowski, Development of a Universal Grade Scale for American Law Schools and the Reconstruction of Ideal Validity Experiments, in Reports of LSAC Sponsored Research: Volume IV, 1978-1983, at 457, 478 (Law Sch. Admission Council Report No. LSAC-82-3, 1984) (discussing tendency of students to attend best schools to which admitted as explanation of results).

[60] See id.

cepted based on the LSAT/UGPA logistic regression model. The least affected group was Asian American applicants, particularly among Cluster 1 and Cluster 2 schools. As is true for all the analyses reported in this study, the greatest impact was observed among black applicants. Approximately 7% of the accepted applicants in each of Clusters 1, 2, and 3 were black in the 1990-1991 application year. The model predicted percentages reduced to between a low of 0.4% (Cluster 1) and a high of 1% (Cluster 2) among the schools in those three clusters. This table also shows that among the 711 black applicants predicted to be admitted to all ABA-approved schools, approximately 40% (284) would be admitted only to Cluster 6 schools—schools with predominately minority student populations. These figures are astounding when compared with law school enrollment figures for 1965, when affirmative action admission practices were not yet widespread in law schools. The Association of American Law Schools (AALS) reported that there were only 700 black law students in that year and almost half were attending the five predominately black law schools.[61] The AALS also noted that black enrollment was 1.3% of total enrollment, and well below 1% in the 145 law schools that were not predominately black.[62] For the data reported in Table 5, black applicants are predicted to make up 1.6% of the total admitted pool and less than 1% of the applicants admitted to one of the 163 schools not included in Cluster 6.

Using the Law School Grid Model instead of the logistic regression model resulted in a predicted reduction in representation of nonwhite students that is somewhat less dramatic (black applicants were predicted to make up 3.4% of the total admitted pool compared to 1.6% under the logistic regression model). Even so, the Law School Grid Model predictions are substantially lower than the observed proportions (black applicants made up 6.8% of the actual admitted pool). More important, the discussion and analyses presented in this section demonstrated that the distribution across schools of admitted nonwhite applicants would be altered dramatically and the assumption that applicants of color would, in fact, attend any school to which they were accepted is unsupported. These data illustrating the effects of an admission model that relies exclusively on LSAT score and UGPA necessitate a critical evaluation of the validity of these two variables

---

[61] See Brief for the President and Fellows of Harvard College as Amicus Curiae at 36, DeFunis v. Odegaard, 416 U.S. 312 (1974) (No. 73-235) (citing 1965 Proceedings of the Association of American Law Schools 112). There is substantial, but not complete, overlap between Cluster 6 schools and the predominantly black law schools referenced by the AALS.

[62] See id.

for use in the admission process. Validity issues are addressed in the next section.

II
THE APPROPRIATE ROLE OF NUMERICAL INDICATORS

The tension between commitment to the principles of racial and ethnic diversity and of competitive evaluation based on quantifiable indicators of individual achievement frequently results in questions about the appropriateness of the use of numerical indicators, especially the LSAT, in the admission process. These questions typically are raised by questioning the validity of the test, particularly the validity of its use with applicants of color. However, one does not need to argue that the test is invalid or a biased predictor against members of certain groups in order to substantiate the negative consequences of misuse or overuse of the test in the admission process. The LSAT is valid for a limited use[63] and has a clearly defined, narrow focus: it is a test of acquired reading and verbal reasoning skills that have been shown to correlate with academic successes in the first year of law school. When it is used for a different and/or far broader purpose, not only is the use inappropriate, but calling on the test to do more than it was intended to do damages its validity. This distinction is important to keep in mind because misunderstanding it can detract from the more central issue. Specifically, several studies support the test as a valid measure for the limited purpose for which it was designed and indicate that it is as valid for applicants of color as it is for white applicants.[64] However, a test that does a very good job of measuring a

---

[63] See, e.g., Franklin R. Evans, Recent Trends in Law School Validity Studies, in Reports of LSAC Sponsored Research: Volume IV, 1978-1983, at 347, 359 (Law Sch. Admission Council Report No. LSAC-82-1, May 1984) (observing that LSAT is better predictor of first-year performance than UGPA); Robert L. Linn & C. Nicholas Hastings, A Meta Analysis of the Validity of Predictors of Performance in Law School, in Reports of LSAC Sponsored Research: Volume IV, 1978-1983, at 507, 512 (Law Sch. Admission Council Report No. LSAC-83-1, May 1984) (noting overwhelming evidence that LSAT and UGPA have useful degree of predictive validity); W.B. Schrader, Summary of Law School Validity Studies, 1948-1975, in Reports of LSAC Sponsored Research: Volume III, 1975-1977, at 519, 532 (Law Sch. Admission Council Report No. LSAC-76-8, Dec. 1977) (noting that LSAT and UGPA have been found to be substantial predictors in nearly every study); Linda F. Wightman, Predictive Validity of the LSAT: A National Summary of the 1990-1992 Correlation Studies 23 (Law Sch. Admission Council Research Report No. 93-05, Dec. 1993) (finding that LSAT and UGPA are useful predictors of first-year performance and that LSAT is better predictor than UGPA).

[64] See, e.g., Robert L. Linn & C. Nicholas Hastings, Group Differentiated Prediction, 8 Applied Psychol. Measurement 165, 165-66 (1984) (noting that most studies show that LSAT and UGPA tend to overpredict minority group performance rather than underpredict); Donald E. Powers, Comparing Predictions of Law School Performance for Black, Chicano, and White Law Students, in Reports of LSAC Sponsored Research: Volume III,

TABLE 6

DISTRIBUTION OF 1990-1991 APPLICANTS BY CLUSTER, ETHNIC
GROUP, AND ACTUAL AND PREDICTED LAW SCHOOL ADMISSION
USING LSAT AND UGPA IN A LOGISTIC REGRESSION MODEL*

	Cluster	Actual Number Admitted	Predicted Number	Actual Percent of Applicants Admitted	Predicted Percent of Applicants
American Indian	1	29	9	0.45	0.17
Asian American	1	471	360	7.30	6.61
Black	1	420	24	6.51	0.44
Hispanic	1	137	78	2.12	1.43
Mexican American	1	93	27	1.44	0.50
Puerto Rican	1	53	10	0.82	0.18
White	1	5,072	4,783	78.60	87.76
Total		6,453	5,450		
American Indian	2	40	20	0.40	0.24
Asian American	2	592	394	5.94	4.68
Black	2	618	88	6.21	1.05
Hispanic	2	367	224	3.69	2.66
Mexican American	2	129	43	1.30	0.51
Puerto Rican	2	94	37	0.94	0.44
White	2	7,897	7,414	79.30	88.09
Total		9,958	8,416		
American Indian	3	81	21	0.72	0.22
Asian American	3	359	179	3.18	1.88
Black	3	809	58	7.16	0.61
Hispanic	3	247	79	2.18	0.83
Mexican American	3	135	33	1.19	0.35
Puerto Rican	3	52	10	0.46	0.11
White	3	9,513	8,996	84.14	94.48
Total		11,306	9,522		
American Indian	4	75	49	0.48	0.35
Asian American	4	684	399	4.33	2.88
Black	4	746	132	4.73	0.95
Hispanic	4	420	207	2.66	1.49
Mexican American	4	194	107	1.23	0.77
Puerto Rican	4	98	33	0.62	0.24
White	4	13,251	12,648	83.93	91.29
Total		15,788	13,854		
American Indian	5	63	43	1.47	1.08
Asian American	5	58	38	1.35	0.96
Black	5	233	74	5.42	1.86
Hispanic	5	79	44	1.84	1.11
Mexican American	5	20	11	0.47	0.28
Puerto Rican	5	12	3	0.28	0.08
White	5	3,814	3,725	88.74	93.83
Total		4,298	3,970		
American Indian	6	11	4	0.96	0.43
Asian American	6	36	27	3.16	2.89
Black	6	556	284	48.73	30.37
Hispanic	6	61	28	5.35	2.99
Mexican American	6	45	27	3.94	2.89
Puerto Rican	6	12	7	1.05	0.75
White	6	397	540	34.79	57.75
Total		1,141	935		

* Applicants whose ethnic identy was listed as "other" or not reported are included in the total number admitted within each cluster in order to accurately show the distribution. Additionally, two schools in the study are not included in any cluster.

narrow, albeit important, range of acquired academic skills cannot serve as a sole determinant in the allocation of limited educational opportunity. Neither can it serve that purpose when coupled with UGPA. UGPA carries its own set of limitations, including the influence of factors such as leniency of graders, rigor of the curriculum represented by the grades, and students' motivation and application. In addition, the LSAT score and UGPA of law school applicants are correlated .38 with one another. Thus, there is some redundancy in these measures.[65]

Concerns about validity of the LSAT or the LSAT and UGPA used in combination are often the result of misunderstanding or confusion between the scientific definition of validity in test theory and the lay interpretation of validity. Within the psychometric field, the general concept of validity is a broad one, encompassing the accumulation of data to support a particular use of a test. First, however, it is important to understand the scope and limitations of the test itself. It is only in the context of that limited use that validity data are meaningful.

A.   Evaluating Validity Evidence

The usual procedure for establishing validity with regard to the LSAT is to obtain evidence that there is a relationship between it and the outcome of interest—usually academic performance in law school or, more specifically, performance in the first year of law school. There has been and continues to be substantial statistical support for the claim of validity of the LSAT for use in this limited sense in the admission process.[66]

Typically, this evidence is in the form of a correlation between LSAT and first-year grade-point average in law school (FYA), or be-

---

1975-1977, at 721, 747 (Law Sch. Admission Council Report No. LSAC-77-3, Dec. 1977) (finding that LSAT scores are as valid and successful a predictor for minority students as for white students); Linda F. Wightman & David G. Muller, An Analysis of Differential Validity and Differential Prediction for Black, Mexican American, Hispanic, and White Law School Students 1 (Law Sch. Admission Council Research Report Series No. 90-03, June 1990) (noting that validity data does not indicate LSAT scores are less valid for minorities than for whites).

[65] The correlation coefficient provides a measure of the strength of the association between two variables. The stronger the association, the higher the correlation. When two correlated variables such as LSAT and UGPA are used jointly to predict a criterion such as first-year grade-point average in law school (FYA), the amount of variance in the criterion that they jointly explain is not so large as the sum of the amount of variance that each explains alone. This is so because some of the variance in FYA that is accounted for by LSAT is also accounted for by UGPA.

[66] See sources cited supra note 63 (noting value of LSAT as predictor of first-year performance).

tween LSAT/UGPA-combined and FYA.[67] The correlation coefficient provides some information about how useful a predictor is—but there is no clear answer as to how large the coefficient should be in order for the predictor to be useful.[68] National validity data for U.S. and Canadian law schools during the period 1990-1992 show that the LSAT is a substantially better predictor of first-year performance in law school than is the UGPA.[69] During that time period, the median correlation coefficient for the LSAT alone is .41, compared with .26 for UGPA alone.[70] The data also show that the combination of LSAT and UGPA provides better prediction than either predictor alone.[71] The average multiple correlation across 167 schools for whom three years of data are available is .49.[72] These results are consistent with findings from earlier LSAT validity summary reports.[73]

The magnitudes of the correlation coefficients reported above are often the subject of criticism, particularly when considering that the square of the correlation coefficient is an indicator of the amount of the variation in the criterion that is accounted for by the predictors. Squaring the median validity coefficient for LSAT score and UGPA shows that these two variables account for approximately 25% of the variance in first-year law school grades. However, it is important to understand the restrictions imposed on the magnitude of the coefficients by the design of the validity studies that are undertaken. Validity coefficients are most likely an underestimate of the true validity of the LSAT alone or the LSAT and UGPA combined, primarily because the correlations are based only on the LSAT scores, UGPAs, and FYAs of those applicants who were accepted to and attended the studied law school and received an FYA. Most applicants with low LSAT

---

[67] See sources cited supra note 63.

[68] See supra notes 16, 65 (explaining correlation coefficients).

[69] See Wightman, supra note 63, at 23 (noting that LSAT is better predictor than UGPA).

[70] See id.

[71] See id.

[72] See id. Although the most recently published validity summary report is dated 1993, within-school correlation data are produced annually by the Law School Admission Council for U.S. and Canadian law schools and the results are monitored annually. So long as results remain stable, as they have for the LSAT, there is little need to update national summary data more frequently than every five to ten years. An updated summary report is anticipated following the 1997 correlation studies. That report will summarize the first available three-year data for students admitted with scores on the revised 120-to-180 LSAT score scale. The annual analyses of these data for 1994 first-year students suggest that the correlation study results essentially parallel the results found in the 1993 summary report.

[73] See, e.g., Evans, supra note 63, at 359 (finding median validity of LSAT/UGPA-combined predictor to be .47); Linn & Hastings, supra note 63, at 516 (finding mean observed validity of LSAT/UGPA-combined predictor to be .46); Schrader, supra note 63, at 531 (finding median validity of LSAT/UGPA-combined to be .45).

scores and low UGPAs are not admitted and, thus, there are no first-year grades for them. As a consequence, they cannot be included in the study. Also, students attending a particular law school tend to have LSAT scores within a fairly small range relative to the range of scores among all applicants to that school, as well as among all applicants to all schools. Each of these factors leads to a phenomenon known as "restriction of range"—a reduction in the variability of the predictors within the data available for analyses. Because there is less variability in the scores of admitted students than in the scores of all applicants, correlations are smaller than they would have been had the class been admitted randomly from the total applicant pool. In addition to the problem of reduced variability, matriculated students include some who are admitted as a result of special consideration. That is, some students with low test scores or low UGPAs are admitted to law school, but they are usually not typical of the low-scoring applicants who are rejected. Instead, they are admitted because the school has some other evidence of their ability to do well in law school. Frequently these applicants show a discrepancy between LSAT score and UGPA, and the admitting school allows a high score on one predictor to compensate for a low score on the other. Employing a compensatory model in the admission process has the effect of reducing the validity estimates. All of this supports the claim that the validity coefficients reported for the LSAT tend to be underestimates. Even so, they are the best information available, and even as underestimates, they are quite reputable, particularly when compared with the validity coefficients reported for other higher-education admission tests.[74]

Questions about the overall validity of the LSAT often are raised in conjunction with concerns about its validity for racial or ethnic minority group applicants.[75] Research into questions of differential va-

---

[74] For example, the correlation of the Graduate Management Admission Test (GMAT) total score with first-year MBA grades is .38. See Educational Testing Serv., The GMAC Validity Study Service: A Three-Year Summary, 1988-89 through 1990-91, at 5 (Oct. 14, 1994) (unpublished manuscript, on file with the *New York University Law Review*). For the GRE, the correlations between verbal test scores and graduate first-year grade-point average is .30; for quantitative scores, .29; for analytical, .28. For the three scores combined, the correlation is .34, and when UGPA is added the correlation increases to .46. See Educational Testing Serv., GRE 1995-96 Guide to the Use of the Graduate Record Examinations Program 31 (1995).

[75] See, e.g., Edward Rincon, Tests Put a Bias in College Admissions, The Dallas Morning News, Apr. 7, 1996, at 6J (arguing that test scores of African Americans and Hispanics have traditionally been negatively influenced by variety of factors having little to do with intelligence); Roberto Rodriguez, Life After Hopwood, Black Issues in Higher Educ., Aug. 8, 1996, at 8 (noting experts who consider standardized tests as major cause of discrimination against people of color and women).

lidity of the LSAT have repeatedly demonstrated that LSAT scores used either alone or in combination with UGPA are as valid or more valid predictors of first-year grades in law school for black, Hispanic, and Mexican American students as they are for white students.[76] The research also shows that, contrary to popular belief, when UGPA is used alone as a predictor, it is less correlated with first-year grades for black students than for white students.[77] Concern about the magnitude of the validity coefficients for applicants of color is based on concern about how to most fairly evaluate test scores and undergraduate grades in making admission decisions. The research has shown consistently that when a regression equation is developed using combined data from white and minority students the equation tends, on average, to overpredict law school performance for minority students.[78]

The data presented in Tables 1, 5, and 6 of this study provide evidence of the consequences of extreme or complete reliance on LSAT score and UGPA when making admission decisions. The data also demonstrate that, although the models fit well, they do not fully describe the admission process even for white students. Other factors, though perhaps less objective and more difficult to quantify, play a part in admission decisions. The data also show unequivocally that overreliance will lead to predictable and systematic exclusion of a large number of minority applicants from legal education. Discussion of other consequences of overreliance on LSAT and UGPA appear in the next section of this study. It confirms that a large proportion of those applicants who would be excluded are qualified to undertake the academic rigor of a legal education.

B. Law School Graduation and Bar Passage Data to Evaluate Test Use Questions

The data analyzed in this section illustrate substantial law school graduation rates and bar examination passage rates among Fall 1991 first-year students who would not have been admitted under the LSAT/UGPA-combined logistic regression model. A statistical test did not find a significant difference within any ethnic group between the law school graduation rates for those predicted to be admitted and those predicted not to be admitted. Some significant relationships are observed between predicted admission decision and bar passage, but for all groups for whom the relationship is significant, the effect size is

---

[76] See sources cited supra note 64 (finding that LSAT and UGPA are no less valid predictors for minorities than for whites).

[77] See id.

[78] See id.

small.[79] A logistic regression equation to predict bar passage from LSAT score and UGPA fits the data but the correlation between actual and predicted bar passage does not approach the magnitude of the correlation observed between actual and predicted admission decisions.

1. Results: Law School Graduation Data

The *LSAC Bar Passage Study*[80] longitudinal database of information about students who entered law school in Fall 1991 provides a unique opportunity to examine law school completion rates for students who would not have been admitted to law school if a model based only on LSAT score and UGPA were used. These data are compared with similar data for students who would have been admitted under that model. The data in Table 7 show a cross-tabulation of the number and percentage of students in seven ethnic groups who would and would not have been admitted to the school they attended and the number and percentage from each group who did and did not graduate from law school. These data complement the previous discussion about the role of LSAT score and UGPA as sole determinants of who is most qualified to attend law school.[81] While the correlation of LSAT score and UGPA with first-year grades in law school is sufficient to support the validity of their use as part of the admission process,[82] the data in Table 7 suggest that they are not significant predictors of graduation from law school. Within several ethnic groups, the proportion of students who would have been admitted by the model and who graduated slightly exceeds the proportion who would not have been admitted and who graduated. For Mexican American and white students, however, the proportion who would not have been accepted and who graduated slightly exceeds the proportion of graduates among those who would have been accepted. Regardless, the differences are not significant in either direction for any group. Specifically, a chi-square test of independence supports that predicted admission decision is independent of graduation within every ethnic group.

More important than the identification of the limitation of the utility of LSAT score and UGPA in predicting graduation, however, are the actual graduation rates reported in Table 7. The graduation rates among those students who would not have been provided an

---

[79] See supra note 52 (explaining effect size).
[80] See supra note 8.
[81] See supra Part I.
[82] See supra Part II.A.

TABLE 7

DISTRIBUTION OF FALL 1991 FIRST-YEAR LAW STUDENTS BY ETHNIC GROUP, PREDICTED ADMISSION DECISION, AND LAW SCHOOL GRADUATION

Ethnic Group	Predicted Admission Decision		Law School Graduation	
			No	Yes
American Indian	Yes	Number	5	30
		Percent*	14.29	85.71
	No	Number	23	84
		Percent	21.50	78.50
Asian American	Yes	Number	41	394
		Percent	9.43	90.57
	No	Number	76	574
		Percent	11.69	88.31
Black	Yes	Number	32	132
		Percent	19.51	80.49
	No	Number	372	1,311
		Percent	22.10	77.90
Hispanic	Yes	Number	25	198
		Percent	11.21	88.79
	No	Number	46	342
		Percent	11.86	88.14
Mexican American	Yes	Number	14	53
		Percent	20.90	79.10
	No	Number	82	362
		Percent	18.47	81.53
Puerto Rican	Yes	Number	2	23
		Percent	8.00	92.00
	No	Number	25	115
		Percent	17.86	82.14
White	Yes	Number	1,772	16,141
		Percent	9.89	90.11
	No	Number	408	4,115
		Percent	9.02	90.98

* Percent shows row percentages.

opportunity to enter law school under the regression model is impressive, strongly supporting the claim by legal education administrators that law schools offer admission to only those students of color who are qualified to meet the demands of law school academic work.[83] The black students in this sample came to law school with UGPAs that are, on average, nearly one standard deviation below those of the white students and LSAT scores that average more than one-and-a-half standard deviations below.[84] Even so, 78% of those who would not have been granted admission if the decision rested entirely on those numerical indicators attained graduation. This rate is not signif-

---

[83] See, e.g., Taylor, supra note 3, at B3 (arguing that number of applicants allows schools to fill classes with qualified students while also considering diversity factors).

[84] The LSAT and UGPA means and standard deviations for these Fall 1991 first-year students are:

icantly below the graduation rate attained by those black students whose admission status would have remained unchanged by the regression model.

In interpreting these data, it is important to keep in mind that not only were a higher proportion of students of color at some academic risk, but students of color also represented a higher proportion of students from lower SES backgrounds.[85] Academic difficulty is not the only reason that some students failed to graduate from law school. Data from the *First Follow-up Questionnaire* distributed as part of the *LSAC Bar Passage Study* suggest that financial considerations are among the most common reasons provided by students who dropped out during their first year of law school.[86]

2. Bar Examination Passage Rate Analyses

The *LSAC Bar Passage Study* longitudinal database also carries data about bar examination performance for participants.[87] The graduation data provided in Table 7 is only partial evidence of positive outcomes associated with affirmative action admission practices. Bar passage rates provide another outcome variable against which those who would not have been accepted by the model can be compared with those who would have been accepted.

With few exceptions,[88] graduation is not sufficient for entry to the profession; graduates must also take the bar examination. In order to evaluate the additional outcome of entry to the profession, bar examination results data were examined. Table 8 shows the proportion of students who passed and failed the bar examination separately by ethnic group and by whether or not they would have been admitted to law school by the LSAT/UGPA-combined model. Note that the data in this table represent only those students who graduated from law school and for whom bar examination data were available.[89]

	White	Black
Number of students	22,436	1,847
LSAT Mean	37.36	28.68
Standard deviation	5.09	6.00
UGPA Mean	3.26	2.86
Standard deviation	.40	.43

[85] See supra note 51.

[86] See Wightman, supra note 51, at 106-07.

[87] See supra note 8.

[88] See Admission to Bar by States—1991, 1992, 1993, 1994, and 1995, The Bar Examiner, May 1996, at 32, 32 (showing that Wisconsin still offers diploma privilege to select schools).

[89] At the time the data for this study were analyzed, 24,235 of the 27,135 Fall 1991 first-year students who agreed to the release of their law school and bar performance data were

The bar passage rates among those students who would not have gained admission using the LSAT/UGPA-combined regression model are compelling. Across all ethnic groups, for those students who were predicted *not* to be admitted, the bar passage rates range from 72.5 to 93.3%. Among those who were predicted to be admitted, the pass rates range from 85.2 to 96.6%.[90]

TABLE 8

DISTRIBUTION OF FALL 1991 FIRST-YEAR LAW STUDENTS BY ETHNIC GROUP, PREDICTED ADMISSION DECISION, AND BAR EXAMINATION STATUS

Ethnic Group	Predicted Admission Decision	Bar Examination Status	
		Fail	Pass
American Indian	Yes	4	23
		14.81*	85.19
	No	17	55
		23.61	76.39
Asian American	Yes	21	341
		5.80	94.20
	No	61	454
		11.84	88.16
Black	Yes	12	111
		9.76	90.24
	No	320	859
		27.14	72.86
Hispanic	Yes	13	174
		6.95	93.05
	No	52	251
		17.16	82.84
Mexican American	Yes	4	46
		8.00	92.00
	No	44	295
		12.98	87.02
Puerto Rican	Yes	1	21
		4.55	95.45
	No	27	71
		27.55	72.45
White	Yes	507	14,397
		3.40	96.60
	No	249	3,482
		6.67	93.33

* Percent shows row percentages.

For completeness, a logistic regression model was constructed to evaluate the relationship between LSAT score, UGPA, and bar examination pass/fail status. The statistical indicators confirm that these

---

known to have graduated. Among these graduates, bar examination data are available for 22,239.

[90] For students who took the bar examination more than one time, status is reported as pass if they passed at least one bar examination.

data fit the model, but the correlation between actual pass and pre-
dicted pass is only .30—considerably lower than the correlation be-
tween actual and predicted admission decisions reported earlier in this
study.[91] This low correlation is partly attributable to the overall
93.8% pass rate among this sample.[92] Thus, even though the regres-
sion model suggests a relationship between the predictor variables and
the pass/fail criterion measure, it is not a strong one. A chi-square test
of independence between predicted admission decision (yes/no) and
bar passage status (pass/fail) confirms this conclusion. That is, the
data show a statistically significant relationship and a small effect size
for Asian American, black, Hispanic, and Puerto Rican students, a
statistically but not practically significant one for white students, but
no relationship between the two variables for American Indian and
Mexican American students.[93] Thus, the data suggest little to no dif-
ference in the likelihood of passing the bar examination between stu-
dents predicted to be admitted to law school and those predicted *not*
to be admitted by a model that depends only on LSAT score and
UGPA.

III
ALTERNATIVES TO RACE OR ETHNICITY AS ADMISSION
FACTORS TO ACHIEVE DIVERSITY

Advocating an admission process that does not take race into
consideration is not necessarily to advocate a process that relies solely
on numeric indicators of individual academic achievement. Some
commentators suggest that there are a variety of factors that should be
used in the admission process that might identify diversity contribu-
tions or evidence of lack of educational opportunity.[94] Such factors

---

[91] See supra notes 23-27 and accompanying text (discussing logistic regression admis-
sion model fit).

[92] The pass rate for this sample appears to be reasonably representative of the 1994
graduating class. For the majority of those who entered law school in Fall 1991, the first
opportunity to take the bar examination was July 1994. Following that administration, the
National Conference of Bar Examiners (NCBE) announced an overall pass rate among
first-time takers of 84.7%. See National Conference of Bar Exam'rs, 1994 Statistics, The
Bar Examiner, May 1995, at 12-14 (providing state-by-state bar passage numbers). Consid-
ering that LSAC data include repeater data, they were consistent with the national results
reported by the NCBE, suggesting that this sample is representative of the population from
which it was drawn.

[93] The statistically significant chi-square for white students is a consequence of the large
sample size. The w is .07, not large enough to be considered even a small effect. See supra
note 52 (explaining effect size).

[94] See, e.g., Chris Klein, With Diversity Under Attack, Private Schools Seek Alterna-
tives, Nat'l L.J., Apr. 29, 1996, at A18 (describing law school dean's intention to "prob[e]
the economic, social and geographic traits of the applicants"); Regent Softens Stance on

could result in a student body that would be diverse along a variety of dimensions, including race. Based on the data from the samples used in this study, three of the often-identified factors that might foster diversity—socioeconomic status, selectivity of undergraduate school, and undergraduate major—were evaluated. None of these factors produced a highly qualified, ethnically diverse student body when considered in the admission process without simultaneous consideration of race.

The final analyses of this study focus on the apparent impact on the ethnic diversity of the admitted class if these factors, rather than race, are taken into consideration systematically in making admission decisions. These analyses fail to provide evidence that any of the three factors, when used independent of or without knowledge of race, would result in an admitted-student pool that mirrors the ethnic diversity achieved under current admission practice.

A. Socioeconomic Status Analyses

Some commentators have suggested using SES as an appropriate diversity factor.[95] Rather than focus on the broader question of whether it should be an additional factor in law school admission decisions, the analyses undertaken here focus on whether SES could function as a surrogate for ethnicity or otherwise ensure an ethnically diverse student body without the use of ethnicity as a specific factor at all.

There is no universally accepted index of SES, but parents' or father's occupation or education and family income are among the most frequently used surrogates. For these analyses, an SES index generated from five standard indicators of SES—mother's occupation, father's occupation, mother's education, father's education, and approximate level of family income at the time the respondent was in high school—were used. The data were self-reported by Fall 1991 first-year students who participated in the *LSAC Bar Passage Study*.[96] The index was generated using a cluster analysis methodology.[97] The goal of the cluster analysis was to develop an index that would classify each responding student into a definable, homogeneous SES category. Four SES clusters of approximately equal size were found, and are defined as follows:

Affirmative Action, N.Y. Times, June 21, 1995, at A14 (describing suggestion of University of California regent to use "poverty and 'life experiences'" as factors).

[95] See sources cited supra note 94.

[96] See supra note 8.

[97] For a technical description of the statistical methodology used to develop this SES index, see Wightman, supra note 11, at 10 n.14.

Upper. Both mothers and fathers of students in this group had graduate or professional training and held professional jobs. The level of education and the level of occupation are virtually identical for both the parents of these students.

Upper-Middle. Fathers in this group tend to be professional workers, but mothers are white-collar workers or homemakers. Fathers of these students are also likely to hold graduate or professional degrees, while mothers tend to have associate or bachelor's degrees, but no graduate or professional training.

Middle. Fathers of students in this group tend to hold white-collar nonprofessional jobs, while mothers tend to hold a mix of blue-collar and white-collar nonprofessional jobs. Additionally, fathers of students in this group have some college experience, with many holding an associate's degree. Mothers tend to have less education than fathers, but at least a high school diploma. Students in this and each of the higher SES groups reported average to above average family income when they were in high school.

Lower-Middle. Both mothers and fathers of students in this group tend to be blue-collar workers and are not college educated. Many have less than a high school education. Additionally, students in this group described their family income when they were in high school as below average.

One limitation of the analyses presented here is that SES data are available only for the admitted students, not for all applicants. Thus, SES cannot be added as a variable to the mathematical models of law school admission, which were developed using data from all applicants. As alternatives, the SES distribution by ethnic group, the mean LSAT scores and UGPAs by SES group within ethnic group, and the impact of weighting SES factors on the predicted admission status of the Fall 1991 first-year students were examined.

The SES breakdown by ethnic group and predicted admission status is shown in Table 9. These data do not show statistically significant differences between predicted "Admit? *Yes*" and "Admit? *No*" categories across SES group for any ethnic group.[98] For example, the data show that 90% of upper-SES black students would not have been admitted compared with 92% of lower-middle-SES black students. Although the percentages are dramatically different, the pattern is the same for white students. That is, 20% of upper-SES white students would not have been admitted compared with 19% of lower-middle-SES students. These data suggest that schools are not currently plac-

---

[98] The χ^2 value for white students is statistically significant as a consequence of the large sample size, but the effect size $w = .03$, suggesting no practical significance. See supra note 52 (explaining effect size).

ing special consideration or weight on SES factors in the admission process.

Mean LSAT score and mean UGPA by SES and ethnic group, shown in Table 10,[99] add complexity to the question of what role SES might play as a factor in admission decisions. For each ethnic group except Puerto Rican, the data tend to show a steady decline in LSAT score across SES groups.

This same trend is not present within UGPA data. It is tempting to interpret a linear relationship between SES and test scores, like the one evidenced in Table 10, as evidence of cultural bias in standardized admission tests. There are alternative explanations for the observed relationship. One such explanation is the statistically significant relationship that exists between selectivity of undergraduate school and SES,[100] which suggests that the observed differences in test scores may reflect differences in educational opportunity. Untangling these explanations is beyond the scope of this study and needs to be the subject of separate research efforts. The relevant issue for the purpose of this study is that the differences exist consistently within each ethnic

---

[99] The standard deviations for the means shown in Table 10 are as follows:

TABLE N6

| Ethnic Group | SD UGPA | | | | SD LSAT | | | |
| | SES Group | | | | SES Group | | | |
	Upper	Upper-Middle	Middle	Lower-Middle	Upper	Upper-Middle	Middle	Lower-Middle
American Indian	0.42	0.48	0.40	0.51	5.80	5.41	5.25	6.74
Asian American	0.40	0.43	0.41	0.40	5.75	5.68	5.45	5.23
Black	0.43	0.38	0.45	0.43	6.00	6.33	5.51	5.76
Hispanic	0.44	0.41	0.42	0.40	5.55	5.79	5.80	6.56
Mexican American	0.40	0.40	0.42	0.38	4.71	5.54	4.90	5.77
Puerto Rican	0.39	0.47	0.39	0.39	4.11	7.42	6.73	6.17
White	0.39	0.40	0.40	0.41	5.00	5.12	4.95	5.06

The sample sizes for the means shown in Table 10 are as follows:

TABLE N7

| Ethnic Group | SES Group | | | |
	Upper	Upper-Middle	Middle	Lower-Middle
American Indian	32	16	25	69
Asian American	277	322	239	247
Black	488	142	280	937
Hispanic	114	123	133	241
Mexican American	74	57	96	284
Puerto Rican	24	27	35	79
White	5,424	5,762	6,247	5,002

[100] See Wightman, supra note 30, at 16 & 19 n.17.

TABLE 9
DISTRIBUTION OF FALL 1991 FIRST-YEAR LAW STUDENTS BY
ETHNIC GROUP, PREDICTED ADMISSION DECISION, AND SES

Ethnic Group	Predicted Admission Decision	SES			
		Upper	Upper-Middle	Middle	Lower-Middle
American Indian	Yes	8	4	6	17
		25.00*	25.00	24.00	24.64
	No	24	12	19	52
		75.00	75.00	76.00	75.36
Asian American	Yes	109	147	91	88
		39.35	45.65	38.08	35.63
	No	168	175	148	159
		60.65	54.35	61.92	64.37
Black	Yes	50	14	21	79
		10.25	9.86	7.50	8.43
	No	438	128	259	858
		89.75	90.14	92.50	91.57
Hispanic	Yes	41	53	56	73
		35.96	43.09	42.11	30.29
	No	73	70	77	168
		64.04	56.91	57.89	69.71
Mexican American	Yes	10	8	19	30
		13.51	14.04	19.79	10.56
	No	64	49	77	254
		86.49	85.96	80.21	89.44
Puerto Rican	Yes	3	5	10	7
		12.50	18.52	28.57	8.86
	No	21	22	25	72
		87.50	81.48	71.43	91.14
White	Yes	4,342	4,455	5,054	4,061
		80.05	77.32	80.90	81.19
	No	1,082	1,307	1,193	941
		19.95	22.68	19.10	18.81

* Percent shows within group column percentages.

group, suggesting that, to the extent that SES receives weight as an admission factor, the applicants within each ethnic group who would be the beneficiaries of the extra consideration would be those who demonstrate less of the acquired skills measured by the test when compared with applicants from higher SES groups within the same ethnic group.

A second striking feature of the data presented in Table 10 is the difference in both LSAT score and UGPA among ethnic groups within the same SES group. The pattern among the ethnic groups is similar within each SES group. Among upper-SES students, for example, white students earned the highest mean LSAT score and black students the lowest. The data also show that the mean LSAT for upper-SES black students is more than one standard deviation below the mean for lower-middle-SES white students. In combination, these observations suggest that use of SES as a quantified factor in the admis-

TABLE 10
LSAT AND UGPA MEANS BY ETHNIC GROUP AND SES FOR FALL
1991 FIRST-YEAR LAW SCHOOL STUDENTS

	Mean UGPA				Mean LSAT			
	SES Group				SES Group			
Ethnic Group	Upper	Upper-Middle	Middle	Lower-Middle	Upper	Upper-Middle	Middle	Lower-Middle
American Indian	2.86	2.93	3.00	2.94	34.70	31.76	31.17	31.72
Asian American	3.26	3.21	3.19	3.16	37.16	37.09	35.60	34.17
Black	2.87	2.79	2.87	2.87	30.62	30.66	28.20	27.51
Hispanic	3.16	3.14	3.09	3.14	34.95	34.55	34.16	31.63
Mexican American	3.08	2.99	3.02	3.02	34.78	33.80	33.78	31.24
Puerto Rican	3.00	3.01	3.10	3.01	32.15	32.94	33.93	29.91
White	3.27	3.24	3.23	3.29	38.31	37.90	36.95	36.24

sion process without consideration of ethnicity has the potential of giving preference to applicants who are likely to be at higher risk in terms of minimum academic credentials. If SES is quantified and then weighted, it has the potential to foster admission decisions that would result in a disparity in LSAT scores between admitted white applicants and admitted applicants of color that is even wider than the disparity reported in Table 10. Limited empirical evaluation of these possibilities was conducted using the Fall 1991 first-year law student data.

In order to evaluate the impact on both the number of students for whom the admission decision would change and the relative strength of their application credentials, various weights for SES were added to the admission probability estimates generated for the Fall 1991 first-year students. The weighted probability for each student was then compared to the original minimum admission criterion, and revised admission decisions were simulated. More specifically, if the SES category were upper or upper-middle, no additional weight was added to the probability generated by the model. For those students, probability of admission was a function only of LSAT and UGPA in combination, using the logistic regression parameters developed for the school that each attended. As before, the simulated admission decision was a result of comparing the probability calculated for the student to the lowest probability for that school among applicants defined as admitted by the model. Weighted values were added to the probabilities for students classified as middle and lower-middle SES before the simulated admission comparison was made. Even after applying weights that had the effect of adding a value as large as .075 to the probability of middle-class applicants and .1 to the probability of

lower-middle-class applicants,[101] only 57 applicants from all ethnic groups were added to the predicted-to-be-accepted category. Among those, 82% (47 students) were black, and this group included black students with significantly lower LSAT scores and lower UGPAs than those of black students not admitted under the model. Doubling the weight would increase the number of black students predicted to be admitted to 103, and the number of other students of color predicted to be admitted to 27. Within each group, those students predicted to be admitted solely as a result of applying these extreme SES weights had mean LSAT scores and UGPAs significantly lower than the scores of those students from the same ethnic group whose decision status did not change. Specifically, the mean LSAT score for those black students whose predicted admission status would change from not admitted to admitted is 23.64 compared with a mean of 28.54 for those who remain classified as not admitted. The mean UGPAs for those same groups of black students are 2.75 and 2.85 respectively. These data serve as a stark reminder that there is still much about the interrelationships among cultural diversity, SES status, educational opportunity, and performance on standardized tests that is not understood. More importantly, the data demonstrate the importance of carefully evaluating the impact of formulaically including alternative admission factors. Such an evaluation should include measures of overall consequences, particularly with regard to the overall academic preparedness of the affected applicants and the apparent fairness among applicants within the same ethnic or other targeted diversity group.

B. *Undergraduate School Selectivity Analyses*

Another factor that can be included in a law school admission model is the quality of the degree-granting undergraduate school. Some of the characteristics of the applicants' undergraduate schools may be related to both LSAT score and UGPA. For example, a lower UGPA from a more selective or more competitive undergraduate school might reflect a higher level of achievement than a higher UGPA from a less selective school. There are anecdotal suggestions that, among the factors they consider, some law schools currently include an estimate of the quality of undergraduate school based on the mean LSAT of test takers from that school, but the exact procedures

---

[101] For example, a middle-class applicant whose probability of admission was .40 before weighting had a probability of .475 after weighting. Likewise, a lower-middle-class applicant whose probability of admission was .40 before weighting had a probability of .50 after weighting.

that they use are not publicly available.[102] For this study, undergraduate school selectivity was classified as very high, high, medium, and low using the selectivity categorization assigned by Alexander Astin, Eric Dey, William Korn, and Ellyne Riggs.[103] The selectivity index they developed to define strata for four-year colleges and universities is an estimate of the mean score of entering freshmen on the verbal and quantitative portions of the SAT, or the converted equivalents of the American College Test (ACT) composite.

The undergraduate school selectivity analyses conducted for this study were based on the 1990-1991 applicant data, in contrast to the SES analyses that were, by necessity, based on the Fall 1991 entering class data. Data from the 1990-1991 applicants suggest that selectivity of undergraduate school is not independent of ethnic group. The statistical significance is attributable primarily to the attendance patterns of Asian American students, who attended very-high- and high-selectivity undergraduate schools in a significantly higher proportion than students in any other group. The data also show that within each undergraduate school selectivity group, ethnic group is statistically independent of actual admission decision, but is not independent of the decision predicted by the LSAT/UGPA-combined logistic regression model.[104] The distribution of the 1990-1991 applicants by ethnic group, predicted admission decision, and undergraduate school selectivity is shown in Table 11. Specifically, within each selectivity index group, Table 11 shows that the proportion of white applicants predicted by the regression model to be admitted is significantly greater than the proportion predicted for any other ethnic group. These findings are consistent with the data reported previously by showing that the mean LSAT and UGPA for white applicants is significantly higher than the means for any other ethnic group except Asian Americans. These data also show that in actual admission decisions within each ethnic group, applicants from more highly selective undergraduate schools are no more likely to gain admission to law school than are applicants from less selective schools. In contrast, when the predicted admission decisions derived from the logistic regression model are considered (again within ethnic group), applicants from the more

---

[102] See, e.g., supra note 34 (quote stating NYU's policy to consider competitiveness of undergraduate school).

[103] See Alexander W. Astin et al., American Council on Educ., The American Freshman: National Norms for Fall 1991, at 94-95 (1991) (presenting statistical portraits of students entering college).

[104] A chi-square test of independence shows the relationship between ethnic group and predicted admission decision to be both statistically (p < .001) and practically significant for each undergraduate-school-selectivity index category. The effect size w ranges between .25 and .29 among the four categories examined. See supra note 52 (explaining effect size).

highly selective undergraduate schools are predicted to be admitted in greater numbers than applicants from less selective schools.

Two conclusions can be drawn from these analyses. First, the data suggest that undergraduate school selectivity is not an important factor in current admission practice. That is, undergraduate school selectivity is statistically independent of actual admission decisions. Second, the data do not support using undergraduate school selectivity as an additional quantitative factor to increase the ethnic diversity of the admitted applicants in an admission model that relies exclusively on LSAT score and UGPA. Support is absent partly because, within each ethnic group, the proportion predicted to be admitted already is higher among the higher selectivity schools than among the middle or lower selectivity schools and partly because, within each selectivity group, the mean LSAT scores and UGPAs of white applicants predicted not to be admitted exceed those of the applicants of color. The most frequently observed consequence of adding undergraduate school selectivity to the admission model is to advantage white applicants from higher selectivity schools over any applicants from lower selectivity schools.

C. Undergraduate Major Analyses

The final potential admission factor examined was undergraduate major area. These data analyses were undertaken to examine whether members of different ethnic groups are more likely to be clustered in specific major groups, whether ethnic group members might be differentially admitted from different major areas, and finally, whether the difference in probability of admission between white applicants and applicants of color diminishes after controlling for undergraduate major area. Seven major areas were identified from undergraduate major information self-reported by law school applicants: arts/ humanities, computer science, natural science, health professions, business/management, engineering, and social science. Again, these analyses were based on the full 1990-1991 applicant pool. The results indicate that ethnic group membership is independent of undergraduate major category. Thus, there is no support for the hypothesis that members of certain ethnic groups tend to be clustered in specific undergraduate major areas.

Within each undergraduate major category, ethnic group is independent of actual admission decision, but not independent of predicted admission decision.[105] Table 12 shows the distribution of 1990-

---

[105] A chi-square test of independence shows the relationship between ethnic group and predicted admission decision to be both statistically ($p < .001$) and practically significant

TABLE 11

DISTRIBUTION OF 1990-1991 LAW SCHOOL APPLICANTS BY ETHNIC
GROUP, PREDICTED ADMISSION DECISION, AND UNDERGRADUATE
SCHOOL SELECTIVITY

Ethnic Group	Predicted Admission Decision	Undergraduate School Selectivity			
		Very High	High	Middle	Low
American Indian	Yes	17	39	27	63
		33.33*	38.24	27.84	29.03
	No	34	63	70	154
		66.67	61.76	72.16	70.97
Asian American	Yes	448	496	261	240
		51.44	40.69	34.80	34.88
	No	423	723	489	448
		48.56	59.31	65.20	65.12
Black	Yes	115	124	127	329
		14.50	10.10	8.28	10.08
	No	678	1,104	1,406	2,935
		85.50	89.90	91.72	89.92
Hispanic	Yes	97	239	148	191
		44.91	34.79	28.14	23.82
	No	119	448	378	611
		55.09	65.21	71.86	76.18
Mexican American	Yes	35	82	60	75
		32.71	24.77	24.79	19.04
	No	72	249	182	319
		67.29	75.23	75.21	80.96
Puerto Rican	Yes	24	26	23	28
		21.62	19.55	14.65	13.86
	No	87	107	134	174
		78.38	80.45	85.35	86.14
White	Yes	6,798	10,948	10,862	10,726
		64.95	58.81	53.20	51.15
	No	3,669	7,668	9,554	10,244
		35.05	41.19	46.80	48.85

* Percent shows within group column percentages.

1991 applicants by ethnic group, predicted admission decision, and undergraduate major category. As was the case for the undergraduate-school-selectivity index groups, within each undergraduate major area group, the proportion of white students predicted to gain admission was significantly greater than the proportion in any other ethnic group. For example, 56% of white applicants who were social science majors are predicted to be admitted, compared to 9% of black social science major applicants. This finding is not independent of the significantly higher LSAT scores and UGPAs earned by white students in each of these groups. Thus, these analyses suggest that targeting specific undergraduate major areas in the admission process will not significantly increase the number of potential students from any specific

for each undergraduate major area. The effect size *w* ranges between .19 and .29 among the seven major areas examined. See supra note 52 (explaining effect size).

ethnic group. Additionally, the data show that even when undergraduate major area is held constant, the proportion predicted to be admitted to law school is significantly higher for white applicants than it is for applicants of color.

TABLE 12
DISTRIBUTION OF 1990-1991 LAW SCHOOL APPLICANTS BY ETHNIC
GROUP, PREDICTED ADMISSION DECISION, AND
UNDERGRADUATE MAJOR

Ethnic Group	Predicted Admission Decision	Undergraduate Major						
		Arts/ Humanities	Computer Science	Natural Science	Health Professions	Business/ Management	Engineering	Social Science
American Indian	Yes	32	1	7	3	31	7	68
		34.41*	100.00	43.75	25.00	28.44	43.75	29.96
	No	61	0	9	9	78	9	159
		65.59	0.00	56.25	75.00	71.56	56.25	70.04
Asian American	Yes	264	27	84	14	419	91	563
		40.06	46.55	39.07	35.00	45.89	33.33	39.10
	No	395	31	131	26	494	182	877
		59.94	53.45	60.93	65.00	54.11	66.67	60.90
Black	Yes	140	8	31	8	163	25	312
		10.91	11.27	15.35	5.19	10.77	13.23	9.28
	No	1,143	63	171	146	1,351	164	3,050
		89.09	88.73	84.65	94.81	89.23	86.77	90.72
Hispanic	Yes	133	2	21	4	195	26	299
		33.93	16.67	45.65	28.57	33.39	35.62	27.06
	No	259	10	25	10	389	47	806
		66.07	83.33	54.35	71.43	66.61	64.38	72.94
Mexican American	Yes	56	1	9	1	54	6	127
		26.05	16.67	30.00	14.29	25.12	24.00	22.32
	No	159	5	21	6	161	19	442
		73.95	83.33	70.00	85.71	74.88	76.00	77.68
Puerto Rican	Yes	24	1	8	0	20	2	46
		21.62	25.00	38.10	0.00	15.50	18.18	14.38
	No	87	3	13	6	109	9	274
		78.38	75.00	61.90	100.00	84.50	81.82	85.63
White	Yes	8,274	223	1,748	476	10,077	1,309	17,335
		57.20	54.00	54.29	40.51	56.14	50.58	55.80
	No	6,190	190	1,472	699	7,872	1,279	13,731
		42.80	46.00	45.71	59.49	43.86	49.42	44.20

* Percent shows within group column percentages.

SUMMARY AND CONCLUSIONS

This study used a variety of statistical methods and law school application, admission, and performance data as well as bar examination performance data to empirically evaluate inquiries and assertions about affirmative action admission practices and outcomes in legal education. First, two models that use LSAT score and UGPA as

predictors of law school admission were developed.[106] These models were used to examine whether there continues to be a need for affirmative action admission practices in legal education to assure a qualified, ethnically diverse student body. The outcomes from these analyses confirmed that an admission model that relied on LSAT and UGPA (which captured quite accurately the admission decisions for white applicants made by law schools in 1990-1991) would result in a law school student body that mirrored the ethnic makeup of law schools of thirty years ago.[107]

This study posits that a realistic admission model is one that evaluates probability of admission for each applicant separately for each of the schools to which applications were submitted. The procedure followed was to first model the data for white applicants and then, if the data fit the model, determine whether the model predicted decisions for applicants of color equally well. Logistic regression methods were used to build such a model. A separate regression model was developed for each law school using its own applicant data and admission decisions. This resulted in a weight that could be applied either to the LSAT score and UGPA used in combination or to the UGPA alone for each applicant such that the model would maximally predict the school's admission decisions. Evaluation of the models revealed that a two-variable prediction model fits the law school admission data very well. The correlation between actual and predicted admission decisions using the two-variable model for white applicants was .78 across all the law schools. Using the UGPA as the only predictor does not fit quite so well as the two-variable model; the correlation between actual and predicted admission was .49. The correlations between actual admission decisions and decisions predicted by the models were considerably lower for each nonwhite group of applicants, suggesting that factors other than LSAT and UGPA were included in admission decisions for applicants of color. Even more persuasive is the finding that the number of predicted admissions for each nonwhite group is significantly lower than the number of actual admissions. Applying these models produced an elegiac picture of predicted ethnic diversity in legal education. Results showed that only 41% of the students of color who were offered admission to law school during the 1990-1991 application year were predicted to be admitted by the two-variable logistic regression model. When Asian American applicants were excluded, the predicted admissions dropped to 32% of the actual admissions. The most adversely affected group of applicants would be

---

[106] See supra Part I.A.
[107] See supra Part I.B.

black applicants. Only 10% of those applicants who gained an offer of admission were predicted to have been admitted under this model.

The impact of a race-blind admission model was also evaluated using an alternative model that is conceptually and mathematically simpler. The alternative model collapses data across law schools and estimates the number of applicants from each ethnic group who would have been offered admission to at least one, but any one, of the 173 law schools included in the study. This model required the calculation of the proportion of admitted white applicants to total white applicants observed within various ranges of LSAT scores and UGPAs. These proportions were then applied to applicants of color within the same ranges of scores and grades. The LSAT and UGPA ranges were placed into a nine-by-eight grid, thus the method is referred to as the "Law School Grid Model." The results paralleled the data for the logistic regression model and showed that approximately 65% of the students of color who were offered admission to law school during the 1990-1991 application year were predicted to be admitted under the Law School Grid Model. When Asian American applicants (whose mean LSAT scores and UGPAs approximately equalled those of white applicants) were excluded, the predicted admissions dropped to 57% of the actual admissions. Once again, black applicants were the most severely affected. Only 23% of black applicants who gained an offer of admission were predicted to be admitted under this model.

The Law School Grid Model was developed primarily to evaluate the claim that affirmative action admission practices do not increase the overall number of minority law students, but simply allocate students of color differently among the law schools.[103] One limitation of the Law School Grid Model, as well as of the claim of differential allocation, is the assumption that students of color would be willing and able to attend the schools that are most likely to offer them admission. More than half of the black applicants in this study had LSAT scores lower than 35 and UGPAs less than 3.25. The data suggest that approximately three quarters of the white applicants with academic credentials in those ranges attended law schools that are among the more expensive and have the lowest percentages of minority students. These data cast doubt on the assumption that applicants of color could simply be reallocated to these law schools. The other group of schools that most frequently accepts students in those ranges reports minority enrollments of 50% or more. Given that no seats in these schools were left empty, and that the number of seats would be unlikely to increase, the lowest scoring applicants to these schools

---

[103] See Summers, supra note 13, at 384.

would likely lose their opportunity to attend law school if higher scoring applicants of color were reallocated. The net result remains the likely reduction of a substantial proportion of students of color in legal education.

The study next examined the issue of the appropriate use of the LSAT score and UGPA in the admission process.[109] Frequently, objections to the use of these measures in the admission process are raised within the context of validity, particularly validity of the LSAT. This study reviews available data to explain the purpose for which the test is valid and the substantial evidence that exists to support that validity. The study also presents data to support the validity of the test specifically for black, Hispanic, and Mexican American applicants. The final discussion of inappropriate use and overreliance on these measures focuses on data from the *LSAC Bar Passage Study*.[110] These data are used to illustrate some outcomes of current law school admission practices and to compare them with admission practices that would result from relying solely on LSAT and UGPA. Analyses of the *LSAC Bar Passage Study* data show first that law school graduation is statistically independent of admission predicted from LSAT and UGPA for every ethnic group. They also show that when a separate logistic regression model is built for each law school (i.e., LSAT and UGPA are used to predict whether graduation will or will not occur) these two variables are not significant predictors of graduation. Additionally, analyses of these bar passage data demonstrate that a logistic regression model that predicts bar passage from LSAT score and UGPA does not fit the data nearly as well as the model to predict law school admission does. The correlation between predicted and actual bar passage is .30. The same data also show that for most, but not all, ethnic groups, there is a statistically significant relationship between passing a bar examination and predicted admission to law school.

The final section of the study examines other factors that might be included in an admission model to analyze the impact including such factors might have on the ethnic distribution of the admitted applicants.[111] Three factors are examined: socioeconomic status, selectivity of the degree-granting undergraduate school, and undergraduate major. None of these factors showed promise for helping to identify an ethnically diverse group of qualified students. Evaluation of the SES data, in particular, highlights the dilemma of

---

[109] See discussion supra Part II.
[110] See supra note 8 and accompanying text.
[111] See discussion supra Part III.

employing a surrogate for race in the admission process. When students were separated by SES group, using self-reported measures of SES, the data showed that the lowest SES students within each ethnic group reported the lowest LSAT scores. One consequence of applying sufficient weight to SES to change the predicted admission decision for some students is that the students who would be admitted under an SES-weighted model would have LSAT scores and UGPAs that are statistically significantly lower than the scores and grades of other students in the same ethnic group who would not be admitted. This practice would have the effect both of admitting students of higher academic risk and of widening the gap in academic preparation between admitted white students and admitted students of color.

In summary, the data presented in this study provide bleak prospects for continued ethnic diversity in legal education if admission decisions depend on a model defined exclusively by LSAT score and UGPA or, by extension, an admission practice that yields results that parallel those predicted by an LSAT/UGPA model. The inappropriateness of relying on those two quantitative indicators of acquired academic skills is not a consequence of their overall lack of validity for the purpose for which they are intended, and, in fact, data are reported and cited herein to unequivocally support that validity. The issue rather rises from an inappropriate use of those measures that results not only in a loss of validity but systematic and predictable discriminatory selection in our nation's law schools. Neither LSAC, as the developer of the LSAT, nor the law schools, as users of the scores and gatekeepers of the profession, should tolerate such abuse.