

Predicting Lawyer Effectiveness: Broadening the Basis for Law School Admission Decisions

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Law school admission decisions are heavily influenced by a student's undergraduate grade point average (UGPA) and Law School Admission Test (LSAT) score. These measures, although predictive of first-year law school grades, make no effort to predict professional competence and, for the most part, they do not. These measures also create adverse impact on applicants from underrepresented racial/ethnic groups. This article describes the rationale for and process by which we explored new tests to predict lawyer effectiveness rather than law school grades and reports results of a multiyear empirical study involving over 3,000 graduates from Berkeley Law School and Hastings College of the Law. Tests measuring personality constructs, interests, values, and judgment predicted lawyering competency but had little or no adverse impact on underrepresented minority applicants. Combined with the LSAT and UGPA, these broader tests could assess law applicants on the basis both of projected professional effectiveness and academic indicators.

INTRODUCTION

The role of standardized testing in education has become increasingly controversial over recent years (Sackett, Borneman, and Connelly 2008). This debate includes contention about how postsecondary institutions should make admission decisions.

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Particularly, how should universities define merit and qualification; how should diversity be construed for admissions purposes; and how important is achieving racial, ethnic, economic, or political diversity in higher education? The Supreme Court's decision in *Grutter v. Bollinger* (2003) provided some answers to these questions, offering a constitutional reprieve for limited consideration of race in admissions;¹ however, this decision does not answer whether and how universities can assess the objective and subjective qualifications of applicants.

In law schools, the challenge of creating admission criteria is particularly difficult because, on one hand, law schools seek to admit those with the strongest academic potential; however, on the other, a narrow focus on academics may come at the expense of diversity, professional competency, and society's mandate for the legal profession. Law schools have traditionally relied heavily upon scholastic dimensions, such as an Index score—a scoring compilation based on students' Law School Admission Test (LSAT) scores and their undergraduate grade point average (UGPA), to select potential program candidates. These measures have proven to be valuable predictors of first-year law school grades. However, they do not account for success in the legal profession or for law school outcomes other than first-year grades. The perceived failure of law school admissions committees to focus on an applicant's professional potential has created many complaints (Edwards 1992; American Bar Association 1992 ["MacCrate Report"]; Sullivan et al. 2007 ["Carnegie Report"]).

Other scholars also object to admissions practices they see as reinforcing racial and class privileges (Sturm and Guinier 1996; Kidder 2000, 2001, 2003; Society of American Law Teachers 2003). Research consistently shows that affluent White students perform better on standardized tests, including the LSAT, than their less advantaged or minority peers (Schmidt and Hunter 1981, 1998; Wightman 1997). As a result, a heavy emphasis on LSAT scores in admission decisions substantially reduces the presence of African American and Latino students in law school and the profession as well as diminishing prospects from most non-elite families (Kidder 2000, 2003).

The practices that govern who is admitted into law school play a decisive role in the composition and performance of the legal profession. The limits and downsides of current admission practices, as well as the logic of law schools' role as professional schools, urge us to look beyond student achievement that can predict first-year grades in law school. Our current research sought to explore and demonstrate the importance and potential of an expanded approach to admission decision making.

Using hundreds of interviews with five stakeholder groups, multiple focus groups with law graduates, and more than 2,000 responses to an alumni survey, we identified 26 factors that are important to lawyering effectiveness. Following this finding, we created instruments to measure these professional performance factors and validated the scales through responses from a sample of practicing lawyers. We then identified, selected, and developed new tests (other than the LSAT/UGPA/Index score) that correlated with and predicted the large majority of the 26 factors conducive to lawyering effectiveness. Correlations in our data show that our results were race and gender neutral.

1. The constitutional picture regarding race in admissions is complicated by the fact that some states (e.g., California, Washington, Michigan, and Nebraska) have passed state laws or constitutional initiatives that bar affirmative action in public institutions.

Consequently, the use of expanded measures like ours could substantially reduce the racial and ethnic adverse impact resulting from schools' undue emphasis on the LSAT. This approach could enable law schools to select better prospective lawyers with improved professional skills as well as permit entry for those who are meritorious but typically underrepresented.

LITERATURE REVIEW

Research on Law School Admission Testing

Research on law school admission tests has focused mainly on the efficacy of LSAT and UGPA as predictors of first-year, law school grades. Although some schools weigh other factors for admission, they especially rely on the LSAT because it is standardized and relatively objective. The validity of the LSAT and UGPA as predictors of first-year grades has consistent statistical support (Schrader 1977; Powers 1982; Linn and Hastings 1983; Evans 1984; Wightman 1993; Anthony, Harris, and Pashley 1999; Dalessandro, Stilwell, and Reese 2005).

For example, Dalessandro, Stilwell, and Reese (2005) demonstrated that the combination of LSAT and UGPA correlates approximately .47 with first-year grade point average (FYGPA). They found that on, average, LSAT, by itself, correlates .35 with FYGPA, while UGPA alone correlates approximately .20—although these results varied by law school (from .00 to .60). In a prior study, Dalessandro and colleagues (Stilwell, Dalessandro, and Reese 2003) reported similar findings for the LSAT/UGPA combination from a two-year period. Their results showed a multiple correlation of .49 for LSAT and UGPA as predictors of FYGPA, as well as a similar pattern found by Dalessandro, Stilwell, and Reese (2005) with regard to variability among law schools.

Despite the LSAT's moderately good prediction of FYGPA, a question can be raised about how performance is measured in the Law School Admission Council (LSAC), correlational research studies. The LSAT is a "paper-and-pencil" test that basically measures analytic and logical reasoning, along with reading (Law School Admission Council 1999). With regard to determinants of FYGPA, LSAT scores explain more variance than undergraduate GPA especially in the first year. An empirical study by Henderson (2004) even explored how test-taking speed can predict performance on both the LSAT and eventual law school exams—a finding that increases the predictive validity of the LSAT. However, test-taking speed diminished the predictive value of LSAT significantly when first-year grades were based on take-home exams or papers instead of exams. This secondary finding from Henderson (2004) raises a key discussion: when law students are graded on measurements similar to the LSAT, such as exams that require students to read fact patterns, identify and analyze legal issues, assemble evidence and arguments, and sometimes to assess implications, it seems logical a predictive relationship exists. As such, the predictive value of LSAT with FYGPA are unsurprising at times, especially given that the LSAT was designed to value the skills that law professors most valued and rewarded with high grades (La Piana 1998)—these courses are larger than most and are often measured through examinations rather than other grading methods.

Due to this test development limitation, the LSAT may be measuring cognitive test-taking skills that are rewarded in first-year courses, which are often graded using a similar methodology because professors may find it difficult within the constraints of standard curriculum and methods of assessment to evaluate other types of abilities such as those identified in lawyer effectiveness factors similar to the ones we identified (e.g., Negotiations, Interviewing, Integrity, Problem Solving, Creativity, etc.). These capabilities are not typically reflected in law school exams or grades (FYGPA). Given the criterion FYGPA, it would also be surprising if new measures that were noncognitive in nature could improve the LSAT/UGPA Index predictive value on first-year grades.

Empirical accounts also document racial and ethnic disparities in standardized testing performance and their effect on admission to law school. Wightman (1997) contrasted projected outcomes of admission policies incorporating affirmative action with use of the weighted combination (i.e., LSAT coupled with UGPA) as the main determinant of admission. Based on data from 1990 to 1991, she concluded that sole reliance on LSAT and UGPA would result in systematic exclusion of minorities from law school programs. Wightman did not suggest abandonment of the weighted LSAT/UGPA combination but recommended that other, additional predictors be sought. Norton, Suto, and Reese (2006) examined whether the LSAT and UGPA (individually and jointly) over or under predicts first-year performance of certain subgroups. Based on data of entering students from 2002 to 2004, the researchers found that the combination of LSAT and UGPA resulted in a fairly accurate prediction of first-year law school performance. Furthermore, the differential validity results found varying patterns to those reported for other cognitive ability tests used in employment settings, like the ones explored by Schmidt and Hunter (1981), in that the FYGPA performance of minority students tended to be slightly overpredicted, while performance of White students tended to be underpredicted. These findings replicate those of earlier studies (Wightman and Muller 1990; Anthony and Liu 2000; Stilwell and Pashley 2003).

In sum, the combination of the LSAT and UGPA, and each separately, are valid predictors of the FYGPA criterion. However, the LSAT and UGPA are limited even in this goal because they account for only part of the variance in first-year grades. Diaz et al. (2001) attempted to use these measures to examine other law school performance indicators, such as oral argument rating, but found that the LSAT and other law school admission indicators were not predictive.² Overall, then, the research literature shows that the narrow cognitive predictors used in law school admission can (1) explain only about 25 percent of the variance in FYGPA, (2) have a disparate impact on underrepresented minority groups, and (3) seek to explain only certain types of law school criteria and do not directly seek to explain or predict lawyering effectiveness.

Research on Lawyering Effectiveness

In contrast with studies about predicting grades, research on predicting attorney effectiveness is limited, particularly with respect to the ways in which success as a lawyer

2. In addition, the key aspect of Diaz et al.'s (2001) research was to identify predictors, such as state-anxiety, reaction to tests, measures of anxiety and other noncognitive predictors.

can be defined and measured. One study examined the careers of Michigan Law School alumni and compared the success (i.e., income, career satisfaction, and service contributions) of minority graduates with that of White graduates (Lempert, Chambers, and Adams 2000). Although the researchers did not explore professional performance directly, Lempert, Chambers, and Adams found that the LSAT and UGPA had “virtually no value as predictors of post-law school accomplishments and success” (401–02). One reason for the paucity of research directly assessing, and then predicting, lawyer performance is the difficulty in developing criterion measures of professional effectiveness. The fact that lawyers work in various settings and practice different specialties presents a daunting challenge for identifying common performance measures.

Legal Education and Professional Development: An Educational Continuum, the Report of the Task Force on Law Schools and the Profession: Narrowing the Gap (the “MacCrate Report”), is perhaps the most comprehensive statement of the skills requisite for practicing law (American Bar Association 1992). The MacCrate Report identifies ten skills and values as desirable for practitioners. These skills are (1) Problem solving, (2) Legal analysis and reasoning, (3) Legal research, (4) Factual investigation, (5) Communication, (6) Counseling, (7) Negotiation, (8) Litigation and alternative dispute-resolution procedures, (9) Organization and management of legal work, and (10) Recognizing and resolving ethical dilemmas. The MacCrate Report suggested that this list of skills and values can be useful to practicing lawyers who want to evaluate their own professional capabilities and weaknesses. The critical issue, however, is that the report did not identify a way to measure the degree to which an attorney demonstrates these skills. Having a means or mechanism to systematically measure attorneys’ performance on these skills could provide a basis for creating a measure of lawyering performance and a set of criteria to be used to validate tests with potential for predicting lawyering performance.

Other criteria for lawyer competencies are found in Baird et al. (1979). This report identified 20 characteristics for evaluating lawyers: (1) Ability to work well with clients and groups; (2) Industry, initiative, independence, and effort; (3) Relationships within the firm or organization; (4) Speed, efficiency, and timeliness; (5) Research; (6) General writing ability; (7) Responsibility, dependability, and reliability; (8) Analysis; (9) Judgment and common sense; (10) Creativity and adaptability; (11) Organization; (12) Knowledge of the law; (13) Oral presentation and communication skill; (14) Attitude and willingness to work hard; (15) Supervisory ability; (16) Legal drafting; (17) Relations with external groups and the community; (18) Thoroughness; (19) Quantity of work and results; and (20) Ability to accept and learn from supervision. This report, like the MacCrate Report (American Bar Association 1992), emphasized factors that might be relevant to attorney effectiveness. However, after searching the literature and firms’ practices, the report concluded that very little is known about techniques to measure performance on the factors. Statements such as “Unfortunately, there is little discussion of how one could evaluate these qualities or their lack in the articles reviewed” (Baird et al. 1979, 143) appear throughout the report. Where these researchers did find information regarding formal evaluation systems, they found that the majority of the systems used devices, such as general rating scales or checklists, that were not very well defined.

Hough (1984), who analyzed the work of lawyers practicing at the Federal Trade Commission (FTC), discussed similar factors of lawyering effectiveness. From this

researcher's analysis, eleven performance dimensions emerged: (1) Technical knowledge, (2) Researching/investigating, (3) Using knowledge, (4) Planning and organizing, (5) Writing, (6) Oral communications, (7) Working with others, (8) Assertive advocacy, (9) Working independently, (10) Hard work/dedication, and (11) Professionalism.

What is most notable about these studies is that they identify the critical factors of attorney effectiveness but do not provide methods for measuring actual attorney performance on these factors. The one exception is the study by Hough (1984), who used a behavioral example strategy to identify and develop rating scales that could be used to measure and predict particular aspects of FTC attorney performance. However, this was a limited sample of attorneys and a single practice setting.

Research on Employment Selection

Effective lawyering, like performance in many careers, relies on varied dimensions of human intelligence. As traditionally used in psychometric testing, the category "cognitive" mainly encompasses academic and test-taking capability, especially verbal and numeric knowledge and reasoning. Substantial evidence shows that cognitive ability, in this sense, is a predictor of job performance (Sackett et al. 2001; Schmidt 2002). However, other elements of intelligence—traditionally labeled "nonscholastic or nonacademic" (e.g., personality, interpersonal and communication skills, practical judgment, and creativity)—are also valid predictors of work performance. For example, some evidence suggests that the degree of predicting a candidate's performance in certain positions can be improved if appropriate additional predictors, such as measures of social skills or personality traits, are used in combination with cognitive ability measures (Hunter and Hunter 1984; Guion 1987; Schmitt et al. 1997).

Research also shows that the inclusion of a broad range of work efficacy predictors, which combines valid noncognitive measures of performance with traditional cognitive ability tests, can minimize disadvantages to members of racial, gender, or ethnic groups during the selection process (Hunter and Hunter 1984; Ones, Viswesvaran, and Schmidt 1993; Schmitt et al. 1997). Generally, race/ethnic subgroup differences are smaller, or nonexistent, on noncognitive measures, such as personality inventories.

Considerable research has been employed in the context of employment to identify and validate a range of cognitive and noncognitive predictors of work effectiveness. The findings from this research can possibly inform measurement and selection processes that are more predictive of later work performance for a variety of populations than the use of more generic or extrinsic screening devices, like scholastic tests or degrees. The following section summarizes a number of techniques found for assessing factors predictive of worker effectiveness in various jobs and professions.

Personality and Related Constructs

Strong evidence suggests that certain dimensions of personality are useful in predicting job performance. Generally, personality can be described as those traits,

states, and moods that are stable and enduring over time, and distinguish one person from another (Allport 1937). A broader conceptualization can encompass a person's strengths, weaknesses, values, and motivations (Hogan, Hogan, and Warrenfeltz 2007). Personality is important to performance because the degree to which an individual's personality fits within the requirements of a job or the values of an organization will have a significant impact on both success and satisfaction (Chatman 1991; Kristof 1996).

Much of the research on personality has embraced the Five-Factor Model (FFM; Big 5), which categorizes personality into five broad factors: Extraversion, Agreeableness, Conscientiousness, Neuroticism (Emotional Stability), and Openness to Experience (Wiggins and Trapnell 1997; Saucier and Goldberg 1998). Early meta-analytic work (Barrick and Mount 1991; Tett, Jackson, and Rothstein 1991; Salgado 1997) found that personality holds some utility for predicting job performance. Barrick and Mount (1991) reviewed 117 studies and found personality-performance correlations ranging from .03 to .13 among the five facets of the FFM, with Conscientiousness being the strongest and most consistent predictor of job performance across professions. More recently, Hurtz and Donovan (2000) reexamined the relationship between personality and job performance and found that the mean sample-size weighted correlations ranged from .04 to .14 across dimensions, again with Conscientiousness having the highest predictive validity with performance. Conscientiousness is a general predictor of job performance, and other Big 5 traits predict job performance in specific types of jobs. In other words, different jobs call for different personality profiles and strengths (Hogan, Hogan, and Roberts 1996). Research on the Big 5 also shows so little differential variation is found from scores on the Big 5 measurement across differing racial groups, which implies that there are few ethnic differences (Hough, Oswald, and Ployhart 2001).

Reported correlations between Big 5 factors and job performance of .13 and .14 are relatively small, but these findings mainly reflect bivariate relationships with criteria (Hurtz and Donovan 2000). Regressing the Big 5 factors (as a set) on job performance show coefficients ranging from .1 to .45. Furthermore, individual Big 5 personality traits have specific facet-level characteristics that may have particular relationships with job performance and obscure the relationship of the higher-order personality dimensions to job performance. For example, the facet of Conscientiousness has more specific facets, such as Order, Impulsivity, Cognitive Structure, Play, Endurance, and Achievement. If some facets correlate negatively and others positively, the aggregate overall correlation of Conscientiousness to job performance may appear deceptively small (Tett, Steele, and Beauregard 2003). Such results call for examining performance and constructs at a finer level.

Situational Judgment

Understanding how potential employees would react in critical situations is important to predicting work performance. Situational Judgment Tests (SJTs) present descriptions of hypothetical job-related scenarios, asking respondents to pick how they would handle the situation from a list of possible responses. The hypothetical situations are

often developed by asking professionals in the field what critical situations they encounter in their jobs (Weekley and Ployhart 2005).

SJTs are often paired with traditional cognitive ability tests in applicant selection settings because they have significant criterion-related validity and possess incremental validity beyond cognitive ability and personality measures (McDaniel et al. 2001; Chan and Schmitt 2002). For example, Chan and Schmitt (2002) found that the SJT had a significant .30 correlation with overall job performance and had an incremental validity of .21 for overall performance. Weekley and Ployhart (2005) found that the SJT was correlated .21 with overall job performance and had a significant incremental validity of .18, above and beyond a cognitive ability test and a FFM personality inventory. Another important reason for the popularity of SJTs is that the results show fewer ethnic variation than traditional cognitive ability tests (Clevenger et al. 2001).

SJTs are also drawing interest to predict student performance (judged by mission statement and educational objectives) in undergraduate schools (Oswald et al. 2004). Oswald et al. (2004) showed that the SJT has validity above and beyond cognitive ability and personality measures for predicting college performance. Also in this study, scores on the SJT showed no significant differences across different ethnicities of sample participants.

Biographical Information Data

Past performance is often the best predictor of future performance. Biographical information data measures (BIO) offer structured and systematic methods for collecting and scoring information on an individual's background and experience (Mumford 1994). Items vary both in the nature of the constructs measured (e.g., past attitudes, experiences) and in the type of response scale (e.g., frequency of behavior, amount, degree of agreement). Research has shown that BIO scales can predict both college GPA and job performance, and reflect fewer ethnic differences than standardized tests, such as the Scholastic Aptitude Test (SAT; Oswald et al. 2004).

Dispositional Optimism

Dispositional optimism refers to a generalized tendency to expect positive and favorable outcomes in the future; conversely, pessimism refers to a tendency to expect negative things happening in the future (Carver and Scheier 1981). Optimism has been recognized as a fundamental component of individual adaptability because of its relationship with stress resilience and coping (Scheier and Carver 1992; Hobfoll 2002).

Optimists are more confident and persistent when confronting any challenge, while pessimists are more doubtful and hesitant (Carver and Scheier 2002). Some research indicates that optimism predicts lower levels of stress and depression for students making the transition to their first year of college (Aspinwall and Taylor 1992; Brissette, Scheier, and Carver 2002). In terms of job performance, evidence suggests that dispositional optimism has a unique impact on both self-reported job performance and organizational performance appraisals (Youssef and Luthans 2007).

Self-Monitoring

Self-monitoring of expressive behavior and self-presentation are critical non-cognitive factors for future job performance. Individuals with a high degree of self-monitoring are good at learning what is socially appropriate in new situations, have good self-control of their emotional expression (facial and verbal) and can effectively use this ability to create the impressions they seek to create (Snyder 1974; Snyder and Gangestad 1986). Some evidence suggests that high self-monitors have more career mobility and success (Kilduff and Day 1994) as well as higher ratings of job performance (Caldwell and O'Reilly 1982; Caligiuri and Day 2000).

Emotion Recognition

A final noncognitive factor found to predict work performance is emotional intelligence or recognition. This factor is defined as the ability to regulate one's own emotions and to perceive/understand others' emotions (Goleman 1995). Some studies suggest that emotional intelligence predicts student performance (Lam and Kirby 2002) as well as job performance (Slaski and Cartwright 2002; Law, Wong, and Song 2004). Questionnaires have typically been used to measure emotional intelligence through presenting situations to respondents and prompting for the desired response from multiple options (Salovey et al. 1995). Ekman (2004) used a different and less verbal approach; based on extensive research, Ekman has developed a visual test to assess individuals' speed and accuracy in recognizing various emotions on slides of faces.

Summary

The literature on noncognitive predictors suggests that there is potential for the prediction of performance in the domain of lawyering. The performance factors pertinent to lawyering have similar underlying constructs that are measured in various predictors. The purpose of the research is twofold. The first phase is to identify the factors that define lawyering performance and develop a method to measure effectiveness; the second phase is to identify and develop potential predictors of those lawyering factors and to study their validity in predicting lawyering performance.

RESEARCH PHASE ONE: DEFINING AND MEASURING LAWYER EFFECTIVENESS³

The first phase of this research design consists of identifying, defining, and creating measurable dimensions of lawyering effectiveness, followed by obtaining behavioral examples of each dimension that illustrate different levels of effectiveness on each performance dimensions.

3. For greater detail on Phase One methods, sample, and results, see Shultz and Zedeck (2003).

Factors and Scales

Our research sought to predict professional effectiveness in terms of the tasks and skills lawyers perform in their daily profession, as opposed to trying to predict other measures of success, such as salary, attempts at bar passage, and time to make partner among others. To accomplish our goal, we first had to identify the components that are important to (i.e., can define) lawyer effectiveness. These factors then became the criterion measures for our study. For this stage of our work, we also needed to create instruments that could be used to assess a lawyer's degree of professional effectiveness in a systematic, structured, and standardized manner. We carried out both of these tasks using a behaviorally anchored rating scale (BARS) methodology (Smith and Kendall 1963) that has been frequently used to establish performance measures in organizational settings.

In our initial study (Shultz and Zedeck 2003), we identified factors important for lawyer effectiveness by interviewing individuals ($n = 133$) within five stakeholder groups associated with Berkeley Law: alumni ($n = 62$, across three cities), clients ($n = 6$, plus reading their consumer complaints), faculty ($n = 10$), students ($n = 51$), and judges ($n = 4$) (Shultz and Zedeck 2003). We posed questions to the stakeholders, such as the following to obtain effectiveness data: "If you were looking for a lawyer for an important matter for yourself, who would you identify, and why? What qualities and behavior would cause you to choose that attorney? What kind of lawyer do you want to teach or be?" From these interviews and focus groups 26 factors important to lawyering effectiveness emerged (see Table 1).

Following, in new rounds of focus groups with law school alumni ($n = 87$, across three cities, working with one factor at a time, we asked participants for specific examples of attorney behaviors within each construct ("What behavior would tell you that a particular lawyer had or lacked effectiveness on the *Client Advice and Relations* factor?"). We obtained more than 800 behavioral examples that were offered by individual participants to represent poor, below average, average, good, and outstanding behaviors across the 26 factors. This part of the research enabled us to create effectiveness factor rating scales that represent different levels of performance (ranging from "1" to "5").

Then, using Berkeley Alumni Office e-mail contact information for graduates (1970–2002), we systematically studied the levels of effectiveness (as viewed by those who responded) by administering an online survey asking alumni to rate (subsets of) the original raw, unrated behavioral examples from the preceding focus groups. We asked survey respondents to rate examples on a five-point, Likert scale, anchored by 1 = poor and 5 = outstanding, according to how effective they thought the stated behavior was as an illustration of a given effectiveness factor.

Description of Survey Sample

The sample for the online survey was obtained from the 9,555 alumni population (from the Alumni Office database) who graduated between 1970 and 2002. We sent an e-mail request for participation to those who had e-mail addresses on file and hard copy

TABLE 1.
List of 26 Effectiveness Factors

Factors Identified as Important to Lawyer Effectiveness

Analysis and Reasoning
 Creativity/Innovation
 Problem Solving
 Practical Judgment
 Researching the Law
 Fact Finding
 Questioning and Interviewing
 Influencing and Advocating
 Writing
 Speaking
 Listening
 Strategic Planning
 Organizing and Managing One's Own Work
 Organizing and Managing Others (Staff/Colleagues)
 Negotiation Skills
 Able to See the World Through the Eyes of Others
 Networking and Business Development
 Providing Advice & Counsel & Building Relationships with Clients
 Developing Relationships within the Legal Profession
 Evaluation, Development, and Mentoring
 Passion and Engagement
 Diligence
 Integrity/Honesty
 Stress Management
 Community Involvement and Service
 Self-Development

Note: Adapted from Shultz and Zedeck (2003).

mailing to postal addresses for the remaining, which generated a total sample of 2,012 respondents. The responding sample was slightly more male, heavily White, and evenly divided among three age groups (30–39, 40–49, and 50–59) and four categories of years of practice experience (1–5, 6–10, 11–20, and over 20 years). Representativeness of the sample is not easy to determine with exactness, given limitations in available data about all graduates over this period;⁴ however, we found that the gender and racial background seemed to be fairly representative of the law school's population. Aggregate data from 1971 to 2002 show a population of entering students that was 55 percent male and 45 percent female, which is fairly representative of our sample (57 percent male; 42 percent female). Similarly, based on self-identification, our respondents' group was 75 percent

4. Our sample began with graduates from 1970; racial information on these students at the time they enrolled at Boalt in 1967 is not available. Similarly, the aggregate admissions data cited above include students admitted and enrolled in the fall of 2002 whereas the most recent graduates in our sample would have enrolled in the fall of 1999. Nonetheless, there is a substantial amount of continuity in the two pools and approximations about representativeness are appropriate.

White, 4 percent African American, 5 percent Latino, and 10 percent Asian/Pacific Islander. These racial percentages are comparative to school enrollment data for students from 1971 to 2002: 72 percent were White, 8 percent were African American, 10 percent were Latino, and 9 percent were Asian/Pacific Islander.

Analysis of Survey Data and Results

To analyze responses, we first calculated means and standard deviations (SDs) for each behavioral example. The mean value indicates the assessed level of effectiveness for each factor example. The standard deviation provides a measure of agreement among the respondents. For instance, if an example had a standard deviation of 0, it would indicate that all the respondents assigned the same value for the level of effectiveness, and we would conclude that the assessment of effectiveness level was not affected by the respondent's type of practice, years practicing, gender, etc. On the other hand, a standard deviation of 2.00, for an example, with a mean value of 3.00 would indicate that the majority of respondents provided values that ranged from 1.0 through 5.0, indicating less agreement about the assessed level of effectiveness. High standard deviation values can be further examined to determine if the disagreement can be explained by type of practice, or number of years in practice, or gender, or other respondent background characteristics. We adopted an *a priori* rule, one used in similar research projects (Zedeck, Jacobs, and Kafry 1976; Zedeck, Kafry, and Jacobs 1976), that a standard deviation of less than 1.0 would represent "general agreement" among the respondents.

Approximately 674 out of the 715 examples, or about 94 percent of the examples, had standard deviations of less than 1.0. This means that respondents showed general agreement about the level of effectiveness with respect to almost all of the examples. A number of behavioral examples within a specific effectiveness factor had the same mean value (i.e., there were several examples with a mean of 2.00, or 3.00, etc., and each with standard deviations less than 1.0). This pool of "surviving items" allowed us great flexibility in developing rating scales, choosing examples, and tailoring scales to fit particular needs (e.g., to focus on particular types of practice). For example, because for each level of the scale we had multiple examples that tapped different types of practice, we could develop scales for a factor such as "Analysis and Reasoning" that was most appropriate for litigation, as well as another scale for the same factor that was most appropriate for transactional law. Also, the number of examples used to define the scale varied from five to nine, providing sufficient detail for the rater to capture the essence of the effectiveness factor.

The results of this analysis suggest general agreement across the total sample concerning the constructed effectiveness factors and their scaled behavioral examples. Despite this, we employed additional analyses to investigate whether differences or patterns of differences were noted as a function of gender, race, years in practice, and type of practice. These analyses examined differences either in means or standard deviations. Differences between means would suggest that the groups of interest differed, on average, in terms of their assessments about "level of effectiveness." Differences between standard deviations would suggest within-group differences about level-of-effectiveness judgments. Given overall results showing high agreement for the

total sample across 94 percent of the examples, we did not expect many instances of differences, nor did we find many.

Summary of Phase One

In Phase One, through interviews and focus groups, we first identified 26 factors deemed important to lawyer effectiveness. Next, again using focus groups and interviews, followed by a survey to which more than 2,000 Berkeley alumni responded, we constructed 26 BARS to be used in measuring individual lawyer performance. One set of 26 BARS was used in the next phase of the research. Each effectiveness factor was general and diverse in terms of the types of behaviors required in different types of practice. This strategy was used to accommodate the practice diversity of the population that would participate in the next phase; instructions to the raters allowed the rater to use the BARS as a frame of reference.

We assumed that all 26 factors were distinct from one another and did not subject them to a factor analysis for determination of an underlying performance construct. We did this because we wanted to be able to differentiate particular aspects of lawyering performance. Also, we judged it important for future application to facilitate rating of specific performance criteria as opposed to a general performance measure.⁵

RESEARCH PHASE TWO: SELECTING AND VALIDATING NEW PREDICTORS OF LAWYER EFFECTIVENESS

With factors important to lawyer effectiveness and performance measurement scales from Phase One in hand, our task now became whether we can predict work performance using noncognitive scales. Phase Two required multiple steps. We first selected and developed noncognitive scales hypothesized to predict performance scores on the 26 BARS or factors. Following, we administered these scales to participants as well as collected measures of participants' prior academic achievement; a discussion of the participants in this study is presented in the next (i.e., Results) section. Next, we asked supervisors, peers, and participants themselves to evaluate participants' professional performance on the effectiveness factor scales. Finally, we analyzed whether noncognitive test scores correlate with lawyering performance and can explain more variance of employees' performance appraisals than their prior academic achievement.

Tests and Scales Identified, Selected, and Developed

Critiques of existing law school admission practices emphasize two significant shortcomings: (1) current methods focus excessively on predictors of academic perfor-

5. As a conceptually meaningful grouping, we placed the 26 effectiveness factors into eight categories, and use these in the tables of results, for presentation purposes: (1) Intellectual and Cognitive; (2) Research and Information Gathering; (3) Communications; (4) Planning and Organizing; (5) Conflict Resolution; (6) Client and Business Relations; (7) Working with Others; and (8) Character.

mance, ignoring the importance of professional effectiveness as a desirable outcome criterion; and (2) current methods can produce a significant adverse impact on minority group applicants' chances of admission. Our research goal was to address both of these problems by developing nonacademic predictor tests of professional performance, with the hope of offering a methodology that could eventually be incorporated into law school admission decision making.

Our earlier summary of relevant literatures provided background about nonscholastic predictors used in employment selection. Below we describe the tests selected, developed, and used in our research that might serve as possible supplements or complements to the academic performance measures—LSAT, UGPA, and Index—that currently dominate law school admission decisions.

Personality Measures

In the literature review, we noted how certain personality constructs and their measures can predict work performance. When selecting tests that would capture personality elements relevant to our 26 lawyer effectiveness factors, we sought three types of measures: (1) questions that measured an individual's ability to get along with others, (2) questions that identified individuals' interest in and satisfaction with their jobs, and (3) questions that recognized tendencies that are counterproductive to career success.

To measure collegiality, as well as occupational success, we used the *Hogan Personality Inventory* (HPI; Hogan and Hogan 2007), a measure based on the Five-Factor Model that is designed specifically for use with working adults. The HPI is composed of 206, true/false, self-report items. Seven primary personality scales are scored on the HPI on the basis of Hogan and Hogan's (1991) reinterpretation of the Five-Factor model: Adjustment, Ambition, Sociability, Interpersonal Sensitivity, Prudence, Inquisitive, and Learning Approach.⁶ Interpretation of HPI results is job-specific, with no formula for a "good" personality. High and low scores on scales are not necessarily better, and scores that lead to success in one job may hinder performance in another. Table 2 presents the descriptions of these seven scales.

Also central to our analysis was predicting a person's success and satisfaction with the job, which, in this case meant finding a set of interests, motives, and goals conducive to work in the legal profession. Generally, people prefer to work with others who share similar values and within compatible organizational cultures (Chatman 1991; Kristof 1996). Characteristics compatible with and conducive to legal work are presumed to be related to almost all of the lawyer effectiveness factors identified in Phase One in that they reflect a match between the job holder and the requirements of the job and organization in which one is employed. We measured this set of "personality" constructs by administering the *Motives, Values, Preferences Inventory* (MVPI; Hogan and Hogan 1996). The MVPI directly assesses a person's motives, shows the relative importance of various values, and makes possible an evaluation of the fit between an individual and

6. The main difference between the HPI and the five-factor model is that it divides extraversion into adjustment and ambition and divides openness into inquisitive and learning approach.

TABLE 2.
Description of the Seven Subscales in the Hogan Personal Inventory (HPI)

HPI Subscale	Description (and Relation to Five-Factor Model Subscale [FFM])
Adjustment	Reflects the degree to which a person is steady in the face of pressure, or conversely, moody and self-critical (FFM: Emotional Stability).
Ambition	Evaluates the degree to which a person seems leader-like, status-seeking, and achievement-oriented (FFM: Extraversion).
Sociability	Assesses the degree to which a person needs and/ or enjoys social interaction (FFM: Extraversion).
Interpersonal Sensitivity	Reflects social sensitivity, tact, and perceptiveness (FFM: Agreeableness).
Prudence	Concerns self-control and conscientiousness (FFM: Conscientiousness).
Inquisitive	Reflects the degree to which a person seems imaginative, adventurous, and analytical (FFM: Openness).
Learning Approach	Reflects the degree to which a person enjoys academic activities and values education as an end in itself (FFM: Openness).

the organizational culture (Hogan and Hogan 1996). The MVPI has 200 items that comprise 10 primary scales: Aesthetic, Affiliation, Altruistic, Commerce, Hedonism, Power, Recognition, Science, Security, and Tradition. High scores (65 percent and above) indicate those values and drivers that are most important to individuals. The relative degree of person-job fit can then be determined by comparing a person's higher scores on the MVPI with the values of the organization and profession

Finally, we included the *Hogan Development Survey* (HDS; Hogan and Hogan 1997), a measure of behavioral tendencies that can "derail" a person's career success (Bentz, 1985). These counterproductive behaviors are relatively stable over time; they aim to predict certain performance risks that can interfere with a person's ability to build relationships and collaborate with others in a work atmosphere (Hogan and Hogan 1997). The HDS has 168 items that comprise 11 primary scales: Excitable, Skeptical, Cautious, Reserved, Leisurely, Bold, Mischievous, Colorful, Imaginative, Diligent, and Dutiful. Because the scores on the HDS scales measure personality characteristics that can be negative in employment settings, higher scores on an HDS scale increase the chances that counterproductive work behaviors will be problematic for that specific performance risk.

Situational Judgment Test (SJT)

Measures of an individual's judgment about and reaction to difficult situations are important to work performance. Assessment of situational judgment is done through use of hypothetical scenarios. In developing an SJT for this project we first worked individually and then collaboratively, writing approximately 200 hypothetical situations we believed would reflect one or more of the 26 effectiveness factors. We reviewed some preexisting SJT items (Camara 2006; Motowidlo 2006) to stimulate scenario ideas

for our project as well as to identify and adapt those that we might use; most of the final items were newly written for our project. For each item, we developed four to five answer options representing a range of viable responses. We pilot-tested created items with practicing lawyers, for the purposes of checking appropriateness, relevance, and reasonableness, and chose seventy-two SJT items for administration. To determine the scoring key, we used an empirical key (a version of “cross-validation”) based on responses from participants as well as on hypothesized relationships with our effectiveness factors.

Biographical Information Data (BIO)

From prior research, we assumed that targeted information about personal history would be predictive of all the factors. Again, we individually and then collaboratively wrote approximately 200 BIO items to cover each of the 26 effectiveness factors. As with the SJT, we first reviewed existing BIO measures (Camara 2006; Motowidlo 2006), adapted some for lawyering performance, and wrote most items as originals. We developed four to five answer options to represent a range of viable responses, and after pilot testing the items with practicing lawyers, we chose eighty BIO questions for administration. Here, too, we developed an empirical scoring key (a version of “cross-validation”) based on responses from participants, as well as on hypothesized relationships with the effectiveness factors.

Dispositional Optimism (OPT)

Optimism may be a valuable resource for lawyers who face great time demands, high job insecurity, considerable conflict, and poor organizational climate (Scheier and Carver 1985; Goldhaber 1999; Heinz, Hull, and Harter 1999; Schiltz 1999; Makikangas and Kinnunen 2003; Xanthopoulou, Bakker, and Schaufeli 2007). To measure optimism (OPT), we used the *Revised Life Orientation Test* (LOT-R; Scheier, Carver, and Bridges 1994), which assesses generalized outcome expectations, with higher scores indicating a more optimistic overall outlook on life (Scheier and Carver 1985; Scheier, Carver, and Bridges 1994). The LOT-R consists of six items, three of which assess optimism and three reverse-scored items that measure pessimism, plus four filler items on five-point Likert scales.

Self-Monitoring (SMS)

Self-monitoring is potentially salient to effective lawyering because of lawyers’ distinctive professional responsibilities of speaking for and representing clients rather than themselves (i.e., role morality). To assess self-monitoring, we used the *Self-Monitoring Scale* (SMS), which is a twenty-five-item, true-false scale that assesses an individual’s tendency to monitor and adapt self-expression (Snyder 1974). We used the standard questions and scaling of this measure, although we slightly reworded some questions in ways we hoped would increase their relevance to lawyers.

Emotion Recognition (ER)

We hypothesized that emotional intelligence could be important to lawyers who must “read” and manage interactions with clients, juries, witnesses, judges, opponents and colleagues. We modeled our *Emotion Recognition Test* (ER) after the Facial Action Coding System (FACS) developed by Ekman (2004). We used stock color photos of neutral and emotional facial expressions that had been developed in the laboratories of emotion researchers as stimuli (Ekman 2004; Keltner 2006). Our ER test was a twenty-minute, computerized presentation of faces of different people expressing one of ten emotions: Anger, Compassion, Contempt, Disgust, Embarrassment, Fear, Happiness, Sadness, Shame, and Surprise. The ER instrument included two practice items and seventy-six test items. In each item, participants saw (1) a neutral facial expression, followed by (2) a very brief (1/6 second) change in expression reflecting one particular emotion, and (3) a return to the initial expression. Participants then had five seconds to choose which of the ten emotions appeared during the changed facial expression. Instructions told participants to respond based on their first impression—even if they did not think they observed a change, or were unsure of the emotion expressed. Faces included individuals of various ethnic backgrounds and genders.

Academic Performance Data

To compare our noncognitive tests with conventional admission indicators, we needed academic history data on those who took the new tests. Based on participant consent and law school permission, we obtained LSAT scores, undergraduate GPA, and law school GPA from either the LSAC or files at two law schools. We had to rescale the LSAT and Index scores for two reasons. First, because our sample, described in the next (i.e., Results) section, included graduates from a thirty-three-year period, the LSAT scoring scale has changed three times over this period. Accordingly, we standardized LSAT scores within each period. Second, the two schools’ weighting of the components of the Index score varied between and over time. Accordingly, we decided for purposes of this research to weight LSAT and UGPA information 50-50 throughout.

Data Collection Procedure

Data collection began by e-mailing an invitation to each potential participant. The e-mail included an online link where the new battery of tests was presented. Each individual accessing the website had an individual user ID and password for data management purposes. Invitations informed participants that the total process would take up to 120 minutes. We asked participants to indicate acceptance after reading a detailed consent form tailored to the requirements of and with the approval of the Berkeley Committee for the Protection of Human Subjects. Confidentiality commitments were explained next. Participants were then asked to provide background information about their academic history, law school, demographics, work tasks, practice

area, type and size of employer organization, and other relevant information. They were able to enter and leave the website at will, saving previous work.

The computer then randomly and evenly directed each participant to one of forty different combinations of tests from the battery that we created. Every participant's combination included the HPI and two to three of the other tests (either the whole or a portion of the test's items). One participant might take the HPI, HDS, BIO, and OPT disposition scales. Another might do the HPI, MVPI, and SJT. And yet another participant might take the HPI, BIO, and ER. As a result, of course, the HPI had the largest sample size.

We administered the HPI to all participants as an inducement to participate. As a benefit of taking the research tests, participants could opt to receive a confidential interpretive report of their occupationally relevant strengths and shortcomings based on their responses to the HPI. As a further incentive, participants could register for up to three continuing education credit (MCLE) units—two for “law practice” credit and one for “elimination of bias” credit. The bias unit required that participants read materials written by the researchers regarding adverse impact in selection processes, followed by a short true/false quiz.

Performance Appraisals

Because our research sought to determine whether the tests we developed or identified can explain actual on-the-job effectiveness, we needed appraisals of our participants' legal performance. Accordingly, after they completed the new test battery, we asked each participant to evaluate his/her own lawyering effectiveness and, importantly, to identify four other evaluators—two supervisors and two peers (with contact information)—who knew and could assess the participant's recent lawyering performance using the 26 BARS constructed in Phase One. The customized software contacted named evaluators and asked them to fill out and return appraisals online.

Instructions directed raters to select the score (ranging from 1 to 5 in .5 increments, with 1 = poor and 5 = excellent) that best represented the participant's level of work performance on each of the 26 factors rated. All raters were instructed to rate as many effectiveness factors as possible, but to skip those not relevant to the job or about which their knowledge was insufficient. The computer request for rater appraisals provided detailed instructions about how to use the BARS. The directions told raters that the particular examples on any scale might not apply to the participant's work or setting, but that they should use the examples by analogy to illustrate levels of performance. Figure 1 is an example BARS for “Analysis and Reasoning.”

To understand use of a BARS form, note that the lowest level example for the “Analysis and Reasoning” factor illustrated in Figure 1 reads, “Over-simplifies arguments” Instructions directed appraisers to read scales “from the bottom up,” asking themselves, “Based on my observation and knowledge of this individual's performance, do I believe he or she performs or could perform at the level of effectiveness reflected in this particular example?” When the raters came to a level of effectiveness that they believed the individual cannot or could not achieve, they were to mark a value (in half-point increments) that represented the highest level that the rater believed the

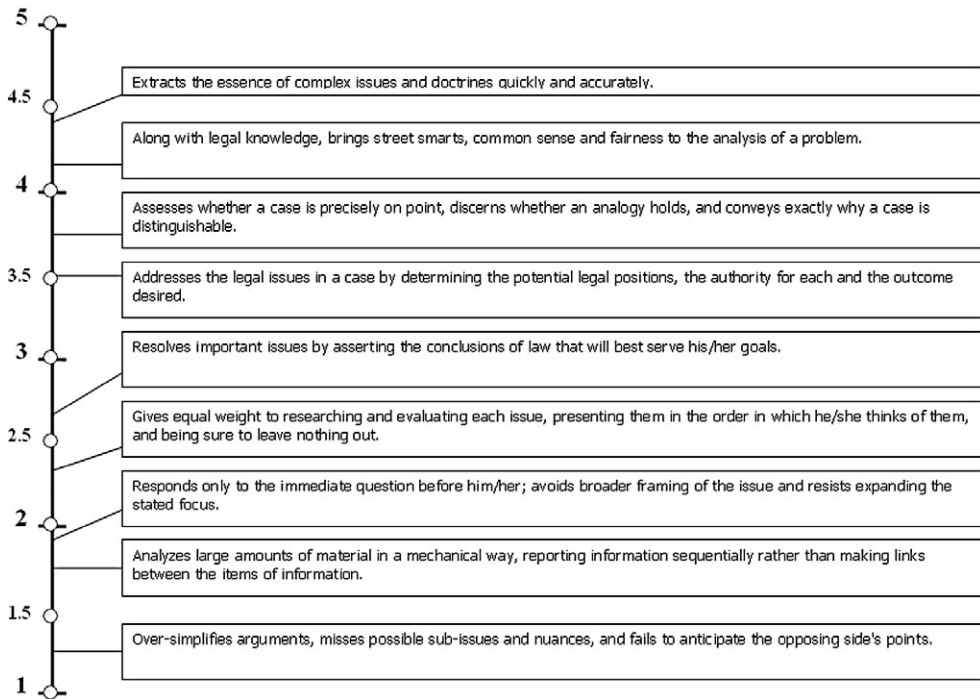


FIGURE 1.
Example of “Analysis & Reasoning” Effectiveness Scale

participant achieves or could achieve. Instructions asked raters to apply the standard based on the individual rater’s actual level of experience. For instance, the rater might rate someone with ten years of experience a “2” on a given BARS but evaluate that *same behavior* as a “3” for someone with less experience.

In this article, we calculate employees’ appraisal results by combining peer and supervisor averages (coined hereafter as “other ratings”). Although we evaluated various other combinations of five potential ratings viewpoints, statistical analysis showed that use of the other ratings combinations did not change the bottom-line conclusions of the research.⁷

RESULTS AND DISCUSSION

This section of the article describes the sample used in the validation phase of the research, the correlations between the test measures and academic and lawyering performance, and the contribution of noncognitive tests to the prediction of lawyering performance.

7. Barrett (2008) analyzed the project’s ratings within rater groups. He concluded that averaging the peer ratings as well as averaging the supervisor ratings was reasonable; also, the two averages could be averaged to yield a rating referred to as “Other.” See Shultz and Zedeck (2008) for a complete presentation of intercorrelations among all performance perspectives.

Description of Survey Sample

Data for this phase came from 1,148 alumni of Berkeley Law and Hastings College of the Law who graduated between 1973 and 2006 (for whom the schools had contact information; $n = 15,750$). In order to include the varied law-related jobs held by law graduates, we instructed recipients of the invitation that they could participate if they had practiced law in the past three years or were in a law-related job—defined as one where law training was relevant to the performance of the job or had played a role in their selection for it (e.g., Chief Executive Officer (CEO) of a poverty assistance nonprofit). In addition, with a potential of five performance evaluations per participant (self, two peers, two supervisors) the number of possible appraisals is 5,740. We received more than 4,000 appraisals (approximately 70 percent of the possible number) despite the fact that supervisors and peers may well have had no connection to the two law schools.

Overall, the sample was composed of mainly Berkeley (64.3 percent), female (56.8 percent), White (68.5 percent) practicing attorneys, with the largest number employed in large firm (16.6 percent) or government (13.7 percent) practice. The most frequent specialization was litigation/advocacy (29.1 percent), but all areas of expertise were represented in the sample. In terms of differences by school—Berkeley versus Hastings—the demographic and professional backgrounds were similar to the overall profile except that Berkeley alumni were more likely to work in large firms or government positions, while more Hastings alumni worked in solo or small firm practice or government positions.⁸

Table 3 presents descriptive statistics on the prior academic achievement (i.e., their LSAT score, UGPA, and combined Index score) of the total sample, as well as disaggregations by law school, gender, and race/ethnicity. Berkeley participants had higher UGPA and LSAT scores. Males showed no pattern of practical differences compared to females, but Whites and Asians had a pattern of higher test scores compared to African Americans and Latino participants. Given the general similarity in results between the two schools, we report subsequent validity results for the combined total sample.

Conventional LSAC Measures: Predictors of FYGPA

To compare our sample with previous studies of admission assessment, we examined the relationship between our participants' prior academic achievement and their grades in first year law school. For the current sample, results showed reasonable consistency with prior research (Dalessandro Stilwell, and Reese 2005; Norton Suto, and Reese 2006). The correlations between LSAT, UGPA, and Index score, respectively, and FYGPA in law schools were .42, .21, and .42.

8. A table with a full breakdown of demographics by school is available from the authors.

TABLE 3.
Test and School-Based Performance Measures by School, Gender, and Ethnicity

	School			Gender		Ethnicity**			
	Total	Hastings	Berkeley	Female	Male	White	African-American	Latino	Asian/Pacific Islander
UGPA	Mean	3.34	3.50*	3.48	3.42*	3.51	3.10	3.27	3.51
	N	409	732	648	493	783	87	87	128
LSAT score (Zscore)	SD	0.36	0.34	0.35	0.37	0.33	0.40	0.39	0.33
	Mean	-0.31	0.17*	-0.06	0.08*	0.29	-1.27	-0.97	-0.12***
LSAT 10-48	N	401	725	636	490	775	86	85	123
	SD	0.86	1.03	1.02	0.97	0.81	0.90	1.07	0.97
LSAT 120-180	Mean	39.93	41.80*	40.68	41.99*	42.54	34.96	35.90	41.52
	N	83	191	158	116	196	23	20	21
LSAT 200-800	SD	3.86	4.81	4.81	4.25	3.47	4.05	6.16	4.13
	Mean	161.51	164.85*	163.17	164.48	165.39	156.73	158.33	163.20***
50/50 Index (Zscore)	N	156	256	282	130	257	30	30	70
	SD	5.75	7.28	6.99	6.74	6.32	6.21	6.97	6.22
1st year LGPA	Mean	629.90	678.12*	659.43	661.11	687.84	530.70	567.11	627.97***
	N	162	278	196	244	322	33	35	32
50/50 Index (Zscore)	SD	80.61	88.62	90.88	87.23	66.16	77.42	84.05	99.31
	Mean	-0.76	0.23*	-0.11	-0.13	0.32	-2.41	-1.57	-0.09***
1st year LGPA	N	400	721	633	488	772	86	85	123
	SD	1.34	1.55	1.56	1.55	1.24	1.48	1.56	1.40
1st year LGPA	Mean	2.88	2.72*	2.75	2.81	2.93	2.23	2.28	2.63***
	N	391	681	605	467	727	81	88	122
	SD	0.50	0.68	0.61	0.63	0.61	0.35	0.43	0.56

* significant difference (p < .05) between Hastings/Berkeley and between Female/Males
 ** All differences between Whites and African-Americans and between Whites and Latinos are significant (p < .05)
 *** significant differences between Whites and Asian/Pacific Islander

Conventional LSAC Measures: Predictors of Professional Performance

For informational purposes, we wanted to determine the extent to which conventional measures predict lawyer effectiveness. Significant positive correlations (see Table 4) existed between only 8 out of our 26 effectiveness factors and the LSAT measures; those found were fairly weak, ranging from .07 (Problem Solving) to .15 (Writing). Correlations existed mainly where our effectiveness factors overlap with skills the LSAT specifically seeks to measure. However, we also found that two factors—Networking and Community Service—were negatively correlated with the LSAT ($r = -.12$ and $-.10$, respectively).

The correlations between the Index score and effectiveness factors generally paralleled those found for the LSAT. UGPA results showed fewer significant correlations than LSAT scores. UGPA correlated best with Writing ($r = .12$), Managing Self and Diligence (both $r = .09$), and Integrity ($r = .07$). Differences in the number of significant correlations of UGPA and LSAT may reflect that the LSAT is a one-day test, but UGPA depends on persistence and the ability to manage and apply oneself for his/ her college career. Diligence, time spent, and management of work could more readily substitute for “smartness” in the UGPA measure than in obtaining higher LSAT scores.

In sum, the LSAT, UGPA and Index were correlated with relatively few of the effectiveness factors, mainly ones that overlapped with the LSAT’s measurement targets. For example, the LSAT aims to evaluate analysis and reasoning and it correlated with performance appraisals of participants’ “Analysis and Reasoning.” The LSAT and UGPA were not intended to predict lawyering effectiveness. However, given the research project’s argument that projections about lawyering effectiveness should be added to academic indicators when selecting the best qualified law school applicants, the important finding is that, for the most part, the LSAT/academic predictors correlated with a very small subset of lawyer effectiveness factors.

New Measures as Predictors of Academic Performance

In general, the new predictors showed few significant correlations with FYGPA; of those that did exist, many, especially BIO, HPI scales, and OPT disposition, were negative.⁹ For example, BIO correlated $-.09$ with FYGPA. The HPI results show that five (Adjustment, Ambition, Sociability, Interpersonal Sensitivity, and Learning Approach) of the seven scales correlated significantly with FYGPA, with the correlations ranging from .07 to .21. Of interest, however, was that except for Learning Approach, all had negative correlations with FYGPA. OPT disposition correlated $-.08$. With the remaining scales, SJT did not significantly correlate with FYGPA. Of the 11 HDS scales, only Excitable correlated (.16) with FYGPA; of the 10 MVPI scales, only Hedonistic correlated ($-.15$) with FYGPA. SMS showed no significant correlation and ER correlated .08.

To determine whether any of the new predictors would yield incremental validity to prediction of FYGPA beyond that which is obtained by the LSAT alone or by the

9. A complete table of correlations between the new tests and FYGPA is available from the authors.

TABLE 4.
UGPA, LSAT, INDEX, and FYGPA Correlations with Performance

	Analysis & Reasoning	Creativity	Problem Solving	Practical Judgment	Researching Law	Fact Finding	Question & Interview	Influence & Advocate	Writing	Speaking	Listening	Strategic Planning	Managing Self	Managing Others
UGPA	0.048	0.023	0.039	0.012	0.014	0.034	-0.005	0.014	.119(**)	0.013	0.017	0.029	.086(**)	0.059
LSAT	.116(**)	.092(**)	.069(*)	0.028	.097(**)	0.036	-0.045	0.029	.150(**)	0.002	-0.045	0.024	0.040	0.008
INDEX	.105(**)	.074(*)	.068(*)	0.022	.072(*)	0.046	-0.035	0.031	.173(**)	0.008	-0.016	0.036	.080(*)	0.039
FYGPA	.123(**)	.100(**)	.099(**)	0.048	.119(**)	0.060	0.015	0.053	.127(**)	0.026	0.006	.086(*)	0.052	0.017

	Negotiation	Eyes of Others	Networking	Advising Clients	Developing Relationships	Develop & Mentor	Passion	Diligence	Integrity	Stress Management	Community Service	Self Development	Avg Across
UGPA	0.026	0.027	-0.014	0.006	-0.003	0.038	0.007	.093(**)	.067(*)	0.015	-0.015	0.007	0.043
LSAT	-0.030	-0.048	-.122(**)	-0.054	-0.029	-0.024	-0.046	0.063	.089(**)	-0.022	-.096(**)	-0.054	0.038
INDEX	-0.002	-0.016	-.094(**)	-0.037	-0.024	0.011	-0.028	.096(**)	.105(**)	-0.005	-.079(*)	-0.036	0.050
FYGPA	-0.019	-0.024	-.069(*)	-0.005	-0.051	0.000	-0.032	.067(*)	0.036	-0.037	-.149(**)	0.012	0.051

* Correlation is significant at the 0.05 level (2-tailed).
 ** Correlation is significant at the 0.01 level (2-tailed).

Index score alone, we conducted hierarchical multiple regression analyses where order of predictor variable entry was specified by us.¹⁰ Results indicated that five of the HPI scales (Adjustment, Ambition, Sociability, Interpersonal Sensitivity, and Learning Approach) and the OPT disposition scales yielded significant increments above the LSAT. For those results in which there were significant increments, the amounts were 1 percent or less. In general, the new predictors added only slight (1 percent) incremental validity to LSAT and Index score prediction of law school FYGPA.

New Measures as Predictors of Professional Performance

This section reports the results that were most central to our research. We selected, adapted, or wrote new test instruments to assess whether responses to them would show meaningful relationships with the effectiveness factors identified in Phase One as being critical for lawyering performance. Viewed overall, a number of the new tests correlated significantly with appraisals of professional effectiveness although others did not. The best predictive tests were BIO, SJT, a number of HPI scales, and OPT disposition (see Tables 5 and 6). In addition, results, as evidenced by examination of the intercorrelations among the predictors (range of .00 to .54), showed that the new predictor tests, for the most part, measured characteristics that were independent of one another.

Created Instruments: Biographical Information Data (BIO) and Situational Judgment Test (SJT)

Table 5 shows test correlations between performance and a subset of the tests used as predictors. BIO scores showed correlations ranging from .09 to .25 (six were .20 or higher) with 24 of the 26 effectiveness factors (except Integrity and Stress Management). SJT scores showed correlations with 23 of the effectiveness factors (except Managing Others; Evaluation, Development, and Mentoring; and Community Service), ranging from .11 to .21. The impressive aspects of these results were (1) both the BIO and SJT predicted large numbers of effectiveness factors; and (2) the correlations were generally higher, though moderately, than the correlations between LSAT scores and the small subset of effectiveness factors the LSAC measures did predict.

Hogan Personality Inventory

Results show promising correlations for four of the HPI subscales (see Table 6). Adjustment correlated with 22 effectiveness factors ranging from .07 to .22; the strongest correlations for Adjustment were with Stress Management ($r = .22$), and Advising Clients ($r = .13$) effectiveness factors. Ambition correlated with 14 effectiveness factors, ranging from .08 to .24; the strongest correlations for Ambition were with Networking

10. Results of these analyses are available from the authors.

TABLE 5.
Other Test Correlations with Performance

	Intellectual and Cognitive			Research and Information Gathering			Communications			Planning and Organizing				
	Analysis & Reasoning	Creativity	Problem Solving	Practical Judgment	Researching Law	Fact Finding	Question & Interview	Influence & Advocate	Writing	Speaking	Listening	Strategic Planning	Managing Self	Managing Others
BIO	.193(**)	.247(**)	.218(**)	.138(**)	.129(**)	.182(**)	.204(**)	.199(**)	.165(**)	.189(**)	.151(**)	.161(**)	.144(**)	.148(**)
SJT	.169(**)	.173(**)	.202(**)	.182(**)	.132(**)	.207(**)	.128(**)	.212(**)	.219(**)	.109(**)	.186(**)	.176(**)	.125(**)	0.081
SMS	-0.006	0.035	-0.017	0.025	-0.010	-0.018	-0.030	-0.009	-0.011	0.051	-0.042	-0.054	-0.044	-0.032
OPT	0.021	0.041	.085(*)	0.064	-0.003	0.042	.094(*)	.095(*)	-0.027	.151(**)	0.069	0.071	0.013	0.058
ER	0.045	-0.009	-0.002	0.039	.092(*)	0.023	0.008	0.031	.089(*)	0.018	-0.049	0.030	0.019	0.019

	Client & Business Relations			Working with Others			Character						
	Conflict Resolution	Eyes of Others	Networking	Advising Clients	Developing Relationships	Eval. Develop & Mentor	Passion	Diligence	Integrity	Stress Management	Community Service	Self Development	Avg Across
BIO	.177(**)	.130(**)	.244(**)	.198(**)	.086(*)	.172(**)	.216(**)	.147(**)	0.077	0.08	0.240(**)	.143(**)	.234(**)
SJT	.133(**)	.162(**)	.170(**)	.166(**)	.133(**)	0.068	.189(**)	.135(**)	.119(**)	.175(**)	0.058	.155(**)	.222(**)
SMS	0.010	0.007	0.070	0.000	0.031	-0.055	0.029	-0.035	-0.061	-0.016	.116(**)	-0.004	0.009
OPT	0.065	0.049	.112(**)	.096(*)	.092(*)	0.057	.117(**)	0.045	0.027	.130(**)	.123(**)	0.067	.104(*)
ER	-0.030	0.016	-0.023	0.028	0.017	0.010	-0.021	0.063	0.026	-0.045	0.024	0.011	0.027

** Correlation is significant at the 0.01 level (2-tailed).

TABLE 6.
Hogan Personality Inventory (HPI) Correlations with Performance

	Intellectual and Cognitive			Research and Information Gathering			Communications			Planning and Organizing				
	Analysis & Reasoning	Creativity	Problem Solving	Practical Judgment	Researching Law	Fact Finding	Question & Interview	Influence & Advocate	Writing	Speaking	Listening	Strategic Planning	Managing Self	Managing Others
ADJUSTMENT	0.051	.087(*)	.094(**)	.083(*)	0.059	.088(*)	.108(**)	.098(**)	0.047	.094(**)	.119(**)	.114(**)	.072(*)	.082(*)
AMBITION	0.013	.112(**)	.076(*)	0.044	0.025	0.063	.112(**)	.093(**)	0.010	.162(**)	0.038	.107(**)	0.065	.082(*)
SOCIABILITY	-.099(**)	-.044	-.060	-.016	-.062	-.065	-.042	-.049	-.091(*)	0.035	-.062	-.056	-.116(**)	-.039
INTERPERSONAL	-.019	0.025	0.032	0.054	-.001	0.023	.139(**)	0.058	0.015	0.048	.115(**)	0.040	0.018	.124(**)
PRUDENCE	.071(*)	0.017	.089(*)	.087(*)	0.049	.096(**)	.100(**)	.083(*)	.094(**)	0.031	.135(**)	.108(**)	.199(**)	.167(**)
INQUISITIVE	0.018	0.002	-.017	-.042	0.000	0.016	-.029	-.009	0.032	-.018	-.033	-.035	-.093(**)	-.041
LEARNING	.075(*)	0.041	.091(*)	0.066	0.048	0.064	0.013	.093(**)	.097(**)	0.034	-.026	.077(*)	.070(*)	0.022
APPROACH														

	Conflict Resolution			Client & Business Relations			Working with Others			Character			
	Negotiation	Eyes of Others	Networking	Advising Clients	Developing Relationships	Eval, Develop & Mentor	Passion	Diligence	Integrity	Stress Management	Community Service	Self Development	Avg Access
ADJUSTMENT	.116(**)	.107(**)	.099(**)	.133(**)	.146(**)	.090(*)	.105(**)	0.049	.112(**)	.220(**)	.085(*)	.090(*)	.136(**)
AMBITION	.136(**)	-.015	.239(**)	.111(**)	0.002	0.059	.207(**)	0.008	0.002	.094(**)	.107(**)	.112(**)	.120(**)
SOCIABILITY	0.043	-.025	0.071	-.022	-.028	-.074	0.059	-.136(**)	-.070	-.005	.111(**)	-.013	-.051
INTERPERSONAL	.082(*)	.132(**)	.133(**)	.134(**)	.177(**)	.171(**)	.152(**)	0.029	0.062	0.068	.179(**)	.085(*)	.107(**)
PRUDENCE	0.042	.094(**)	0.019	.079(*)	.166(**)	.159(**)	0.030	.189(**)	0.063	.084(*)	0.055	.096(**)	.126(**)
INQUISITIVE	-.030	0.014	0.001	-.021	-.029	0.018	0.049	-.074(*)	-.046	0.000	0.030	0.026	-.010
LEARNING	0.047	0.037	-.002	-.014	-.052	0.020	-.010	0.040	-.025	0.002	0.007	0.032	0.052
APPROACH													

* Correlation is significant at the 0.05 level (2-tailed).
 ** Correlation is significant at the 0.01 level (2-tailed).

($r = .24$) and Passion ($r = .21$) effectiveness factors. Interpersonal Sensitivity correlated with 12 effectiveness factors, ranging from .08 to .18; the strongest correlations were with Developing Relationships ($r = .18$), Evaluating, Mentoring, and Developing ($r = .17$), and Community Service ($r = .18$) effectiveness factors. Finally, Prudence correlated with 18 effectiveness factors, ranging from .07 to .20; the strongest correlations were with Managing Self ($r = .20$), Managing Others ($r = .17$), Developing Relationships ($r = .17$), and Diligence ($r = .19$) effectiveness factors. These most highly correlated HPI subscales (Adjustment, Ambition, Prudence, and Interpersonal Sensitivity) also did not show a pattern of highly significant correlations with three of the lawyering effectiveness factors that the LSAT aims to assess—Analysis and Reasoning, Researching the Law, and Writing. In sum, the HPI subscales correlate with more effectiveness factors than the LSAC measures, they correlate at somewhat higher levels, and in general, the subscales correlate with factors not measured by LSAT scores.

Hogan Development Survey (HDS)

The Excitable subscale of the HDS showed some promise, correlating with 18 of the 26 effectiveness factors with coefficients ranging from $-.12$ to $-.32$. This subscale reflects being overly enthusiastic about people/projects and then becoming disappointed with them. High scorers seem to lack persistence. However, this scale also correlated $-.72$ with Adjustment on the HPI, suggesting that the Adjustment and Excitable scales were measuring opposite characteristics. The other HDS subscale that showed some promise is Reserved. This scale correlated with 8 effectiveness factors with coefficients ranging from $-.13$ to $-.25$. This subscale reflects being remote, detached, and lacking awareness of feelings of others; it suggests a lack of communication skills required for high effectiveness on factors such as Questioning and Interviewing, Networking, and Community Service, where awareness of others' feelings is critical for strong performance. The Reserved subscale, however, was correlated ($r = -.56$) with the HPI Interpersonal Sensitivity subscale, again suggesting overlap in what is being measured by the HPI and HDS scales. These patterns raise an issue as to whether to employ the two HDS scales of Reserved and Excitable or to rely mainly on the HPI subscales, which covered more of the effectiveness factors than these two HDS subscales.¹¹

Motives, Values, Preferences Inventory (MVPI)

Overall, the pattern of correlations between the MVPI scales and the 26 effectiveness factors was less comprehensive and weaker than the HPI or the HDS correlations. The Altruistic subscale correlated with 7 effectiveness factors (Creativity, Researching the Law, Able to See the World Through the Eyes of Others, Advising Clients, Passion, Integrity, and Community Service). The correlations ranged from .16 to .25; the highest correlation was with Community Service. Given its limited number

11. A full correlation matrix of HDS scales and effectiveness factors is available from the authors.

of correlations with the lawyer effectiveness factors and its weaker coefficients as compared to the HPI, further research on the MVPI may be unwarranted.¹²

Dispositional Optimism

OPT correlated positively with 10 of the effectiveness factors (see Table 5); coefficients ranged from .09 to .15. Most notable are the correlations with Speaking, Networking, Passion, Stress Management, and Community Service effectiveness factors. OPT also correlated in the high .4's with the HPI Adjustment and Ambition subscales. Consequently, use of OPT disposition and HPI subscales might be duplicative, or by the same token, OPT disposition might be useful if the HPI were for some reason not pursued.

Self Monitoring Scale (SMS) and Emotion Recognition (ER) Tests

We examined two other tests—the SMS and ER (Table 5). These two measures did not show results that would suggest continuing pursuit at least in the same form we used.

Incremental Validity

A particular goal of the research was to determine whether we could develop a battery of tests that would explain variance in ratings of actual lawyer performance and whether the tests identified/developed for the project could explain variance above and beyond the LSAT, UGPA and Index scores. However, because the LSAT, UGPA, and Index scores correlated with a very limited set of effectiveness factors, and generally at levels lower than the other tests examined in this research, we conducted step-wise regression analysis in which the order of entry into the analysis was determined by statistical relationships among the predictors and their correlations with the participants' performance evaluations.¹³

Results show that a combination of two tests, and in some instances three tests, can produce multiple correlations with the effectiveness factors (and with the average of the set of effectiveness ratings (Global Average) for performance) in the range of the mid .20's to the low .30's. For 15 of the 26 effectiveness factors, both SJT and BIO were identified as the best predictive battery; by contrast, LSAT was identified as important in only three batteries. The LSAT and the Index did not demonstrate much value along with or in addition to the other potential tests in predicting lawyering performance. Taken as a whole, the data suggest that SJT, BIO, HPI scales, and OPT disposition have the best potential to predict lawyer performance effectiveness.

12. A correlation matrix is available from the authors.

13. Results of these analyses are available from the authors.

New Measures and the Reduction of Adverse Impact

We had particular interest in whether these noncognitive measures produced any variation across racial/ethnic or gender subgroups. To determine whether there was differential validity for any participant subgroup, we examined the relationship between the separate predictors of tests where the zero-order correlations showed the most potential—HPI (7 scales), BIO, SJT, and OPT disposition—and each of the 26 effectiveness factors of lawyer performance through moderated regression.¹⁴ Results indicated few instances of significant differential variance due to race or gender. Where significance existed, the amount of variance was negligible (approximately 1 percent differential variance).

Note also that although about 180 participants from underrepresented minority groups (15.7 percent) participated in the sample, our findings on moderator variables are limited by those comparatively small numbers, which consequently limited the statistical power of our analyses. The sample sizes for minority groups in this study were small from a statistical perspective, but they are reasonably representative of their proportions in the law schools in the years studied. Nevertheless, the finding of no practical demographic differences is consistent with the employment literature (Clevenger et al. 2001), which has reported few if any differences between gender and race/ethnic groups on the types of predictors studied in this project. Future research with larger and more representative samples should further examine moderated variable effects. Below, we present specific results for the most promising predictors and for the performance measures to further illustrate results for ethnic and gender differences:

BIO and SJT

Average scores on the BIO test yielded similar findings for females and males, and for Whites and Asian/Pacific Islanders (Table 7). African-Americans scored highest on the BIO, and Latinos scored lowest, although the differences among the four groups are not statistically significant. Table 7 also shows no real differences among the subgroups for the SJT, except that Latinos scored higher than other ethnic groups ($r^2 = .01$). In general, the results show no practical differences for SJT and BIO based on gender or ethnicity.

Hogan Personality Inventory (HPI)

Table 7 shows the HPI results for the various subgroups. Although females scored lower on three subscales (Adjustment, Sociability, and Inquisitive) and Whites scored slightly higher on one measure (Learning Approach), in general, there was little gender or racial variation across the subgroups.¹⁵

14. Results of these analyses are available from the authors.

15. The variance only ranged between .01 to .04.

TABLE 7.
Means and Standard Deviations for New Tests by Gender and Ethnicity

		Gender			Ethnicity			
		Total	Female	Male	White	African-American	Latino	Asian/Pacific Islander
BIO mean score	Mean	2.74	2.76	2.72	2.74	2.84	2.69	2.76
	N	711	397	314	497	47	52	73
	SD	0.43	0.42	0.44	0.43	0.40	0.45	0.40
SJT mean score	Mean	2.68	2.66	2.71	2.68	2.67	2.83**	2.64
	N	691	395	296	479	53	50	78
	SD	0.45	0.46	0.44	0.46	0.49	0.34	0.42
HPI 1: Adjustment	Mean	22.91	22.45	23.51*	23.02	24.45	23.23	21.56**
	N	915	519	396	644	65	62	99
	SD	6.61	6.61	6.58	6.64	6.42	5.96	6.32
HPI 2: Ambition	Mean	21.82	21.63	22.08	21.74	22.72	22.48	21.26
	N	915	519	396	644	65	62	99
	SD	5.02	5.13	4.87	5.05	4.91	5.36	4.62
HPI 3: Sociability	Mean	13.19	12.88	13.59*	13.03	13.72	13.23	13.25
	N	915	519	396	644	65	62	99
	SD	4.79	4.84	4.69	4.70	4.83	4.79	5.11
HPI 4: Interpers. Sensitivity	Mean	17.78	18.18	17.26*	17.75	18.40	18.21	17.52
	N	915	519	396	644	65	62	99
	SD	3.23	3.13	3.29	3.20	2.94	3.09	3.18
HPI 5: Prudence	Mean	18.20	18.64	17.63	18.23	18.37	18.52	18.03
	N	915	519	396	644	65	62	99
	SD	4.06	3.93	4.17	4.04	4.49	4.26	3.83
HPI 6: Inquisitive	Mean	14.74	14.08	15.61*	14.71	13.52**	15.24	14.90
	N	915	519	396	644	65	62	99
	SD	4.30	4.33	4.11	4.23	4.61	4.33	4.43
HPI 7: Learning Approach	Mean	10.45	10.52	10.36	10.71	9.06**	9.90	10.07**
	N	915	519	396	644	65	62	99
	SD	2.44	2.39	2.50	2.32	2.62	2.28	2.61
OPT total score	Mean	24.29	24.11	24.52	24.26	25.98**	24.62	23.75**
	N	706	395	311	492	47	52	73
	SD	4.77	4.99	4.47	4.83	3.74	4.33	4.55
OPT total score	Mean	24.29	24.11	24.52	24.26	25.98**	24.62	23.75**
	N	706	395	311	492	47	52	73
	SD	4.77	4.99	4.47	4.83	3.74	4.33	4.55

* significant difference ($p < .05$) between females and males

** significant difference ($p < .05$) between Whites and noted ethnic group

OPT Disposition

Table 7 presents the means and standard deviations for OPT disposition by subgroups. No practical subgroup differences were found, though African-Americans scored higher than Whites on OPT disposition ($r^2 = .01$).

Performance Appraisals of Lawyer Effectiveness

We also examined demographic subgroup differences in the ratings of participants' lawyering performance. Table 8 presents results of the other category of appraisals (combined average ratings by peers and supervisors). Results showed significant differences between males and females on nine of the effectiveness factors, where males were evaluated more highly on Analysis and Reasoning, Creativity/Innovation, Problem Solving, Researching the Law, Influencing and Advocating, Writing, Speaking, Negotiation Skills, and Stress Management; females were rated more highly on Community Involvement and Service. (The greater number of effectiveness factors on which the males were rated higher could suggest bias or stereotyping that should be examined in future research.) Ethnic differences were found mainly between Whites and Asians, where the latter were evaluated lower on 11 of the effectiveness factors. An additional analysis, in which the average rating was determined across all 26 effectiveness factors, showed no gender difference and a slightly lower rating for Asians when compared to Whites.

In general, although the results show some statistically significant differences, effect sizes for gender and race were relatively small, and the means for all subgroups were generally above a value of "4" on the five-point scale.

Limitations of Sample

The research reported here has several limitations related to the sample. First, the results are based on graduates of only two law schools. Second, results reflect a restricted sample in that (1) all participants in the alumni sample were admitted to and graduated from law school; (2) all were law graduates practicing law or performing law-related jobs, which assumes they were reasonably successful—unsuccessful lawyers were not likely to participate in the study; (3) all were volunteer participants; and (4) performance evaluators were identified by participants. These limitations may restrict variance in the measures studied and used, and could tend to underestimate correlations among the measures. Despite these limitations, the obtained correlations are sufficiently strong as to be quite important and to cause us to urge additional research with an eye to adding projections of lawyering competence to admission decision making in the near future.

CONCLUSION

Primary Findings

This project sought to explore additional types of law school admission measures that can predict actual lawyering performance. Our research results suggest the following:

- BIO, SJT, several HPI subscales, and OPT disposition showed the strongest correlation with lawyering effectiveness. For example, BIO showed significant correlations

TABLE 8.
Combined Peer and Supervisor Appraisals by Gender and Ethnicity

		Gender				Ethnicity			
		Total	Female	Male	White	Afr. Amer.	Latino	Asian	
Average Across All Other Appraisals	Mean	4.285	4.268	4.307	4.296	4.292	4.326	4.204**	
	N	981	567	414	681	72	72	107	
	SD	0.377	0.367	0.390	0.348	0.392	0.431	0.469	
Intellectual and Cognitive	Mean	4.349	4.308	4.406*	4.381	4.269	4.309	4.252**	
	N	973	560	413	677	71	72	106	
	SD	0.488	0.470	0.506	0.442	0.620	0.599	0.576	
Creativity/Innovation	Mean	4.273	4.230	4.330*	4.311	4.236	4.241	4.089**	
	N	923	528	395	647	64	69	96	
	SD	0.574	0.571	0.575	0.511	0.660	0.765	0.685	
Problem Solving	Mean	4.345	4.301	4.403*	4.363	4.344	4.366	4.241**	
	N	967	557	410	672	69	71	106	
	SD	0.460	0.466	0.446	0.422	0.537	0.466	0.571	
Practical Judgment	Mean	4.274	4.257	4.297	4.276	4.335	4.299	4.182	
	N	963	555	408	675	68	69	103	
	SD	0.541	0.519	0.569	0.519	0.501	0.629	0.647	
Research & Information Gathering	Mean	4.310	4.280	4.351*	4.334	4.220	4.326	4.208**	
	N	958	551	407	672	67	69	105	
	SD	0.502	0.489	0.515	0.477	0.461	0.555	0.650	
Fact Finding	Mean	4.363	4.340	4.395	4.379	4.336	4.391	4.291	
	N	956	551	405	666	67	70	105	
	SD	0.457	0.461	0.451	0.432	0.485	0.553	0.511	
Questioning and Interviewing	Mean	4.223	4.212	4.238	4.227	4.261	4.307	4.130	
	N	903	518	385	629	66	64	100	
	SD	0.490	0.480	0.504	0.454	0.545	0.494	0.655	
Communications	Mean	4.284	4.256	4.320*	4.301	4.283	4.359	4.130**	
	N	964	553	411	671	69	71	104	
	SD	0.491	0.492	0.487	0.457	0.511	0.527	0.596	

TABLE 8.
(Continued)

	Total	Gender		Ethnicity				
		Female	Male	White	Afr. Amer.	Latino	Asian	
Writing	Mean	4.243	4.335*	4.319	4.194	4.219	4.185**	
	N	550	402	667	67	69	103	
Speaking	SD	0.557	0.540	0.514	0.560	0.635	0.648	
	Mean	4.209	4.333*	4.268	4.302	4.347	4.189	
Listening	N	558	405	671	72	68	103	
	SD	0.534	0.522	0.497	0.595	0.617	0.590	
Strategic Planning	Mean	4.299	4.326	4.305	4.411	4.371	4.277	
	N	550	407	668	69	69	103	
Planning and Organizing	SD	0.452	0.481	0.451	0.449	0.534	0.527	
	Mean	4.258	4.292	4.289	4.246	4.405	4.134**	
Organizing and Managing One's Own Work	N	533	399	653	68	66	100	
	SD	0.445	0.526	0.453	0.526	0.504	0.571	
Organizing and Managing Others	Mean	4.274	4.247	4.284	4.202	4.198	4.248	
	N	558	403	669	70	69	105	
Conflict Resolution	SD	0.586	0.597	0.549	0.503	0.756	0.700	
	Mean	4.301	4.270	4.293	4.258	4.206	4.328	
Negotiation Skills	N	504	371	613	63	62	93	
	SD	0.581	0.585	0.561	0.623	0.817	0.478	
Able to See the World Through the Eyes of Others	Mean	4.201	4.298*	4.229	4.323	4.286	4.268	
	N	496	383	615	67	63	89	
	SD	0.457	0.519	0.481	0.415	0.592	0.527	
	Mean	4.278	4.281	4.263	4.412**	4.306	4.294	
	N	554	404	670	67	69	103	
	SD	0.456	0.473	0.459	0.368	0.508	0.493	

Client & Business Relations	Networking and Business Development	Mean	4.157	4.124	4.203	4.142	4.207	4.305	4.158
		N	878	506	372	614	64	57	98
	Advising Clients	SD	0.653	0.670	0.627	0.660	0.649	0.666	0.589
		Mean	4.406	4.408	4.403	4.395	4.475	4.452	4.378
	Developing Relationships within the Legal Profession	N	921	523	398	644	65	67	100
		SD	0.439	0.414	0.471	0.442	0.365	0.419	0.491
Working with Others	Evaluation, Development, and Mentoring	Mean	4.374	4.381	4.365	4.348	4.522**	4.404	4.429
		N	969	557	412	677	69	69	105
	Passion and Engagement	SD	0.516	0.485	0.556	0.527	0.366	0.625	0.487
		Mean	4.244	4.254	4.231	4.238	4.342	4.231	4.262
Character	Diligence	N	817	469	348	565	64	59	87
		SD	0.560	0.540	0.586	0.548	0.610	0.625	0.534
	Integrity/Honesty	Mean	4.337	4.333	4.343	4.341	4.375	4.505**	4.205**
		N	971	562	409	673	71	72	106
	Stress Management	SD	0.563	0.574	0.547	0.540	0.616	0.463	0.634
		Mean	4.305	4.313	4.295	4.329	4.297	4.282	4.221**
	Community Involvement and Service	N	958	551	407	665	69	71	105
		SD	0.510	0.500	0.524	0.472	0.448	0.649	0.618
	Self-Development	Mean	4.659	4.641	4.684	4.687	4.664	4.621	4.525**
		N	963	556	407	671	70	70	104
	Working with Others	SD	0.384	0.387	0.379	0.355	0.435	0.425	0.494
		Mean	4.150	4.114	4.200*	4.143	4.211	4.181	4.106
	Passion and Engagement	N	954	553	401	664	68	69	105
		SD	0.534	0.534	0.531	0.530	0.482	0.545	0.620
	Integrity/Honesty	Mean	4.253	4.303	4.184*	4.201	4.392**	4.494**	4.308
		N	872	509	363	600	65	63	101
	Stress Management	SD	0.678	0.652	0.709	0.712	0.535	0.556	0.598
		Mean	4.157	4.149	4.168	4.149	4.183	4.248	4.155
	Community Involvement and Service	N	947	548	399	657	69	69	104
		SD	0.533	0.512	0.562	0.531	0.523	0.546	0.578

* significant difference (p , .05) between females and males

** significant difference (p < .05) between Whites and noted ethnic group

with 24 of 26 lawyer performance factors, SJT with 23, four HPI subscales with 22, 18, 14 and 12, respectively, and OPT disposition significantly correlated with 10 factors. By contrast, most of the 26 factors identified by attorneys as important to lawyer performance were not well predicted by the LSAT, UGPA, or Index score.

- Noncognitive constructs explored in this project correlated at a higher level of significance with lawyer performance factors than did LSAT, UGPA, or Index even when a performance factor, such as Analysis and Reasoning, is a primary competence targeted by those academic measures. Of course, the LSAC indicators assess analytic reasoning skills, as reflected in school grades, while the nonacademic tests address analytic reasoning in professional work.
- Unlike the LSAT, our noncognitive measures showed few racial or gender subgroup differences, creating the potential to reduce adverse impact through use of new tests.

Potential Diversity Gains with a New Test Battery

Table 9 draws from the alumni sample studied in this research to illustrate the potential to increase diversity by including these tests in admission decisions. If the LSAT were the only admission test, and if it were used in a top-down fashion—where the scores are presented in rank order—selection of the top 10 percent of the sample studied in this research project would yield 116 admits, 54.3 percent of whom would be female and 85.3 percent of whom would be White, .9 percent African American, 4.3 percent Latino, and 6.9 percent Asian/Pacific Islander. In another example, if the Index score were the only determinant of admission, and were used in a top-down fashion to select 10 percent of this sample for admission, the chosen applicants would be 52.7 percent female and 87.5 percent White, 0 percent African-American, 4.5 percent Latino, and 6.3 percent Asian/Pacific Islander. By contrast, if the SJT were the only determinant of selection,¹⁶ 50 percent of the top 10 percent would be female and 68.8 percent White, with 7.5 percent being African American, 7.5 percent being Latino and 11.3 percent being Asian/Pacific Islander. The remaining rows of Table 9 show results for different selection percentages and for different test combinations. For example, combining the BIO and SJT tests, and using supervisor assessments of participants' lawyering effectiveness yields a group of sixty-four admits in the top 20 percent of scores, where 53.1 percent are female, 65.6 percent are White, 9.4 percent are African American, 10.9 percent are Latino, and 10.9 percent are Asian/Pacific Islander. These examples suggest what Christopher Jencks (1988) called "selection system bias" in law school admission: where multiple factors are important to a decision, overemphasis on predictors where Whites do better than underrepresented minorities combined with underutilization of predictors where racial groups perform in substantially equal ways unfairly diminishes the admission of minority group applicants.

If further research confirms the predictive validity of these noncognitive, performance-predictive tests, measures of this new type would open up an array of valuable options in admission practices. Tests have typically been used in a largely top-down fashion, where the students with the highest scores are selected first. Other

16. $N = 80$ rather than 116 because not all in the sample took the SJT.

TABLE 9.
Estimates of Admitted Law Classes by Admissions Tests for Gender and Ethnicity

		Gender			Ethnicity			
		Total	Female	Male	White	African-American	Latino	Asian/Pacific Islander
LSAT	Top 10%	116	63 (54.3%)	53 (45.7%)	99 (85.3%)	1 (.9%)	5 (4.3%)	8 (6.9%)
	Top 20%	225	115 (51.1%)	110 (48.9%)	195 (86.7%)	1 (.4%)	7 (3.1%)	15 (6.7%)
	Top 30%	348	180 (51.7%)	168 (48.3%)	302 (86.8%)	2 (.6%)	8 (2.3%)	25 (7.2%)
Index (50/50)	Top 10%	112	59 (52.7%)	53 (47.3%)	98 (87.5%)	0 (0%)	5 (4.5%)	7 (6.3%)
	Top 20%	225	124 (55.1%)	101 (44.9%)	192 (85.3%)	0 (0%)	6 (2.7%)	21 (9.3%)
	Top 30%	334	184 (55.1%)	150 (44.9%)	285 (85.3%)	0 (0%)	7 (2.1%)	33 (9.9%)
BIO	Top 10%	72	44 (61.1%)	28 (38.9%)	49 (68.1%)	5 (6.9%)	4 (5.6%)	10 (13.9%)
	Top 20%	140	84 (60.0%)	56 (40.0%)	96 (68.6%)	13 (9.3%)	9 (6.4%)	13 (9.3%)
	Top 30%	213	119 (55.9%)	94 (44.1%)	143 (67.1%)	17 (8.0%)	16 (7.5%)	23 (10.8%)
SJT	Top 10%	80	40 (50.0%)	40 (50.0%)	55 (68.8%)	6 (7.5%)	6 (7.5%)	9 (11.3%)
	Top 20%	205	114 (55.6%)	91 (44.4%)	141 (68.8%)	17 (8.3%)	19 (9.3%)	22 (10.7%)
	Top 30%	242	135 (55.8%)	107 (44.2%)	165 (68.2%)	19 (7.9%)	23 (9.5%)	29 (12.0%)
HPI Ambition	Top 10%	173	89 (51.4%)	84 (48.6%)	118 (68.2%)	12 (6.9%)	19 (11.0%)	13 (7.5%)
	Top 20%	256	138 (53.9%)	118 (46.1%)	168 (65.6%)	23 (9.0%)	28 (10.9%)	20 (7.8%)
	Top 30%	330	179 (54.2%)	151 (45.8%)	225 (68.2%)	29 (8.8%)	29 (8.8%)	29 (8.8%)
HPI Learning approach	Top 10%	201	116 (57.7%)	85 (42.3%)	156 (77.6%)	6 (3.0%)	6 (3.0%)	21 (10.4%)
	Top 20%	343	205 (59.8%)	138 (40.2%)	262 (76.4%)	15 (4.4%)	15 (4.4%)	31 (9.0%)
	Top 30%	515	300 (58.3%)	215 (41.7%)	387 (75.1%)	23 (4.5%)	29 (5.6%)	51 (9.9%)
Optimism (OPT)	Top 10%	131	73 (55.7%)	58 (44.3%)	94 (71.8%)	13 (9.9%)	9 (6.9%)	8 (6.1%)
	Top 20%	217	124 (57.1%)	93 (42.9%)	152 (70.0%)	18 (8.3%)	16 (7.4%)	18 (8.3%)
	Top 30%	285	161 (56.5%)	124 (43.5%)	204 (71.6%)	26 (9.1%)	19 (6.7%)	23 (8.1%)

TABLE 9.
(Continued)

		Gender			Ethnicity			
		Total	Female	Male	White	African-American	Latino	Asian/Pacific Islander
HPI Ambition and BIO combo (self weightings)	Top 10%	61	36 (59.0%)	25 (41.0%)	43 (70.5%)	5 (8.2%)	4 (6.6%)	4 (6.6%)
	Top 20%	126	67 (53.2%)	59 (46.8%)	88 (69.8%)	10 (7.9%)	9 (7.1%)	12 (9.5%)
	Top 30%	183	104 (56.8%)	79 (43.2%)	122 (66.7%)	17 (9.3%)	14 (7.7%)	20 (10.9%)
BIO and SJT (peer weightings)	Top 10%	32	19 (59.4%)	13 (40.6%)	21 (65.6%)	2 (6.3%)	4 (12.5%)	3 (9.4%)
	Top 20%	66	36 (54.5%)	30 (45.5%)	43 (65.2%)	6 (9.1%)	7 (10.6%)	8 (12.1%)
	Top 30%	94	50 (53.2%)	44 (46.8%)	64 (68.1%)	8 (8.5%)	7 (7.4%)	12 (12.8%)
BIO and SJT (supervisor weightings)	Top 10%	33	19 (57.6%)	14 (42.4%)	23 (69.7%)	3 (9.1%)	3 (9.1%)	2 (6.1%)
	Top 20%	64	34 (53.1%)	30 (46.9%)	42 (65.6%)	6 (9.4%)	7 (10.9%)	7 (10.9%)
	Top 30%	95	51 (53.7%)	44 (46.3%)	65 (68.4%)	8 (8.4%)	7 (7.4%)	12 (12.6%)

alternatives could be explored. Member schools might, for example, use the LSAT and/or Index score to set an academic floor and then use the new predictor scores to rank applicants who surpass that floor. This could involve establishing a statistical band (Cascio, Outtz, Zedeck and Goldstein 1991), which would identify a pool of relatively equivalent LSAT scorers and from which selections would be based on other predictors. Or, a school might use the LSAT to identify the top 20 percent (in terms of academic potential) and then combine the LSAT score with one or several of the new test scores into a new type of composite to admit additional applicants. Or, a school might wish to combine the Index score and new test scores from the beginning in order to assure that it has selected its student body on the basis of relevant academic *and* performance-predictive factors, and has increased diversity compared to admission policies that predominately emphasize LSAT scores. Or, a school might establish minimum scores for each of multiple test instruments and require that an applicant achieve that minimum score on each to gain admission. These are some of the ways schools might make good use of the additional information supplied by scores on new predictors like those researched in this study. Future research should investigate some of these approaches, using a broad sample, and taking into account issues such as test time administration, cost, and other factors that impact the contribution of testing.

The new tests used in conjunction with the LSAT, UGPA, or Index scores, could extend admission consideration beyond prediction of grades to include predictions of professional effectiveness in law and law-related jobs. These tests could ameliorate

problems that have long been a focus of critical commentary on law admission practice. Adding this component to selection among applicants could strengthen the connections between legal education and the profession. It could significantly increase diversity over what will likely be achieved when academic indicators dominate the process. The new methods could also provide applicants, career placement officials, and employers with more information when considering applicants' strengths. Most importantly, inclusion of tests to predict lawyer performance would, in our view, be justified by the actual role and mandate of law schools as professional schools and by the profession's mandate in society (e.g., serving clients, guiding behavior, aiding in resolution of disputes and contributing to justice).

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