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Gaining from the System: Lessons from the Law School Survey of Student Engagement About Student Development in Law School

Carole Silver

Indiana University Maurer School of Law, c-silver@law.northwestern.edu

Louis Rocconi

National Survey of Student Engagement

Heather Haeger

Law School Survey of Student Engagement

Lindsay Watkins

Law School Survey of Student Engagement

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ARTICLE

**GAINING FROM THE SYSTEM: LESSONS
FROM THE LAW SCHOOL SURVEY OF
STUDENT ENGAGEMENT ABOUT
STUDENT DEVELOPMENT
IN LAW SCHOOL**

CAROLE SILVER
LOUIS ROCCONI
HEATHER HAEGER
LINDSAY WATKINS*

This paper considers the factors that influence law students' assessment of their professional and academic development during law school. It uses responses of 5,612 third- and fourth-year law students to the Law School Survey of Student Engagement to identify student activities and behaviors that relate to professional and academic gains; individual and law school characteristics also are examined. Four aspects of the law school experience emerge as integral parts of students' professional and academic development.

Law schools in the U.S. have been under intense scrutiny for the last few years. Initially, this was related to the negative effect of the 2008 economic downturn on the market for legal services; law firm hiring slowed dramatically and law school graduates suffered as a result. More recently, criticism has turned to the structure of financing legal education and the

* Silver is Professor of Law at Indiana University Maurer School of Law, and Director of the Law School Survey of Student Engagement. Rocconi is a Research Analyst for the National Survey of Student Engagement. Haeger is a Research Analyst for the Law School Survey of Student Engagement and National Survey of Student Engagement. Watkins was at the time of writing the Project Manager of the Law School Survey of Student Engagement. The authors thank Stephen Daniels, Bryant Garth, and George Kuh for helpful comments and discussions, and David Breed for research assistance. We also benefitted from the discussion at the symposium, Empirical Professional Ethics: Ethical Development in the Learning and Practice of Law, sponsored by the University of St. Thomas Holloran Center on Ethical Leadership in the Professions and the University of St. Thomas Law Journal. Additional research on this topic was presented at the 2012 Association for the Study of Higher Education conference in Las Vegas, Nev.

credibility of law schools regarding statistics about their students and graduates. Throughout this period, an undercurrent of concern has been about what and how law schools teach.¹ In part, this concern stems from comments that seem motivated more by economic issues of users of legal services, rather than producers, as clients of large law firms were reluctant to fund training of new law graduates in the fallout of 2008. But these issues of economic and substantive value regarding legal education now are paired in the current debate,² making it even more important to understand what happens during law school in terms of the education provided.

In this article, we focus on one aspect of these challenges to law schools by investigating which law school-related activities and experiences contribute most effectively to students' perceptions of their professional and academic development. Our research, based on data from a national sample of law students gathered by the Law School Survey of Student Engagement ("LSSSE"), is aimed at contributing to a growing body of empirical work on legal education³ that can help law schools shift towards using data to inform their policies and, along with other information, guide student learning.⁴ As the factors shaping students' development are clarified, law schools will be better equipped to respond to the changing educational landscape and legal market. Indeed, this may help divert attention from *U.S. News & World Report* rankings and other reputational factors that are not intended to help schools become more effective in educating students.⁵

1. This increased attention is explained at least in part by client sensitivity to law firms passing on costs of hiring and training new graduates. See, e.g., Ashby Jones, *Who Should Foot the Bill for the 'Worthless' Young Associates?* WALL ST. J.L. BLOG (Apr. 13, 2010), <http://blogs.wsj.com/law/2010/04/13/who-should-foot-the-bill-for-the-worthless-young-associates/> ("At the talk, Chester Paul Beach, associate general counsel of United Technologies Corp., 'hammered home the need for more real-world training,' and added that United Technologies refuses to pay for first or second years because 'they're worthless.' Schools need to step up and start training people how to become lawyers, Beach said.").

2. See generally Bryant Garth, *Crisis, Crisis Rhetoric, and Competition in Legal Education: A Sociological Perspective on the (Latest) Crisis of the Legal Profession and Legal Education*, LEGAL STUDIES RESEARCH PAPER SERIES No. 2012-70, <http://ssrn.com/abstract=2166441> (describing economic and sociological analyses of the crisis rhetoric).

3. See, e.g., ELIZABETH MERTZ, *THE LANGUAGE OF LAW SCHOOL: LEARNING TO "THINK LIKE A LAWYER"* 207–23 (2007) (linguistic study of first year law students); WILLIAM M. SULLIVAN, ANNE COLBY, JUDITH W. WEGNER, LLOYD BOND & LEE S. SCHULMAN, *EDUCATING LAWYERS: PREPARATION FOR THE PROFESSION OF LAW 185–202* (2007) (comparative study of teaching practices in legal education with those in other professions).

4. Erwin Chemerinsky, *Foreword to LAW SCHOOL SURVEY OF STUDENT ENGAGEMENT, LESSONS FROM LAW STUDENTS ON LEGAL EDUCATION 4* (2012), available at http://www.lssse.iub.edu/pdf/2012/LSSSE_2012_AnnualReport.pdf (Chemerinsky recently commented, "[e]veryone involved in legal education thinks they know how law students learn and how they experience law school. We generalize from our own experiences as law students and from anecdotal information.").

5. See Robert Morse, *Law Schools Taken to Task in New Book*, U.S. NEWS EDUCATION (July 26, 2012), <http://www.usnews.com/education/blogs/college-rankings-blog/2012/07/26/law-schools-taken-to-task-in-new-book> (Robert Morse of *U.S. News* responds to Brian Tamanaha's book, *FAILING LAW SCHOOLS*, by stating "The main audience of the *U.S. News Best Law Schools*

Typically, writing about what and how law students learn is done from the vantage point of the faculty.⁶ The emphasis is on teaching rather than learning, and the implication is that student learning follows teaching.⁷ In this article, we approach these issues from the students' perspective, drawing on LSSSE data to examine the relationship between what students do in law school, the characteristics they bring with them to law school, and characteristics of the law schools themselves, on one hand, and students' perceptions of their learning and development, on the other.⁸

The paper begins with an introduction of the notion of student engagement, which, while a core concept in higher education, has been used only rarely to analyze the context of law school. Section I also explains the parameters of the data and our research strategy. Section II sets out the research findings. Generally, students perceive that their professional and

rankings is not meant to be law schools or law school deans—and the rankings should not be a management tool that law school administrators use as the basis for proving that their school is improving or declining. The rankings are produced primarily for prospective students as one tool to help them determine the relative merits between schools they are considering.”).

6. See, e.g., *Putting LSSSE to Use: A Roundtable of LSSSE Expert Users at AALS 2011 Annual Meeting*, LAW SCHOOL SURVEY OF STUDENT ENGAGEMENT (Jan. 8, 2011), http://lssse.iub.edu/workshops/01082011/Putting%20LSSSE%20to%20Use_Roundtable%20of%20LSSSE%20Expert%20Users_1.8.2011.mp3 (comments of Richard Matasar, then dean of New York Law school, describing law schools' tendency to approach educational improvement through “magical thinking,” a process that starts with a hunch, progresses to trial and error, and ends with fingers crossed). Matasar suggested that to improve educational outcomes, “[s]chools must analyze data, change their behavior in light of the data, and give up cherished beliefs that turn out to be folklore, not fact.” Richard A. Matasar, *The Viability of the Law Degree: Cost, Value, and Intrinsic Worth*, 96 IOWA L. REV. 1579, 1592 (2011). Matasar described this process as a “feedback loop to continuously refine and adjust what is measured.” *Id.*

7. See, e.g., Arturo Lopez Torres & Mary Kay Lundwall, *Moving Beyond Langdell II: An Annotated Bibliography of Current Methods for Law Teaching*, 36 GONZ. L. REV. 1, 2–3 (2000) (compiling a list of articles “that offer practical suggestions on [teaching methods],” focusing on informing readers about “materials chosen, methods employed, exercises used, and evaluation instruments or methods utilized” by teachers in discrete topics of law). *But see* Steven I. Friedland, *How We Teach: A Survey of Teaching Techniques In American Law Schools*, 20 SEATTLE U. L. REV. 1, 32 (1996) (when asked “why do you use these techniques?” 90% of responding professors “stated they utilized methods because they are most effective (due to the fact that students learn more from them).”); Gerald F. Hess, *Improving Teaching and Learning in Law School: Faculty Development Research, Principles, and Programs*, 12 WIDENER L. REV. 443, 463 (2006) (discussing how changes in faculty development should ultimately result in changes in student understanding).

8. Items on LSSSE are not direct measures of learning per se, but of students' perception of their own development. For a discussion of this issue in the context of the National Survey of Student Engagement, see Carol A. Dwyer, Catherine M. Millett & David G. Payne, *A Culture of Evidence: Postsecondary Assessment and Learning Outcomes*, EDUCATIONAL TESTING SERVICE, 15 (June 2006), http://www.ets.org/Media/Resources_For/Policy_Makers/pdf/cultureofevidence.pdf (“It is important to understand that student engagement is not, in itself, an index of student learning. Rather, student engagement is an index of the nature and extent of the student's active participation in the learning process, and NSSE and CCSSE are intended to measure what students do in school. These surveys do not provide independent measures of the learning that is assumed to take place as a result of these activities. Student engagement is, however, considered by many to be both a valuable aspect of postsecondary education for the individual and the institution, and an indicator of motivation and habits that carry over into other current and future settings.”).

academic development is furthered by engagement in educationally purposeful activities, meaning behaviors that indicate students' "active participation in the learning process,"⁹ such as spending time preparing for class and interacting with faculty and peers, as well as from experiencing challenging coursework, and feeling that their law school provides a supportive environment. In Section III, we consider the implications of our findings for law schools. The conclusion suggests several next steps for further research.

I. STUDENT ENGAGEMENT AND RESEARCH PARAMETERS

In this section, we first explore the concept of student engagement, drawing from research conducted outside of the law school context. Part B then describes the LSSSE data used in our analysis and our research strategy.

A. *Student engagement in law school: concepts and methods*

The notion of student engagement has served as the basis for extensive research on student learning and development in college.¹⁰ Scholars describe the concept of student engagement in terms of "students' levels of active involvement in their undergraduate programs and in its constituent elements."¹¹ This involvement includes, among other things, "learning inside the classroom, [participation] in student organizations, and . . . research experiences."¹² Student engagement also can refer to those behaviors that benefit learning, such as studying independently or collaboratively, or seeking help from a professor.¹³ Generally, empirical research investigating stu-

9. *Id.*

10. See ALEXANDER W. ASTIN, WHAT MATTERS IN COLLEGE? FOUR CRITICAL YEARS REVISITED 396–437 (1993) [hereinafter WHAT MATTERS IN COLLEGE? FOUR CRITICAL YEARS REVISITED]; George D. Kuh & Shouping Hu, *The Effects of Student-Faculty Interaction in the 1990s*, 24 REV. HIGHER EDUC. 3, 309–32 (2001) [hereinafter *The Effects of Student-Faculty Interaction in the 1990s*]; George D. Kuh, *The National Survey of Student Engagement: Conceptual and Empirical Foundations*, NEW DIRECTIONS FOR INSTITUTIONAL RES., Spring 2009, at 5–20; C. ROBERT PACE, MEASURING OUTCOMES OF COLLEGE: FIFTY YEARS OF FINDINGS AND RECOMMENDATIONS FOR THE FUTURE 7–47 (1979); ERNEST PASCARELLA & PATRICK TEREZINI, HOW COLLEGE AFFECTS STUDENTS: FINDINGS AND INSIGHTS FROM TWENTY YEARS OF RESEARCH 556–656 (Kenneth Feldman ed., 1991) [hereinafter HOW COLLEGE AFFECTS STUDENTS: FINDINGS AND INSIGHTS FROM TWENTY YEARS OF RESEARCH]; ERNEST PASCARELLA & PATRICK TEREZINI, HOW COLLEGE AFFECTS STUDENTS: A THIRD DECADE OF RESEARCH 571–649 (2d. ed. 2005) [hereinafter HOW COLLEGE AFFECTS STUDENTS: A THIRD DECADE OF RESEARCH]; see also Helen L. Chen, Lisa R. Lattuca & Eric R. Hamilton, *Conceptualizing Engagement: Contributions of Faculty to Student Engagement in Engineering*, J. ENGINEERING EDUC., July 2008, at 339; see generally Alexander W. Astin, *Student Involvement: A Developmental Theory for Higher Education*, 40 J.C. STUDENT DEV., 518–29 (1999).

11. Chen et al., *supra* note 10, at 339.

12. *Id.*

13. "When referring to involvement in an undergraduate program of study, student engagement can be characterized as the time devoted to learning-beneficial behaviors such as personal study, seeking extra help from an instructor, or studying with others. It can also refer to behaviors typically associated with self-regulation, such as study skill strategies and time-management.

dents in college has demonstrated a relationship between student engagement and academic success. Research on college students shows that student engagement often correlates with persistence in school and higher grades.¹⁴

Among the activities that have been positively linked with success in college, as well as student learning and development, are interactions with faculty¹⁵ and with other students,¹⁶ and participation in “high-impact” practices such as internships, research with a faculty member, and leadership in a student organization.¹⁷ In addition, research shows that institutional practices and the institutional climate can impact student engagement.¹⁸ For example, a school’s level of per-student expenditures is positively associated with students’ sense of development and gain, suggesting that colleges and universities can improve student gains through resource allocation.¹⁹

Despite attention to the concept of student engagement in research investigating undergraduate student learning, it has not been a focus of scholarship on learning in law school or, for that matter, on graduate-level education generally.²⁰ The research that comes closest to focusing on the notion of engagement with regard to legal education relates to concerns

When studied in the context of classroom learning, engagement can refer to the student’s concentration of attentional, cognitive, and affective resources. Yet another way to view engagement is through contrast with its opposite, alienation from learning tasks.” *Id.*

14. Although persistence and grades are common indicators of student success among higher education researchers, academic success at the undergraduate level has also been associated with progress toward a degree (credit hours earned), graduation, employment after graduation, post-college income, graduate school admission, scores on a field specific exam such as the PRAXIS or the CPA exam, among others. See GEORGE D. KUH, ET AL., WHAT MATTERS TO STUDENT SUCCESS: A REVIEW OF THE LITERATURE 5 (2006) (authors identify various measures of student success in college); *Id.* at 35 (“Student engagement in educationally purposeful activities is positively related to both grades and persistence.”) (emphasis omitted); see also HOW COLLEGE AFFECTS STUDENTS: FINDINGS AND INSIGHTS FROM TWENTY YEARS OF RESEARCH, *supra* note 10, at 510–14; WHAT MATTERS IN COLLEGE? FOUR CRITICAL YEARS REVISITED, *supra* note 10, at 365–95 (confirming that the time and energy devoted to educationally purposeful activities is one of the best predictors of student learning).

15. *The Effects of Student-Faculty Interaction in the 1990s*, *supra* note 10, at 5–20; George Kuh & Patrick O’Day, *Assessing What Matters in Law School: The Law School Survey of Student Engagement*, 81 IND. L.J. 1, 401–09 (2006).

16. WHAT MATTERS IN COLLEGE? FOUR CRITICAL YEARS REVISITED, *supra* note 10, at 384–87; Kuh & O’Day, *supra* note 15, at 405–07.

17. GEORGE D. KUH, HIGH-IMPACT EDUCATIONAL PRACTICES: WHAT THEY ARE, WHO HAS ACCESS TO THEM, AND WHY THEY MATTER 19–21 (2008).

18. Robert K. Toutkoushian & John C. Smart, *Do Institutional Characteristics Affect Student Gains From College?*, 25 THE REV. HIGHER EDUC. 1, 39–61 (2001).

19. See *id.* (other institutional factors that relate positively to student gains, including school size and school tuition).

20. But see Cassandra M.S. Florio & Steven J. Hoffman, *Student Perspectives on Legal Education: A Longitudinal Empirical Evaluation*, 62 J. LEGAL EDUC. 162 (2012) (reporting on an empirical study of student experiences at the University of Toronto Law School). See also *id.* at 164–168 (review of literature on student experiences and related subjects).

over the apathy or disengagement of law students.²¹ Attention has been focused particularly on third-year students regarding their lack of enthusiasm for law school, and their apathy has been the subject of considerable discussion and debate in the context of proposals to reform the curriculum, including shortening the length of law school.²²

Without comparable research on engagement in the law school context—or, for that matter, in any graduate school context—we cannot be certain whether engagement plays a similar role in the learning processes of law students as it does for college students. It is not clear whether the drivers of positive educational development are identical in both contexts. Understanding the role of engagement may be useful in thinking through the consequences of proposed changes to the curriculum and structure of U.S. legal education. Moreover, in addition to shedding light on the debates about legal education, understanding the processes and drivers of student development in law school will enable schools to consider how well they are serving the needs of their students.

To that end, this article investigates one aspect of the student experience in law school: the academic and professional development that students report experiencing in the context of their legal education. Our focus is on law students' self-reported gains,²³ as identified in response to ques-

21. Mitu Gulati, Richard Sander & Robert Sockloskie, *The Happy Charade: An Empirical Examination of the Third Year of Law School*, 51 J. LEGAL EDUC. 235 (2001) (concluding that third-year law students, while under-engaged in terms of class preparation, time on task, and several other measures, may benefit from other types of educational engagement more appropriate for third year students, including experiential learning, community involvement, and mentoring).

22. See, e.g., Elizabeth Chambliss, *Two Questions for Law Schools About the Future Boundaries of the Legal Profession*, 36 J. LEGAL PROF. 329, 346 (2012) (describing three options for shortening the time in school required to become a lawyer as “the ‘accelerated’ J.D. degree, in which students can compress law study into two years and three summers (but at the same price as a three-year degree); ‘three-plus-three’ programs, in which students can apply to law school after three years of college for the combined completion of an undergraduate and J.D. degree; and New York Law School’s proposal to allow the admission of applicants after two years of college for the combined completion of a B.A. and J.D. degree (‘two-plus-three’).”) (footnotes omitted); see also David Lat, *Bring Back Apprenticeships*, N.Y. TIMES, Feb. 2, 2012, <http://www.nytimes.com/roomfordebate/2011/07/21/the-case-against-law-school/bring-back-apprenticeships-in-legal-education>.

23. Self-reported measures are sometimes criticized for their subjectivity. Despite this fact, researchers continue to see the value in this form of data. See WHAT MATTERS IN COLLEGE? FOUR CRITICAL YEARS REVISITED, *supra* note 10, at 1–31; George D. Kuh, *Assessing What Really Matters to Student Learning: Inside the National Survey of Student Engagement*, CHANGE, May/June 2001, at 10–17; George D. Kuh, C. Robert Pace & Nick Vesper, *The Development of Process Indicators to Estimate Student Gains Associated With Good Practices in Undergraduate Education*, 38 RES. HIGHER ED. 435, 435–54 (1997); HOW COLLEGE AFFECTS STUDENTS: A THIRD DECADE OF RESEARCH, *supra* note 10, at 1–14; Robert M. Gonyea & Angie Miller, *Clearing the AIR About the Use of Self-Reported Gains in Institutional Research*, NEW DIRECTIONS FOR INSTITUTIONAL RES., June 21, 2011, at 99–111. Moreover, other authors demonstrated that students’ reports of their college experiences are accurate and credible. See C. ROBERT PACE, DORIS BARAHONA & DAVID KAPLAN, *THE CREDIBILITY OF STUDENT SELF-REPORTS* 7–20 (1985); ROBERT M. GONYEA, KELLY A. KISH, GEORGE D. KUH, RICHARD N. MUTHIAH & AUDEN D. THOMAS, *COLLEGE STUDENT EXPERIENCES QUESTIONNAIRE NORMS FOR THE FOURTH EDITION* 1–11 (2003); see also Toutkoushian & Smart, *supra* note 18, at 43 (“The value of self-reports on gains has been

tions posed as part of LSSSE. These gains are based on students' reflections on their own development stemming from law school, and should not be confused with external evaluations of learning such as standardized tests or course-based assessments administered by faculty. Nor do we suggest that self-reported gains take the place of such external measures. Rather, they are a useful complement to provide a more comprehensive understanding of student learning and development, and are comprised both of factors that are the subject of external assessment—such as writing and research skills—as well as factors that are not included in formal objective assessments in law school but nonetheless important to the work of lawyers—such as understanding others who are different and developing a personal code of ethics. Traditionally, success and value in legal education have been considered largely related to grades, class rank, bar passage, and law school reputation.²⁴ But research suggests that the qualities and characteristics of effective lawyers may not be strongly predicted by standardized test scores and law school grades,²⁵ and scholars have questioned the wisdom of relying too heavily on rankings.²⁶ Moreover, with regard to individual law student learning, even research that identified a relationship between particular student behaviors and activities, on one hand, and higher grades and class rank, on the other hand, would not necessarily translate into improved grades and class rank, because the mandatory curve imposed by most law schools on most large classes limits schools' ability to transform these sorts of research findings into strategies helpful to all students.

Focusing on students' report of their own development in law school offers an additional lens into the student experience. One aspect of self-reported gains—academic development—is positively correlated to higher self-reported law school grades.²⁷ That is, there is a relationship between

examined by scholars like Dumont and Troelstrup (1980), who conclude that self-reported gains are highly correlated with quantifiable measures of student progress. Pike (1995) and others, however, caution researchers about the use of self-reported gain scores; since this study relies on self-reported student gains, the reader should refer to this literature for more information.”)

24. Morriss and Henderson claim that “students perceive [rankings] as important indicators of the value of their degrees.” See, e.g., Andrew P. Morriss & William D. Henderson, *Measuring Outcomes: Post-Graduation Measures of Success in the U.S. News & World Report Law School Rankings*, 83 IND. L.J. 791, 792 (2008) (rankings issued by *U.S. News & World Report* are the most widely acknowledged indicator of a law school's reputation).

25. Marjorie M. Shultz & Sheldon Zedeck, *Identification, Development and Validation of Predictors for Successful Lawyering* 4 (Jan. 30, 2009), <http://ssrn.com/abstract=1353554>.

26. See generally MICHAEL SAUDER & WENDY ESPELAND, FEAR OF FALLING: THE EFFECTS OF *U.S. NEWS & WORLD REPORT* RANKINGS ON U.S. LAW SCHOOLS 10–15 (Oct. 2007), <http://www.lsac.org/lsacresources/research/gr/pdf/gr-07-02.pdf>; see also Brian Leiter, *Brian Leiter's Newest Rankings*, BRIAN LEITER'S LAW SCHOOL RANKINGS, <http://www.leiterrankings.com/new/index.shtml> (last visited Jan. 22, 2013) (entire site devoted to methods of measuring and comparing U.S. law schools as an alternative to *U.S. News & World Report*).

27. Our research shows a positive relationship between students' self-reported academic gains and their self-reported grades. While this relationship is positive, it is not exceedingly so. This is to be expected given the grading curve used by most law schools; although many students may feel they make strides academically, the curve only allows for a small number of As. The

the important external assessment of grades and students' self-reported academic gains. But students' sense of development is not limited by law school structures such as the mandatory curve, and it is at least theoretically possible for every law student to perceive a benefit from law school regarding their development along professional and academic lines (in contrast to high grades and class rank). Consequently, gaining insight into the relationship between student engagement and students' sense of what they have gained from their law school experiences may yield opportunities for schools to help all law students. Moreover, students' sense of their own development is important for the perspective it offers into their experiences and perceptions—their sense of the underlying value of law school and the energy they invest in it. In this regard, the findings from this research may add to the mix of information available to guide law schools and policymakers interested in shaping student behaviors. It also may offer some insight into the kinds of behaviors to expect from new graduates as they begin their careers.²⁸

B. *Research sources and strategy*

i. *Survey sample*

Our analysis draws on data collected in 2011, when 33,413 students at 95 law schools in the U.S. and Canada responded to the LSSSE survey. In this analysis, we use only responses from 5,612 third- and fourth-year students enrolled in 76 U.S.-based American Bar Association (“ABA”)-approved law schools; 92% (or 5,158) were 3Ls and 8% (or 454) were 4Ls.²⁹ These students, in their final year of law school, are in the best position to report on how they benefitted from law school by virtue of their having the most exposure in terms of time. The average institutional response rate for all participating law schools in 2011 was 52%. In addition to these data from LSSSE, we also utilize publicly available information obtained from the ABA and the Law School Admission Council (“LSAC”). The LSAC provides details on certain law school characteristics, including diversity of the law school faculty and student body, and ranges of Law School Admis-

moderately positive statistical relationship that our research uncovered confirms this theory. For this analysis, we used students' self-reported grades. The LSSSE survey asks students to report most of their grades in law school so far. Moreover, an analysis of a subset of the LSSSE schools participating in the 2012 survey demonstrates a strong positive relationship (correlation=.88, $p<.001$) between law school GPA as reported by the law school and student self-reported grades, indicating that self-reported grades are a reliable measure of law school GPA.

28. See Gonyea & Miller, *supra* note 23, at 99–111 (discussing the uses and limitations of self-reported gains).

29. For more information on LSSSE participating law schools visit <http://lsse.iub.edu/schools.cfm>. LSSSE participating schools generally are representative of all students who received the LSSSE survey in 2011 and the national profile of law students at all ABA-approved law schools with regard to the full- and part-time statistics.

sion Test (“LSAT”) scores for admitted students (which we refer to in this article as “selectivity”).

To provide some sense of the representativeness of the law schools included in our sample, we compare them on certain characteristics to two other groups of law schools: all ABA-approved schools (“All ABA”), and the aggregate of ABA-approved schools that did not participate in the 2011 LSSSE administration (“NPS” for non-participating schools). The law schools included in our sample generally reflect All ABA and NPS schools with regard to size of student body, mean full- and part-time enrollment at the schools, and the proportion of male and female students (Figure 1). LSSSE participating schools include more private law schools than the All ABA and NPS groups (Figure 1), but this difference is not statistically significant. Furthermore, our sample of participating law schools does not differ significantly from non-participating schools in terms of their geographic location (according to U.S. Census regions of Northeast, Midwest, South, and West) (Figure 2).

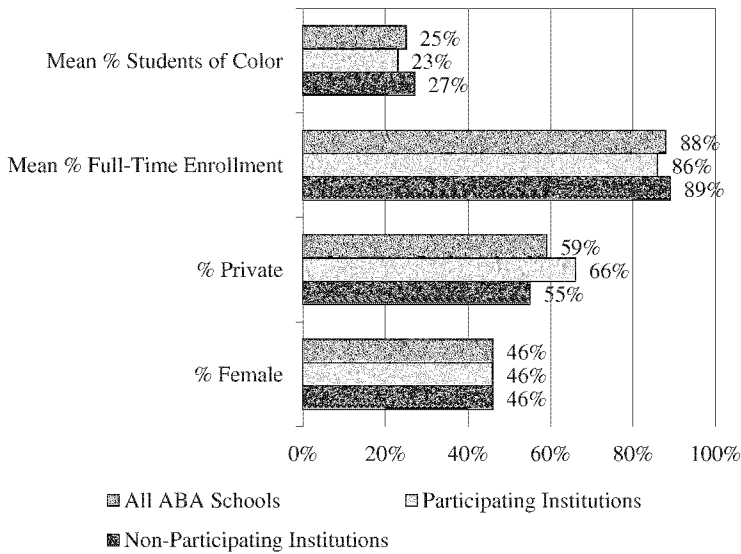
In our analysis, we categorize the schools in our sample according to their selectivity in admissions, using the LSAT admission ranges obtained from LSAC as a measure, as noted above.³⁰ The categories are as follows: eleven participating law schools are in the most selective tier, thirty-four in the middle tier of selectivity, and thirty-one in the least selective tier. Compared to All ABA schools and to the NPS schools, the LSSSE-participating schools in the middle and lower tiers of selectivity are overrepresented, and schools in the most selective tier are underrepresented.³¹ The average of the median LSAT scores for the LSSSE schools is statistically significantly lower than for NPS schools (Table 1).

Approximately 78% of the LSSSE respondent group were white, 4% were African-American/black, 6% were Hispanic, 6% were Asian/Pacific Islander, 3% were multiracial, and 3% were another racial-ethnic group (Table 2). There is no statistically significant difference between the mean percent of white and minority students comparing LSSSE schools, NPS, and All ABA schools (Figure 1).

30. We created three tiers of selectivity based on median LSAT scores of entering students as published in the ABA-LSAC Official Guide to ABA-Approved Law Schools, 2013 Edition, http://www.americanbar.org/content/dam/aba/publications/misc/legal_education/2013_official_guide_aba_approved_schools.authcheckdam.pdf. Median LSAT scores ranged from 136 to 154 for schools in the least selective tier. For schools in the middle tier, median LSAT scores ranged from 155 to 160. Schools in the most selective tier had median LSAT scores between 161 and 173.

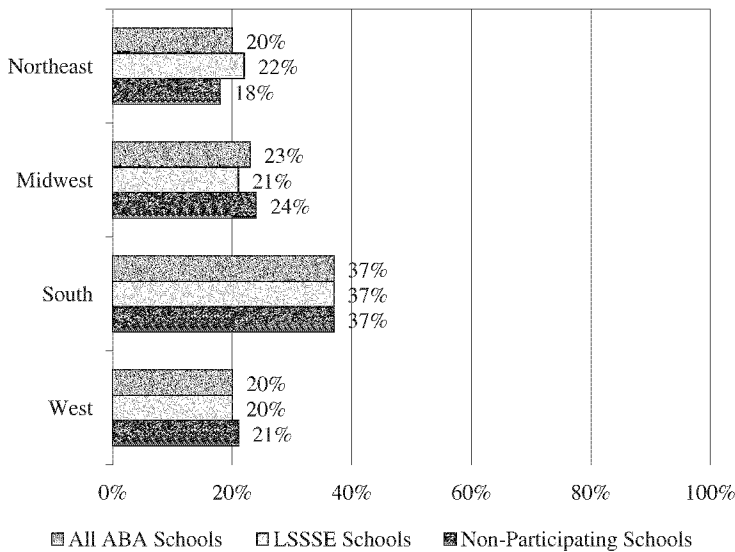
31. Using the same ranges of median LSAT scores of entering students to establish three tiers of selectivity. *See id.* The profile of all ABA-approved schools includes 31% of schools in the most selective tier, 34% of schools in the mid-range of selectivity, and 37% of schools in the least selective tier.

FIGURE 1: CHARACTERISTICS OF LSSSE 2011 SCHOOLS, COMPARED TO ALL ABA AND NPS SCHOOLS*



*Percentages based on U.S. law schools only. Totals may not sum to 100% due to rounding. National percentages are based on data from the ABA and LSAC.

FIGURE 2: GEOGRAPHIC LOCATION OF LSSSE 2011 SCHOOLS, COMPARED TO ALL ABA AND NPS SCHOOLS*



*Percentages based on U.S. law schools only. Totals may not sum to 100% due to rounding. National percentages are based on data from the ABA and LSAC (Note: ABA does not differentiate between private law schools and private law schools with religious affiliations in its reporting).

TABLE 1: LAW SCHOOL SELECTIVITY, COMPARING LSSSE SCHOOLS, ALL ABA, AND NPS SCHOOLS (ALL FIGURES ARE MEANS)*

	All ABA Schools (N=199)	LSSSE Schools (N=76)	NPS (N=123)
Average Enrollment	786.4	827.6	761.0
Median LSAT	157.2	155.7	158.1

*T-tests indicate no difference in enrollment between participating and non-participating institutions. However, the average median LSAT score for participating institutions is significantly lower than the average median LSAT score for non-participating institutions ($t(196.4)=3.1$, $p<.01$; $d=.40$). The Cohen's d effect size of .40 indicates that the average median LSAT score for participating institutions is .40 standard deviations lower than the average median LSAT score for non-participating institutions.

TABLE 2: REPRESENTATIVENESS OF STUDY SAMPLE COMPARED TO LSSSE 2011 AND ALL ABA*

	Sample of 3 + 4L respondents	LSSSE 2011 Total Population	All ABA*
Female	50%	50%	47%
Male	50%	50%	53%
White	78%	76%	77%
African-American/Black	4%	6%	7%
Asian/Pacific Islander	6%	7%	8%
Hispanic	6%	6%	7%
Multiracial	3%	3%	1%
Other	3%	3%	<1%
Full-time	80%	84%	83%
Part-time	20%	16%	17%

* All ABA percentages are based on data from the ABA for the 2010–2011 academic year, available at http://www.americanbar.org/groups/legal_education/resources/statistics.html. For the All ABA percentage on “multiracial,” we used the ABA’s published statistic on enrollment for students of two or more races. To determine the percentage of students classified as “other,” we used the ABA’s published statistic for total minority enrollment and subtracted from it enrollment figures for each race category.

ii. Survey data

LSSSE asks students about various aspects of their law school experience in order to gather information about “educationally-purposeful” activi-

ties and behaviors.³² Certain of these activities and behaviors are the same as those identified at the undergraduate level as having a significant relationship to engagement and student learning and development, while others are unique to law school. The survey includes questions about students' conduct related to coursework and in the classroom, extra-curricular activities such as law review and moot court, participation in clinical courses, externships, and internships, and students' interaction with faculty, staff, and peers. It also asks students about their law school environment and about their satisfaction with student advising and support services. Demographic information, including gender and race/ethnicity, among other things, also is gathered.

In addition to the kinds of questions described above that focus on students' activities and behaviors, LSSSE also asks students to consider how law school has contributed to their acquisition of certain abilities, experiences, and attitudes that are relevant to their transition to working as professionals. We focus here on two groups of these questions, one related to the development of professional identity and the other to academic-related gains. These two themes of professional and academic gains are the focus of the research reported here. In order to investigate them, we aggregated relevant individual survey questions. Each aggregate is comprised of several related questions that, when combined, represent a more general concept.³³ Questions that were included in each of the aggregates were analyzed for statistical properties and for their conceptual relationship to the general topics of professional or academic gains. The statistical analysis indicates a similar pattern of responses, and is evidence that the questions measure a common, general construct.

Professional gains is a combination of four individual survey questions.³⁴ These questions ask:

To what extent has your experience at your law school contributed to your knowledge, skills, and personal development in the following areas:

1. understanding people of other racial and ethnic backgrounds?
2. developing a personal code of values and ethics?
3. contributing to the welfare of the community?
4. understanding yourself?

These four questions relate to several important aspects of preparing students to take on a professional role. As lawyers, they must be prepared to work with clients, colleagues, and others in the judicial and regulatory system who may be different in terms of their race/ethnicity, backgrounds,

32. Chen et al., *supra* note 10, at 341.

33. We use the term "aggregate" as a synonym for scale. For more information regarding scales, see Harry N. Boone, Jr. & Deborah A. Boone, *Analyzing Likert Data*, J. EXTENSION, Apr. 2012, http://www.joe.org/joe/2012april/pdf/JOE_v50_2tt2.pdf.

34. Cronbach's alpha reliability coefficient for this aggregate of questions was .83.

beliefs, experiences, and expectations. Law school offers an opportunity to gain experience interacting with individuals whose differences—whether obvious or not—might present challenges. Shultz and Zedeck's study of the characteristics of effective lawyers identified being able to "see the world through the eyes of others" and building relationships with clients and prospective clients as important assets.³⁵ Of course, students may enter law school already having become comfortable interacting with others who are different from them; the survey does not measure a starting point. Rather, it asks about the contribution of experiences in law school to gaining such an understanding. It is the additional effect of law school that is addressed here. The three additional questions included in the aggregate regarding professional development—personal code of values and ethics, contributing to the welfare of the community, and self-understanding—also are among the factors considered important as characteristics of effective lawyers, according to data Shultz and Zedeck gathered from practicing lawyers and law students.³⁶ These factors also relate quite closely to the Carnegie Report's discussion of professional identity, which was described as having as its "essential goal . . . to teach the skills and inclinations, along with ethical standards, social roles, and responsibilities that mark the professional."³⁷

The second measure we use in our research combines questions relating to students' feeling that law school contributes to their development of academic abilities, skills, and related experiences. The following individual survey questions are included in this aggregate:³⁸

To what extent has your experience at your law school contributed to your knowledge, skills, and personal development in:

1. clear and effective writing skills?
2. clear and effective speaking skills?
3. critical and analytical thinking?
4. legal research skills?
5. the ability to learn effectively on your own?
6. acquiring job or work-related knowledge and skills?
7. acquiring a broad legal education?

These individual items perhaps are more obvious in their relevance to learning in law school and practicing upon graduation compared to the professionalism items. Writing, speaking, critical thinking, legal research, and learning on one's own are essential skills for succeeding in law school, as well as important in practice. These five factors are reflected in Schultz and Zedeck's research on effective lawyer attributes—each was identified by alumni and students in their study of effective lawyering. The question re-

35. See Shultz & Zedeck, *supra* note 25, at 26–7 (listing twenty-six "effectiveness factors" with eight Umbrella Categories).

36. *Id.* at 53–54.

37. SULLIVAN ET AL., *supra* note 3, at 28.

38. Cronbach's alpha reliability coefficient for this aggregate of questions was .86.

garding work-related knowledge and skills addresses law school's role as a training ground for practitioners. Having a broad legal education is relevant to preparation for the bar's breadth in terms of topics, and it also relates to gaining insight into the relationships among various law school courses and their topics.

Each of these aggregated sets of questions about professional and academic gains was derived based on two analyses. First, the statistical relationship among the individual questions comprising each aggregate was analyzed; each revealed a high level of statistical reliability, which indicates the degree to which individual survey items work together to measure a larger construct or theme. Second, the conceptual relationship of individual questions to the aggregate theme of professional or academic gains was considered by a panel of faculty with expertise in both law and social science. In the remainder of the article, we use these two aggregates³⁹ of the individual survey questions to represent the self-reported academic and professional gains that students attribute to their law school experience.

The research reported in the remainder of this article is aimed at identifying the activities, behaviors, and characteristics that correlate with increases in students' professional and academic gains. In order to facilitate this investigation, we developed four additional aggregates of questions related to topics that are central to student engagement: student-faculty interaction, peer interaction, the law school environment, and course emphasis on higher-order learning. Each aggregate of questions was developed similarly to the process described above for academic and professional gains, and they are used in the analysis described below.

Law school environment is measured by aggregating six questions that ask students about aspects of the supportiveness of the school and indicia of their sense of connection to the law school community (see Table 3 for details). In student-faculty interaction, survey questions asking about how often students talked with or sought counsel from professors with regard to several topics and contexts are included. Peer interaction combines questions addressing students' interactions and collaboration in and outside of class. The higher-order learning measure aggregates questions that explore students' perceptions of the emphasis their coursework places on certain kinds of analytical approaches, including analyzing, synthesizing, applying theories, and making judgments. Table 3 sets out the individual survey questions comprising each of these four aggregates, along with the statistical reliability of the aggregated question set (Cronbach's alpha score).

39. These aggregates, or scales, were derived from a factor analysis of the LSSSE gains items. This form of data reduction allows us to explore how student experiences impact academic and professional gains.

TABLE 3: MEASURES OF STUDENT ENGAGEMENT

Aggregate Name	Survey Item	Cronbach's Alpha
Supportive Law School Environment	- School emphasized: Providing support you need to thrive socially.	0.84
	- School emphasized: Helping you cope with non-academic responsibilities (work, family, etc.).	
	- School emphasized: Encouraging contact among students from different economic, social, sexual orientation, and racial or ethnic backgrounds.	
	- School emphasized: Attending campus events and activities (special speakers, cultural events, symposia, etc.).	
	- School emphasized: Providing the support you need to help you succeed academically.	
	- School emphasized: Providing the financial counseling you need to afford your education.	
Peer Interactions	- Worked with classmates outside of class to prepare class assignments.	0.71
	- Discussed ideas from your readings or classes with peers outside of class (students, family members, coworkers, etc.).	
	- Had serious conversations with students of a different race or ethnicity than your own.	
	- Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values.	
Student-Faculty Interactions	- Discussed assignments with a faculty member.	0.81
	- Talked about career plans or job search activities with a faculty member or advisor.	
	- Discussed ideas from your readings or classes with faculty members outside of class.	
	- Used e-mail to communicate with a faculty member.	
	- Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.).	
	- Received prompt feedback (written or oral) from faculty on your academic performance.	

(Table 3 is continued on following page)

Table 3 (continued)

Higher-Order Learning	- Analyzing the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth, and considering its components.	0.85
	- Synthesizing and organizing ideas, information, or experiences into new more complex interpretations and relationships.	
	- Making judgments about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions.	
	- Applying theories or concepts to practical problems or in new situations.	

In addition to these aggregates of questions, we also analyzed the relationship of individual survey questions relating to student activities and behaviors, as well as to student- and school-level characteristics that could impact students' experiences, learning, and development. Appendix 1 lists the questions we tested along with their descriptive statistics. Student characteristics that were analyzed include gender, race/ethnicity,⁴⁰ enrollment status, LSAT score (as an indication of potential during the first year),⁴¹ and the number of years between graduation from college and starting law school. Our research considered whether these student characteristics influenced students' assessment of their professional or academic development, and we also controlled for the effects of these characteristics while exploring the impact of student engagement. In addition, we tested for a relationship between students' report of their law school grades (specifically, the question asks, "What have most of your grades been up to now at this law school?") and academic and professional development.

We also explored the relationship between academic and professional gains and certain law school characteristics, including the size of the student body, locale (urban/rural), diversity⁴² of the student body and faculty,

40. In the analysis of race and ethnicity, we used White as the reference group.

41. See, e.g., *LSAT Scores as Predictors of Law School Performance*, LAW SCHOOL ADMISSION COUNCIL, <http://www.lsac.org/jd/pdfs/lSAT-score-predictors-of-performance.pdf> (last visited Jan. 26, 2013) ("Over the years, the vast majority of law schools have participated in Law School Admission Council validity studies that examine the relationship between students' LSAT scores and their first-year grades in law school. The studies show that LSAT scores help to predict which students will do well in law school. Moreover, a combination of students' scores and undergraduate grade-point averages ("GPA") gives a better prediction than either the LSAT or the GPA alone.").

42. Minority categories are determined by the U.S. Department of Education, and are reported in the Final Guidance on Maintaining, Collecting, and Reporting Racial and Ethnic Data to the U.S. Department of Education, 72 Fed. Reg. 59266, 59266–59279 (Oct. 19, 2007). The Integrated Postsecondary Education Data System and the ABA use the federal designations for minor-

and selectivity.⁴³ Focusing on these questions provided insight into which, if any, law school characteristics are most strongly related to academic and professional growth, and whether students at certain types of law schools are more likely to report greater gains.

Student behavior and activities that fall under the student engagement umbrella—but outside the aggregates of questions described above—also were investigated with regard to academic and professional gains. We considered class preparation, participation,⁴⁴ and working in a law-related job outside of the law school. In addition, we investigated the possible relationship of students' participation in certain high-impact practices: moot court, law journal, internships, volunteer or pro bono work, student-faculty committees, research with a faculty member, and serving as a leader of a student organization.⁴⁵

Each of these individual variables and aggregates were used in two ordinary least squares regression models.⁴⁶ The results of each regression model illustrate how much of the variation in student-reported growth with regard to professional and academic gains is explained by student characteristics, law school characteristics, and student engagement in law school. In addition, the results also demonstrate the impact of each individual variable in the model on professional and academic gains while controlling for the other variables in the model. This allows us to understand the impact of experiences and behaviors in law school while holding other factors constant. For example, if there is a significant relationship between a measure of engagement and academic gains, we would know that the relationship exists after accounting for the influence of other factors in the model, such as the students' academic performance or other personal and law school

ity status. See AMERICAN BAR ASSOCIATION, ABA-LSAC OFFICIAL GUIDE TO ABA-APPROVED LAW SCHOOLS, 2012 EDITION 21 (2012).

43. See *supra* text accompanying note 30 on selectivity.

44. A question on the survey asked students how often they asked questions in class or contributed to class discussions. Responses for this item were dichotomized into two groups: frequently and infrequently. "Frequently" included response options "very often" and "often." "Infrequently" included response options "sometimes" and "never."

45. For these items, responses were dichotomized into two groups: done and have not done. "Done" included those students who reported having participated in the activity. All other response options ("plan to do," "do not plan to do," and "undecided") were included in the "have not done" group.

46. Ordinary least squares regression procedures were used to examine the relationship between student and institutional characteristics and students' reported professional and academic gains in law school. Prior to estimation of the models, exploratory analyses were conducted testing the assumptions underlying the application of multiple linear regression. Normal probability plots and residual analyses indicated no severe departures from the assumptions of independence, normality, homoscedasticity, and linearity. Variance inflation factors were checked for multicollinearity, which was not present in these analyses. Intra-class correlations were also computed to estimate the proportion of variance in students' reported professional and academic gains that is between institutions. Intra-class correlations were .031 and .034, respectively, demonstrating that nearly all variance in students' perceptions of professional and academic gains was between students rather than institutions.

characteristics. The analysis provides results that are similar to a correlation, but in a more nuanced way that allows us to control for other factors while exploring the impact of each item in the regression model.

Figure 3 illustrates our research design, using the individual and aggregates of questions relating to student and school-level characteristics, and student engagement, to investigate relationships and drivers of professional and academic gains. In Section II, we report on our research findings.

FIGURE 3: RESEARCH DESIGN

Independent Variables:

Student Characteristics	Institutional Characteristics	Student Engagement
Gender Race/ethnicity Enrollment status LSAT score Years between attending college and entering law school Law school grades	Law school affiliation Size Urban or rural locale Percent of minority students Percent of minority faculty Selectivity Students' perception of supportive law school environment	Student-faculty interaction Peer interaction Course emphasis on higher-order learning Time spent preparing for class Asking questions in class Time spent working in a legal setting Moot court Internship Pro bono or volunteer work Research with a faculty member Service on student-faculty committee Law journal Student organization leader

Dependent Variables:



II. RESEARCH FINDINGS: EXPLORING PROFESSIONAL AND ACADEMIC GAINS

In this section, we report on our research findings based on the analysis described above. The findings regarding professional gains are discussed

in Part A, and those relating to academic gains are discussed in Part B. In each Part, we begin the discussion with findings that are “actionable,” meaning law schools, students, policy makers, and other interested stakeholders can use these findings to improve student development. Generally, actionable findings concern student activities and behaviors that are susceptible to influence by law school policies. Following this discussion, we explore research results that relate to the influence of student and school characteristics.

A. *Professional gains*

The professional gains on which we focus relate to the notion of professional identity, as described in the Carnegie Report, and to the ways in which law school prepares students to develop their professional reputations and careers.⁴⁷ As the Carnegie authors explained,

Law school experiences, if they are powerfully engaging, have the potential to influence the place of moral values such as integrity and social contribution in students’ sense of self. This is especially likely to take place in relation to the students’ sense of professional identity⁴⁸

According to this view, professional development relates to much more than a tangible skill set; it extends even beyond a sense of ethics and values. “Professional identity [is] an important part of the individual’s identity more broadly,”⁴⁹ and includes “integrity, consideration, [and] civility.”⁵⁰ Our aggregate measure, which includes understanding people of diverse backgrounds, self-understanding, developing a code of values and ethics, and contributing to the welfare of the community, speaks directly to this notion of professional identity.

Our analysis identified a number of factors as having a significant relationship to students’ reports of higher professional gains. Five of these are measures of student engagement.⁵¹ Two factors relating to law school coursework emerged as important. First, higher-order learning: the more that students perceive that their courses place a premium on emphasizing the kinds of analytical and judgment frameworks that are a hallmark of legal

47. Bryant G. Garth, *From MacCrate to Carnegie: Very Different Movements for Curricular Reform*, 17 LEGAL WRITING 261, 273 (2011) (explaining that the Carnegie Report’s third apprenticeship goes to the importance of professional stature: “[F]or advocates as well as lawyers in other roles, it is important to build stature. Pro bono, for example, is not just doing good or learning skills; it is about building professional stature. The dichotomy between legal skills and legal values that defines the *MacCrate Report*, in other words, hides the role of values in building meaningful and lucrative careers.”).

48. SULLIVAN ET AL., *supra* note 3, at 135.

49. *Id.*

50. *Id.* at 132.

51. These are presented here in no particular order—that is, the order of discussion does not indicate which of the factors was most and least significant.

education, the greater professional gains they reported.⁵² Second, increased professional gains also were reported by students who indicated that they spent more time preparing for class. The enormous emphasis in law school on substantive, content-based learning likely explains these findings. Our research affirms the positive relationship between challenging academic work and time spent preparing for class, on one hand, and a sense of growth from law school, on the other.

Three additional factors that have a positive effect on higher reported professional gains are in the realm of activities that connect students to others. First, students who volunteer or engage in pro bono work in law school report greater professional gains. This finding may result from the personal connection resulting from volunteer and pro bono work, and it suggests that experiential learning is significant with regard to development of values, ethics, and self-awareness.⁵³ In addition, students who interact more with faculty and with peers also reported higher professional gains. These sorts of interactions may engender a sense of belonging and comfort with members of the law school community that allows students to flourish. In addition, it is possible that discussions with classmates and professors expand the boundaries of students' established notions and encourage them to explore new ideas, resulting in an increased sense of professional growth.

Three student characteristics had a significant relationship to students' reported professional gains. Students who took less time off after college reported greater professional gains. One possible explanation is that taking time off provides students with experiences that help them appreciate the importance of certain elements comprising the aggregate of professional gains. At the same time, time off might provide the time to develop self-awareness and a personal code of values and ethics, for example, so that the law school experience seems less significant. This is a subject that may benefit from additional research.

A second personal characteristic that significantly related to students' assessment of their professional gains was LSAT score, but here the relationship was negative. That is, students who reported lower LSAT scores perceived that they had made greater gains in their professional development compared to students with higher LSAT scores. This finding may indicate that students who begin law school with lower entering credentials

52. Cf. Robert M. Carini, George D. Kuh & Stephen P. Klein, *Student Engagement and Student Learning: Testing the Linkages*, 47 RES. IN HIGHER EDUC. 1 (2006) (finding a positive relationship between students' own report of their achievement and their perception of emphasis on higher-order learning in the undergraduate context).

53. See LAW SCHOOL SURVEY ON STUDENT ENGAGEMENT, LESSONS FROM LAW STUDENTS ON LEGAL EDUCATION, at 14 (2012); Carole Silver, Amy Garver & Lindsay Watkins, *Unpacking the Apprenticeship of Professional Identity and Purpose: Insights from the Law School Survey of Student Engagement*, 17 LEGAL WRITING 373, 404 (2011).

may feel more acutely the value and transformative nature of the law school experience.⁵⁴

Third, students who identified themselves as Asian reported greater gains in professional development compared to white students. No other racial or ethnic group indicated a positive or negative relationship. Further analysis indicated the possibility that the influence of certain variables may differ with regard to particular racial/ethnic groups.⁵⁵ However, because of the small number of respondents in certain of these groups and the size of our model, we were unable to conduct an analysis to explore this in greater detail. This remains an area in which additional research should be pursued.⁵⁶

Our analysis of the relationship between law school characteristics and professional gains revealed that three factors are significant: the supportiveness of the law school environment, law school selectivity, and law school location. The more students perceived their law school to be a supportive and friendly place, the more likely they were to report gains in professional development. As described earlier, the measure of how supportive the law school environment is included questions on the extent to which the school provided support to help students thrive socially and to handle academic and non-academic responsibilities, including providing counseling on managing the financial obligation of law school. In addition, the law school environment aggregate included questions regarding whether the school encourages interaction among diverse students, and whether it encourages students to become involved in school events and activities. The cumulative impact of these different kinds of support are positively related to how much students feel that they have grown in law school, and may reflect students' sense of comfort in their school environment, among other things.

Professional gains also were related positively to the selectivity of a law school.⁵⁷ Selectivity, as measured by the LSAT, may indicate the preparedness of incoming students for the traditional cognitive activities of law school. We cannot be sure why selectivity matters in this regard, but we

54. Results from a study using engagement data at the undergraduate level suggest that the lowest-ability students benefit more from engagement than classmates. Carini et al., *supra* note 52, at 1, 16, 18, 23.

55. We tested for the possibility of differential effects by race/ethnicity. A set of interaction terms were created by taking the product of each independent variable (except race/ethnicity) and the dummy variables for race/ethnicity. Then the set of interaction terms was added to the regression models and the amount of incremental variance explained was calculated. The increase in the variance explained by the addition of the race/ethnicity interaction terms was statistically significant ($\Delta R^2 = .023$, $F = 1.32$, $p = .01$) indicating that the influence of the variables in the model on the students' perceptions of professional gains was possibly different for each racial/ethnic group.

56. See generally RONIT DINOVIETZ ET AL., *AFTER THE JD: FIRST RESULTS OF A NATIONAL STUDY OF LEGAL CAREERS* (2004); RONIT DINOVIETZ ET AL., *AFTER THE JD II: SECOND RESULTS FROM A NATIONAL STUDY OF LEGAL CAREERS* (Janet E. Smith et al. eds., 2009) (regarding differences among racial and ethnic groups).

57. See *supra* text accompanying note 30 regarding selectivity tiers.

can speculate that the peer effect of being surrounded by students perceived to be highly motivated and accomplished may contribute to a collective elevated sense of professional growth; alternatively, students may assess their own development differently because they are attending a highly selective law school. While this finding suggests that selective law schools offer students ample opportunity to grow and develop, it is balanced by the finding that individual students with lower LSAT scores experience greater transformations in terms of professional growth than do other students.⁵⁸

Finally, students at urban law schools reported higher professional gains compared to students attending law schools in other locations. This might reflect the importance of the surrounding community or its opportunities, particularly with regard to the component questions regarding diversity and community engagement.

Overall, the factors described here as having a significant relationship to increased professional gains explain 27% of the variability of professional gains in the analytical model. Other matters must be explored to learn more, and looking back to the Carnegie Report, and particularly to its consideration of professional identity, may hold promise in this regard. More information about students' backgrounds, such as their family educational level, and considerations relating to motivation, also may yield important insight.

B. Academic Gains

There is some overlap between the factors that influence professional and academic gains. Four factors that positively influence professional gains also are positively related to increased academic gains: coursework emphasizing higher-order learning, student interaction with both faculty and peers, and more time spent preparing for class. Three additional factors also are significantly related to higher academic gains. The first of these is class participation. Students who asked questions in class or participated more

58. This tendency for a variable to take on different meanings when studied at different levels of analysis (in our example, the student level versus the institution level) is documented in other areas and is given the name "aggregation bias." To illustrate: research by Kreft, de Leeuw, and Aiken at two levels of analysis yielded two different results in the relationship between education level and income. Education level had a positive relationship with income at the individual level, which indicates that the higher the education level of an individual the higher their income tends to be. However, when they looked at this at the industrial level they noticed the opposite effect. The relationship between the average education level of an industry and the average income of the industry was negative. This means that as the average education level of an industry increased, the lower the average income of that industry was; colleges and universities are a good example of this because they typically have high levels of educational attainment but typically lower average salaries. In the analysis, the aggregation bias does not imply that one level of analysis is more appropriate than another, nor does it value one finding over another. Rather, aggregation bias should be understood to mean that different levels of analysis are asking different questions of the data. IIA G.G. KREFT, JAN DE LEEUW & LEONA S. AIKEN, THE EFFECT OF DIFFERENT FORMS OF CENTERING IN HIERARCHICAL LINEAR MODELS 9–10 (2013).

frequently in class discussions were more likely to report greater academic gains.⁵⁹ Class participation may lead students to feel that they are developing their critical thinking and speaking skills, two of the issues addressed in the aggregate of academic gains. In addition to class participation, students who participated in moot court and law review also were more likely to report greater academic gains; these findings are not surprising, since both activities involve intense, academically-focused activities.⁶⁰

Our investigation of personal characteristics and their association with higher academic gains led to just one commonality between factors influencing academic and professional gains: the role of a student's LSAT score. As with the analysis described in Part A, above, the LSAT score was negatively associated with academic gains, indicating that students with lower LSAT scores reported greater academic gains than students with high LSAT scores. This finding may suggest that students who begin law school with lower entering credentials are transformed by the rigor of the law school experience, and their own assessment of the value added by their legal education reveals such transformation. Students who enter law school with lower LSAT scores may perceive that they have more to learn. They may undervalue their own baseline skills and abilities. As a result, they may perceive themselves to have made greater strides during law school compared to students with higher LSAT scores.⁶¹

Both students with higher law school grades and male students perceived that they had made greater academic gains compared to students who did not share these characteristics, although neither factor influenced professional development. It is not obvious why gender matters in regards to academic gains. Perhaps women are more likely to understate their self-assessments and/or men may perceive or report—or both—inflated development in this area.⁶² Our analysis also found that students who reported

59. While law school faculty often encourage class participation by posing questions to students, the item that is highlighted here as significant offers the opportunity for students to 'count,' as participation, their own questions to faculty, rather than being limited to responding to faculty-directed questioning.

60. Our analysis indicated that working for faculty on research was not significantly related to academic gains. Perhaps the variability of students' research experiences explains the difference, compared to the more standard experiences of law review and moot court. While some students may participate in substantive work on faculty scholarship that provides opportunities to learn and grow, as well as to interact meaningfully, others may be simply checking citations or working on matters in which their faculty advisor is not fully engaged. Further research about the nature of such research activities may shed more light on this finding.

61. See *supra* text accompanying note 44.

62. A large body of research has explored academic performance and gender. Stereotype threat often is used to understand how underrepresented groups, including women, are influenced by stereotypes. See generally R.E. Ployhart, J.C. Ziegert & L.A. McFarland, *Understanding Racial Differences on Cognitive Ability Tests in Selection Contexts: An Integration of Stereotype Threat and Applicant Reactions Research*, 16 HUMAN PERFORMANCE 231, 231–259 (2003). The findings from studies on stereotype threat illustrate that female students perform worse in situations where there are negative stereotypes about women's abilities. Though there was no signifi-

higher grades in law school were more likely also to report greater academic gains, which may reflect an alignment between students' actual academic performance and their perceptions of their development. In light of the enormous emphasis on grades both in law school and with regard to professional opportunities, it is not surprising that students' perceptions of their own academic growth are informed by their grades.

Two law school characteristics were related to academic gains: the supportiveness of the law school environment and law school selectivity, as measured by LSAT score. As discussed above, these also were significantly related to students' professional gains. The positive impact of a supportive law school environment suggests that students who feel comfortable and supported by their schools are better able to thrive academically. While this finding makes intuitive sense, it stands in contrast to the traditional image of law schools—also typical in media portrayals—as fostering competitive and intimidating experiences.

The selectivity of the law school also is significantly related positively to students' sense of their academic development. Here, as with the professional gains discussed above, the LSAT score influence is in opposing directions depending on whether the focus is on students individually or law schools.⁶³ That is, students with higher LSAT scores have less of a sense that they have made academic gains, even though students from more selective schools tend to report greater academic gains. Without additional research, we can only suggest possible explanations. Perhaps students assess higher entering credentials as an indication of having more academically-prepared classmates. Particularly with the emphasis on student participation through the Socratic method, the higher LSAT results may be interpreted by students to reflect on the intellectual acumen of their peers and redound to their benefit through class discussion or otherwise.

Overall, these factors identified as significant accounted for 34.1% of the variability in academic gains. As with professional gains, much is left for explanation from other factors not available for analysis, including the starting point students bring with them as they enter law school.

cant difference in self-reported grades between male and female students in the LSSSE 2011 sample, female students in law school may experience stereotypes about women in male dominated law schools that could lead them to minimize their report of their academic gains. See generally LAW SCHOOL SURVEY ON STUDENT ENGAGEMENT, NAVIGATING LAW SCHOOL: PATHS IN LEGAL EDUCATION (2011), available at http://lssse.iub.edu/pdf/2011/2011_LSSSE_Annual_Survey_Results.pdf.

63. See *supra* text accompanying note 58 on aggregation bias. Significant differences were found between the least selective (Tier 3) and most selective (Tier 1). No differences were found between Tier 3 and Tier 2 (middle selectivity). The least selective (Tier 3) was used as the reference group; thus, Tier 3 was compared against Tier 1 and Tier 2.

Table 4 sets out a summary of significant findings from these analyses, providing in tabular form an overview of the discussion in Section II.⁶⁴ Additional results are reported in Appendices 2 and 3.

TABLE 4: SUMMARY OF SIGNIFICANT FINDINGS^a

	Professional Gains Adjusted R ² .270	Academic Gains Adjusted R ² .341
	β	β
Years Between	-0.04*	
Female		-0.06**
Asian/Pacific Islander	0.06**	
LSAT	-0.11**	-0.06**
Law School Grades		0.09**
Higher-Order Learning	0.25**	0.40**
Student-Faculty Interaction	0.20**	0.13**
Peer Interaction	0.15**	0.10**
Time Spent Preparing for Class	0.04**	0.04*
Asking Questions in Class		0.04**
Moot Court		0.07**
Volunteer or Pro bono Work	0.04*	
Law Journal		0.04*
Tier 1 Selectivity	0.05*	0.04*
Supportive Law School Environment	0.11**	0.09**
Urban Location	0.04*	
* p<.01, **p<.001		
^a Standardized, beta, coefficients from items that were significant in each regression model.		

Together, the issues identified through our analyses provide a foundation for understanding the processes that shape students' perceptions of their professional and academic growth. These are considered in Section III.

64. Table 4 presents the standardized beta (β) coefficient of statistically significant relationships from both regression models. Beta coefficients or standardized coefficients represent the amount of change (in standard deviation units) in the outcome given a one standard deviation change in the independent variable. For instance, the impact of higher-order learning on academic gains can be interpreted as follows: given a one standard deviation increase in course emphasis on higher-order learning we would expect a .40 standard deviation change in students' perceptions of academic gains, net the impact of the other variables in the model. The beta coefficients can be interpreted as the strength or magnitude of the relationship. Negative numbers represent a negative relationship with the outcome and positive numbers indicate a positive relationship; the larger the beta coefficient, the stronger the relationship. The adjusted R² represents the percentage of variation explained by the complete regression model. For the full regression results, see Appendix 2 and 3.

III. IMPLICATIONS FOR LEGAL EDUCATION

Our research identified four factors that stand out in terms of both the strength of their impact on professional and academic gains, and because they have a positive impact on both of these measures. These present opportunities for law schools to emphasize the activities and behaviors that shape greater gains.

The strongest relationship to professional and academic gains was with students' perceptions about the emphasis of their coursework. When students indicate that their courses emphasize analysis, synthesis, and related higher-order learning approaches, they report greater academic and professional gains. This finding underscores the importance of challenging coursework geared toward critical thinking. Undoubtedly, this is an area in which law schools excel. Our findings support the Carnegie Report's conclusion that the rigorous academic model that law schools employ is highly beneficial to students.⁶⁵ This is important to current discussions about reforming legal education.⁶⁶ The importance of students' perceptions regarding an emphasis on higher-order learning may encourage faculty to reflect on the ways in which they help students understand the cognitive focus of their classes.

A second key finding of our analysis is the crucial role of student-faculty interaction. This finding is consistent with research in other areas of higher education.⁶⁷ Law schools can exert an influence over certain aspects of student-faculty interaction simply by identifying it as a priority. But we also can imagine schools focusing attention on facilitating relationships and communication through policy (for example, by encouraging holding and use of regular office hours), programming (by creating advising or mentorship programs), and even through intentional architectural design that facilitates informal interaction, for example.⁶⁸ These may lead to opportunities for learning that are as likely to occur outside of the classroom as within it.⁶⁹

65. See generally SULLIVAN ET AL., *supra* note 3.

66. See generally Mark Yates, *The Carnegie Effect: Elevating Practical Training over Liberal Education in Curricular Reform*, 17 LEGAL WRITING 233, 233–255 (2011).

67. See generally Chen et al., *supra* note 10; *The Effects of Student-Faculty Interaction in the 1990s*, *supra* note 10; Young K. Kim & Linda J. Sax, *Student-Faculty Interaction in Research Universities: Differences by Student Gender, Race, Social Class, and First-Generation Status*, 50 RES. HIGHER EDUC. 437, 437–59 (2009); HOW COLLEGE AFFECTS STUDENTS: A THIRD DECADE OF RESEARCH, *supra* note 10.

68. Richard K. Miller, President, Franklin W. Olin College of Engineering, Remarks at the Future Ed 3 Conference: From the Ground Up: Reinventing Engineering Education (Apr. 16, 2011) (commenting on the importance of building design to facilitating faculty-student interaction).

69. See SULLIVAN ET AL., *supra* note 3, at 140 (“Students are learning not only from the courses they take but also from the moral culture or atmosphere of their classrooms and the law school campus more broadly. They also learn from their relationships with particular faculty and with fellow students . . .”).

A third factor identified as a significant influence on professional and academic development is the relationship among law students. Again, this is good news for law schools because it is possible to shape and encourage interaction. Establishing student interaction as a priority is an important first step, and schools could encourage in-class and class-related collaboration among students, as well as promote interaction among sectors of the student population through student interest and activity groups.

Finally, the supportiveness of the law school environment exerts a positive influence on the student gains that are a focus of our research. This was the most salient of all of the law school characteristics that we analyzed. Like the emphasis on higher-order learning in the classroom and student interaction with faculty and peers, law schools can exert substantial control over the elements that comprise our measure of a supportive environment. In fact, it is possible to imagine that every law school, regardless of size, locale, or profile, has the power to positively affect students' sense of development by creating an environment that students perceive to be supportive. From its depiction in the popular media, such as *The Paper Chase*,⁷⁰ to the expectations of incoming students, law school often is presented as a sort of intellectual hazing experience, characterized by unforgiving professors and public humiliation. But our research indicates that students feel they thrive when they feel supported by their school. Recognizing the importance of such support, and relatedly, the role that student services staff and affiliated actors can play in students' professional and academic development, may shape the decision-making of law schools, particularly with regard to their allocation of resources.

These four factors⁷¹ offer a foundation for law schools to draw upon in constructing strategies to improve their students' development. In combination with the additional experiences, activities, and characteristics described in Section II, they provide a more complete understanding of the ways in which students experience legal education. Law schools and their stakeholders may benefit from drawing on our analysis in order to better understand the central aspects of law students' experiences.

70. See generally *THE PAPER CHASE* (Twentieth Century Fox 1973).

71. Additional research on the relationship between student engagement and self-perceived development in law school also supports these findings. A hierarchical linear model analysis using data from the 2012 administration of LSSSE with a slightly different representation of law schools also found the same four strongest predictors of academic and professional gains (course emphasis on higher-order learning, student-faculty interaction, peer interaction, and supportive campus environment). See Louis Rocconi, Heather Haeger, Carole Silver & Lindsay Watkins, *An Examination of Students' Personal and Academic Development in Law School* (presented at the Association for the Study of Higher Education 2012 annual conference, Las Vegas, Nev., forthcoming).

CONCLUSION AND NEXT STEPS

Our research suggests that student engagement matters in law school. Many of the activities and behaviors that relate to higher academic and professional gains among law students also explain success at the college level. These commonalities may yield useful insights for law schools as they consider strategies for improving the learning environment.

More research is necessary to confirm this relationship, as well as to explore some of the questions we have identified, including, for example, the role of race and gender. Additional work also is necessary to learn how law schools might implement the factors we have identified as important, such as by helping students understand the cognitive focus of their classes.

In considering how best to educate their students, law schools must address what matters in legal education. Will the focus remain on the grade earned on a single test at the end of the semester, or is it also important to help students develop behaviors associated with actively participating in their own learning? Rather than limiting the view to a single aspect of assessment (that of faculty) or solely to external evaluation (whether conducted by faculty, by testing such as the bar, or otherwise), our research suggests that law schools should expand their frameworks to include students, too. In this way, learning will include a reflective measure.

Finally, using the research presented here to advance our understanding of the ways in which learning in law school differs from other parts of the academy surely will help both law schools and law students be more effective in their efforts to teach and learn. Comparing, after all, is what lawyers do so well. Placing ourselves in a context for comparison may shed more light than we expect.

APPENDIX 1: DESCRIPTIVE STATISTICS

	Mean	St. Dev.	Min	Max
Academic Gains	21.75	4.17	7	28
Professional Gains	9.92	3.14	4	16
Years Between	2.65	3.29	0	12
Female	.50	.50	0	1
Hispanic	.06	.23	0	1
African-American/Black	.04	.20	0	1
Asian/Pacific Islander	.06	.24	0	1
White/Caucasian ¹	.78	.41	0	1
Other Race-Ethnicity	.03	.16	0	1
Multiracial	.03	.16	0	1
LSAT	156.36	6.28	120	179
Grades	5.59	1.35	1	8
Full-Time	.80	.40	0	1
Higher-Order Learning	12.64	2.66	4	16
Student-Faculty Interaction	14.36	3.65	6	24
Peer Interaction	10.66	2.52	4	16
Time Spent Preparing for Class	21.81	12.82	0	76
Asking Questions in Class	.59	.49	0	1
Time Spent Working in Legal Profession	7.37	10.84	0	38
Moot Court	.21	.40	0	1
Internship	.74	.44	0	1
Volunteer or Pro Bono Work	.63	.48	0	1
Serve on Student-Faculty Committee	.17	.38	0	1
Research with a Faculty Member	.28	.45	0	1
Law Journal	.36	.48	0	1
Organization Leader	.42	.49	0	1
Public Institution	.30	.46	0	1
Under 500 Students	.18	.38	0	1
Between 500 and 900 Students	.34	.47	0	1
Over 900 Students ¹	.49	.50	0	1
Tier 1 Selectivity	.20	.40	0	1
Tier 2 Selectivity	.44	.50	0	1
Tier 3 Selectivity ¹	.36	.48	0	1
Supportive Law School Environment	14.18	1.00	12	17
Urban Institution	.88	.32	0	1
Percent of Minority Faculty	22.62	10.78	9	80
Percent of Minority Students	17.91	11.13	0	92

¹Reference group

APPENDIX 2: REGRESSION PROFESSIONAL GAINS

(N=5612)		
	b (SE)	β
Intercept	4.52 (1.4)	
Years Between	-0.03 (0.01)	-0.04*
Female	-0.003 (0.07)	0.009
Hispanic	0.12 (0.16)	0.01
African-American/Black	-0.07 (0.19)	-0.005
Asian/Pacific Islander	0.71 (0.15)	0.06**
Other Race-Ethnicity	-0.01 (0.22)	-0.001
Multiracial	-0.01 (0.23)	-0.001
LSAT	-0.05 (0.01)	-0.11**
Grades	0.03 (0.03)	0.01
Full-Time	-0.22 (0.10)	-0.03
Higher-Order Learning	0.29 (0.02)	0.25**
Student-Faculty Interaction	0.17 (0.01)	0.20**
Peer Interaction	0.18 (0.02)	0.15**
Time Spent Preparing for Class	-0.002 (0.003)	0.04**
Asking Questions in Class	-0.06 (0.08)	-0.01
Time Spent Working in Legal Profession	-0.002 (0.003)	-0.01
Moot Court	-0.25 (0.09)	-0.03
Internship	-0.04 (0.09)	-0.01
Volunteer or Pro Bono Work	0.26 (0.08)	0.04*
Serve on Student-Faculty Committee	0.01 (0.10)	0.001
Research With a Faculty Member	-0.10 (0.09)	-0.01
Law Journal	0.01 (0.09)	0.001
Organization Leader	0.04 (0.08)	0.01
Public Institution	0.09 (0.09)	0.01
Under 500 Students	0.04 (0.12)	0.004
Between 500 and 900 Students	0.08 (0.10)	0.01
Tier 1 Selectivity	0.36 (0.13)	0.05*
Tier 2 Selectivity	0.22 (0.09)	0.04
Supportive Law School Environment	0.35 (0.04)	0.11**
Urban Institution	0.37 (0.13)	0.04*
Percent of Minority Students	0.001 (0.004)	0.004
Percent of Minority Faculty	-0.001 (0.004)	-0.002
Adjusted R ² = .270		

* p<.01, **p<.001

b represents unstandardized regression coefficients

β represents standardized regression coefficients

SE represents the standard errors associated with the regression coefficients

APPENDIX 3: REGRESSION ACADEMIC GAINS

(N=5612)	b (SE)	β
Intercept	8.65 (1.76)	
Years Between	0.01 (0.01)	0.01
Female	-0.46 (0.09)	-0.06**
Hispanic	0.32 (0.2)	0.02
African-American/Black	0.03 (0.24)	0.002
Asian/Pacific Islander	-0.06 (0.19)	-0.004
Other Race-Ethnicity	-0.59 (0.28)	-0.02
Multiracial	-0.08 (0.29)	0.00
LSAT	-0.04 (0.01)	-0.06**
Grades	0.28 (0.04)	0.09**
Full-Time	-0.1 (0.13)	-0.01
Higher-Order Learning	0.63 (0.02)	0.40**
Student-Faculty Interaction	0.14 (0.02)	0.13**
Peer Interaction	0.16 (0.02)	0.10**
Time Spent Preparing for Class	0.01 (0)	0.04*
Asking Questions in Class	0.36 (0.1)	0.04**
Time Spent Working in Legal Profession	-0.01 (0)	-0.02
Moot Court	0.67 (0.12)	0.07**
Internship	0.01 (0.11)	0.001
Volunteer or Pro Bono Work	0.08 (0.1)	0.01
Serve on Student-Faculty Committee	-0.2 (0.13)	-0.02
Research With a Faculty Member	0.18 (0.11)	0.02
Law Journal	0.35 (0.11)	0.04*
Organization Leader	-0.11 (0.1)	-0.01
Public Institution	-0.19 (0.12)	-0.02
Under 500 Students	0.37 (0.15)	0.03
Between 500 and 900 Students	0.02 (0.12)	0.002
Tier 1 Selectivity	0.44 (0.17)	0.04*
Tier 2 Selectivity	0.23 (0.12)	0.03
Supportive Law School Environment	0.36 (0.05)	0.09**
Urban Institution	0.41 (0.16)	0.03
Percent of Minority Students	-0.01 (0.01)	-0.03
Percent of Minority Faculty	-0.01 (0.001)	-0.02
Adjusted R ² = .341		

* p<.01, **p<.001

b represents unstandardized regression coefficients

β represents standardized regression coefficients

SE represents the standard errors associated with the regression coefficients