A Statistical Exploration: Analyzing the Relationship (if any) Between Externship Participation and Bar Exam Scores

Scott Johns[*]

It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts.
  —Sir Arthur Conan Doyle[1]

Abstract

Relatively recently, the National Conference of Bar Examiners (NCBE) claimed that experiential legal education might harm bar passage performance. Nevertheless, experiential learning opportunities, in particular externships, are some of the most meaningful educational opportunities available to law school students. That raises an important empirical question, given the increasing emphasis on providing more experiential learning opportunities for law students, especially externship

programs. Do externship experiences have demonstrable value in positively influencing bar exam outcomes, or as the NCBE seems to suggest, do externships *negatively* impact bar exam outcomes?

This article walks step by step through the process of evaluating whether externship participation at the University of Denver Sturm College of Law (Denver Law) has any statistical relationship to bar exam scores, particularly for academically struggling law school students. Initially, using longitudinal bar passage data over a three-year period, this study observes that students participating in externships positively outperform nonparticipants in bar passage rates, particularly for those students that struggled academically in law school. However, based on further statistical evaluation using regression analysis, this article finds that externship participation (which includes the number of externships taken) has no observable statistical relationship to bar exam scores, either positive or negative, leading to the conclusion that the NCBE's claim, at least based on Denver Law bar takers, seems to be without merit.

I. INTRODUCTION

The National Conference of Bar Examiners (NCBE) suggests that experiential education might negatively impact bar passage rates.[2] In contrast, a recent study suggested that some experiential learning opportunities might have positive correlations with bar exam scores.[3] But that study's results were mixed and inconsistent. Consequently, this study engages in a longitudinal statistical examination of whether participation in externship courses has a statistically significant beneficial relationship with bar exam scores. Initially, externship participation appears to be consistent with improved bar exam outcomes, particularly for those students who struggled academically during law school, with externship bar takers outperforming non-externship bar takers. However, upon closer statistical evaluation using regression analysis, we observe that there is no statistically significant relationship between externship participation and bar exam scores, either positive or negative. Thus, the NCBE's claim seems to be without merit, based on the Denver Law population of bar takers, at least with respect to externships as a critical archetype of

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2. *See* Erica Moeser, *President's Page*, 83 B. EXAMINER 4, 6 (2014), http://www.ncbex.org/assets/media_files/Bar-Examiner/articles/2014/830414-abridged.pdf [https://perma.cc/CQ65-MVSP].

3. *See infra* note 7 and accompanying text.

experiential learning opportunities. It is these results that we report.

II. BACKGROUND

Lately, increasing numbers of law schools and lawyers have emphasized experiential education as a critical component of a well-rounded legal education.[4] Given the experiential trends within legal education, the NCBE nevertheless posits that recent declines in bar passage rates might be partially explained as a consequence of too much emphasis on experiential learning.[5] That raises an important empirical question, namely whether experiential courses have any statistical relationship to bar exam outcomes.

Theoretically, one might predict that experiential courses improve performance on the bar exam given that the bar exam is designed to measure competency to practice law.[6] (And experiential courses are by their very nature courses designed to mimic practitioner experiences in the practice of law.) Externships might therefore improve bar exam

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4. *See, e.g.*, Robert Dinerstein, *Experiential Legal Education: New Wine and New Bottles*, 44 SYLLABUS, WINTER 2012–2013, at 2, 2, https://www.americanbar.org/content/dam/aba/publications/syllabus/2013_syllabus_44_2 _winter.authcheckdam.pdf [https://perma.cc/CPR3-NQX5] (indicating that "law schools are offering an ever-increasing array of classes, courses, programs and experiences that provide students with the opportunity to learn, and reflect upon, legal skills, doctrine, ethics and theory in the context of real and simulated legal work"); Luke Bierman, *4 Steps for Reinventing Legal Education*, ABA J.: LEGAL REBELS (Apr. 15, 2015, 2:15 PM), http://www.abajournal.com/legalrebels/article/four_steps_for_reinventing_legal_education [https://perma.cc/J3ZJ-VGDU] (advocating that law schools should expand experientially active learning opportunities across the classroom and the curriculum); Heather Coleman, *Experiential Education: A Growing Trend in Legal Education*, DOCKET (June 24, 2015), http://www.dbadocket.org/young-lawyers/experiential-learning-a-growing-trend-in-legal-education/ [https://perma.cc/833D-49WR] (indicating that experiential education opportunities are "on the rise").

5. *See* Moeser, *supra* note 2, at 6 (suggesting that "[t]he rise of experiential learning" might have caused the recent bar passage rate decline, such that at-risk students are not appreciating their risk and that too many experiential courses might "crowd[] out" more meaningful student learning experiences in substantive law school courses that could "have strengthened their knowledge of the law and their synthesis of what they learned during the first year").

6. *See, e.g.*, Patrick T. O'Day & George D. Kuh, *Assessing What Matters in Law School: The Law School Survey of Student Engagement*, 81 IND. L.J. 401, 405–06 (2006) (asserting that "decades of research show that students benefit more when they direct their efforts to a variety of learner-centered activities inside and outside the classroom" (footnote omitted)).

outcomes[7]—especially for academically struggling students—because experiential courses tend to be highly motivational experiences set in the concrete context of the practice of law (rather than the traditional law school classroom setting where professors pose hypothetical questions to students). Nevertheless, some argue in concert with the NCBE that—given the vast repertoire of law that one must master for the bar exam—too much emphasis on experiential learning courses creates a knowledge deficit that is difficult for bar takers to overcome during the two-month bar review period without some broad exposure to the subject matter during law school, particularly for those bar takers with lower GPAs.[8]

In order to explore which of these competing arguments has merit, we have a ready-made tool available for our use—statistical analysis of the relationship between externship participation and bar exam outcomes.[9] While there are many kinds of experiential learning courses offered by law schools (including clinical courses, externship courses, and advocacy courses), this paper focuses on exploring the relationship between externship courses and bar exam outcomes because significant populations of Denver Law students, many of whom may struggle academically in law school, participate in externship programs.[10]

A recently published empirical study from Texas Tech University

7. *See, e.g.*, Katherine A. Austin, Catherine Martin Christopher & Darby Dickerson, *Will I Pass the Bar Exam?: Predicting Student Success Using LSAT Scores and Law School Performance*, 45 HOFSTRA L. REV. 753, 781–83 (2016) (stating that there are numerous studies demonstrating the academic benefits for law students who take extracurricular activities in law school like moot court, mock trial, and other advocacy competitions).

8. Robert Kuehn, *Whither Clinical Courses and Bar Passage*, BEST PRACTICES FOR LEGAL EDUCATION (Jan. 18, 2016), https://bestpracticeslegaled.albanylawblogs.org/2016/01/18/whither-clinical-courses-and-bar-passage-by-prof-robert-kuehn/ [https://perma.cc/YD37-L3C8] (providing a helpful overview about the dearth of data regarding the impact of experiential learning courses on bar passage and explaining the position some have taken about the supposedly adverse effect experiential legal education has on bar passage results).

9. See DANIEL MUIJS, DOING QUANTITATIVE RESEARCH IN EDUCATION WITH SPSS 17 (2d ed. 2011), for an armchair guide to understanding and undertaking statistical analysis in educational contexts.

10. *See* David I.C. Thomson & Stephen Daniels, *If You Build It, They Will Come: What Students Say About Experiential Learning* 29 (Univ. of Denver Sturm Coll. of Law Legal Research Paper Series, Working Paper No. 17-25, 2017), https://ssrn.com/abstract=3029716 [https://perma.cc/5GAQ-M6KZ] (analyzing comprehensive survey results of University of Denver law students to demonstrate high levels of participation in and satisfaction with experiential learning courses to include externship experiences).

suggested a statistically significant positive relationship between taking certain experiential learning courses and bar passage rates.[11] But, the results of that study were inconsistent and mixed.[12] This article's study looks at one particular type of experiential learning course—externships—to verify whether the results of the Texas Tech University study hold true under further statistical analysis. Thus, the purpose of this paper is to shed additional light on the relationship, if any, between externship participation and bar passage.[13] As explained in this article, we find no empirical support to substantiate either a negative or positive statistical relationship between externship participation and bar exam outcomes despite higher bar passage rates for externship participants versus non-externship participants. Therefore, at least with respect to externships, the NCBE's claim does not seem to have merit. To explain our conclusions, we will first explore the statistical methods that serve as the foundations for our research.

III. METHODOLOGY

In this article, we focus our analysis on a longitudinal three-year data set of first-time summer bar exam takers collected by the University of Denver Law. Using this database, previous research has found that there are statistically significant relationships among LSAT, LGPA, and various bar passage program offerings and bar exam scores.[14] Unfortunately, unlike states such as Texas, Colorado no longer provides law schools with bar exam scores necessary for robust statistical analysis of more recent bar

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11. *See* Austin, Christopher & Dickerson, *supra* note 7, at 753–55, 781–83 (evaluating whether participation in certain "applied skills opportunities" categorized as "journal, clinic, and moot court participation" predict bar exam success).

12. *See id.* at 779–82 (finding that journal participation statistically corresponded with statistically significant higher mean LGPA (law school GPA) and bar exam score, that clinic participation had statistically significant higher mean LGPA but lower bar exam score, and that moot court and advocacy participation related to statistically significant higher mean LGPA and bar exam score).

13. As a secondary purpose, this article provides step-by-step details on how to engage in statistical analysis with the goal of encouraging additional robust empirical analysis of the possible benefits of experiential learning in relationship to bar exam metrics.

14. Scott Johns, *Empirical Reflections: A Statistical Evaluation of Bar Exam Program Interventions*, 54 U. LOUISVILLE L. REV. 35, 35–36, 56, 66, 67 tbl.14 (2016) (using regression analysis to identify that LGPA, LSAT, taking a last semester upper-level academic bar preparation course, and participating in the postgraduate Bar Success program are statistically significant predictors of bar exam scores, with LGPA being the strongest predictor).

exam outcomes.[15] Consequently, we turn again to this previous database because it is this data set that contains actual bar exam scores for each of our first-time bar takers for the July bar exams given in 2008, 2009, and 2010, allowing for comparison of our results with those in the recent study out of Texas Tech University, which also utilized some overlapping data in part for the years 2008 to 2010.[16]

Before we begin, there are a few caveats.[17] Statistical analysis is merely a tool. And, it can be a dangerous tool, as Mark Twain suggested in attribution to a British prime minister: "There are three kinds of lies: lies, damned lies, and statistics."[18] In other words, statistics can be misleading or even downright deceiving. As such, statistical analysis is

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15. Conducting statistical research on simple dichotomous variables, such as bar exam pass or fail results, is not as statistically robust as undertaking statistical analysis on continuous variables such as actual bar exam scores. *See, e.g.*, W. PHILLIPS SHIVELY, THE CRAFT OF POLITICAL RESEARCH 62–64, 63 fig.5–4 (5th ed. 2002) (advocating that it is the "[s]in of [w]asting [i]nformation" to undertake statistical analysis on simple dichotomous variables when more precise statistical information is available). Statistical analysis on simple dichotomous variables means that we are losing the strength of evaluating the fine differences in the outcome variable since dichotomous variables do not measure the magnitude of differences between, for example, pass results versus fail results. *See id.* at 64. In contrast, linear regression can more powerfully detect possible relationships (or lack thereof) between a number of input variables and the output variable because linear regression retains the measurements in a continuous mathematical format (such as bar exam scores). *See id.* at 99–100, 100 fig.7–3. In this project, since our continuous output variable is bar exam scores, we use the more robust method of linear regression rather than the more limited method of logistic regression. *See, e.g.*, JULIE PALLANT, SPSS SURVIVAL MANUAL 151 (3d ed. 2007) (verifying that linear regression permits mixing continuous and categorical nominal variables as predicative variables provided that the outcome variable is in the nature of a continuous variable). For an interesting example of using logistical regression to analyze bar exam pass/fail outcomes based on law school aptitude scores, postgraduate mock bar exam scores, and law school grades at the University of Mindanao, Philippines, see Adrian M. Tamayo & Mervin G. Gascon, Predictability of Bar Exam Outcomes: A Logistic Regression Analysis 6, 6 tbl.6 (Oct. 3, 2014) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2504986 [https://perma.cc/P7ZR-ZLZG] (finding that neither admission scores nor mock bar exam scores were helpful in predicting bar exam outcomes, while law school grades were predictive of bar exam results).

16. *See* Austin, Christopher & Dickerson, *supra* note 7, at 761 (using bar exam data from the February 2008 bar exam to the July 2014 bar exam for all first-time Texas Tech bar takers).

17. *See generally* STEPHEN K. CAMPBELL, FLAWS AND FALLACIES IN STATISTICAL THINKING (Dover Publications unabr. 2004) (1974) (surveying numerous, and sometimes hilarious, examples of the improper use of statistical analysis).

18. Mark Twain, *Chapters from My Autobiography—XX*, 186 N. AM. REV. 465, 467 (1907) (dictating a remark of British Prime Minister Benjamin Disraeli).

always subject to revision as additional evidence becomes available.

More critically, it is important to understand that statistical analysis, as best understood, cannot prove or disprove anything.[19] Rather, statistics depends on matters of probability, much like burdens of persuasion in litigation. Routinely, social scientists preselect a confidence level of 95% for the evaluation of their statistical results.[20] We will likewise do the same, evaluating the hypothesis that there is no statistical relationship, in this case, between externships and bar exam scores.[21] If our test statistic indicates that we are at least 95% confident that the results are not the result of mere chance, then we reject what is called a null hypothesis and therefore tentatively accept our statistical hypothesis that there is a relationship between externship participation and bar exam outcomes. In other words, statistics depends on eliminating matters of chance as much as possible. It is true that a confidence level of 95% seems much more certain than the standard of proof in most civil litigation matters using the preponderance standard (more than 50%). But, we can never say for certain, based merely on statistical analysis, whether our observations are true or not. Perhaps for that reason, Twain was circumspect about the use of statistics in understanding the world around us. We should be too.

Nevertheless, failure to avail ourselves of statistical analysis is likewise fraught with danger because we are so easily prone to jump to analytical conclusions without understanding that our results might just as easily be the consequence of pure chance.[22] As we will observe in this paper, at first blush there appears to be a positive relationship between externship participation and bar exam outcomes, particularly for students that struggled academically in law school. Unfortunately, that relationship disappears once one engages in regression analysis to include other variables, variables that are (or might be) more directly related to bar exam outcomes. Consequently, statistical analysis helps us to be on guard for errors in our claims while providing us with the opportunity to better

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19. For a helpful overview of statistical hypothesis testing within the educational context, see MUIJS, *supra* note 9, at 13–14.

20. *See, e.g.*, *id.* at 67, 180 (indicating that most social scientists use a statistical level of confidence of 95%, which means the test results are statistically significant if they were unlikely to occur from chance alone).

21. For a helpful guidebook to step-by-step statistical analysis using one of the most common statistical software packages, see generally PALLANT, *supra* note 15.

22. CAMPBELL, *supra* note 17, at 126–28; *see also* SHIVELY, *supra* note 15, at 3–4, 22 (advocating that researchers should use every opportunity to test the strength of their theories with careful empirical research).

understand the oftentimes complex interactions among a number of possible variables in relationship to bar exam outcomes.

In this research paper, we will first explore descriptive statistics. Descriptive statistics provide us with an overview of the big picture of our data, most often through the use of graphs, tables, and summations of large amounts of data into broad numerical measures such as the mean (the average), the mode (the most prevalent value or observation),[23] and the standard deviation (the spread of the data, with a lower number indicating that most of the data is clustered close to the mean value and a higher number indicating that the data is widely distributed away from the mean value).[24] In sum, descriptive statistics allow us to appreciate the general patterns or nature of our data.

Once we describe the data in broad brushes, we then engage in inferential statistical analysis using linear regression to identify whether our initial observations can be substantiated.[25] Regression analysis is a powerful statistical tool for controlling (or accounting for) the influences of other variables that might also be relevant in accurately predicting the outcome that we wish to evaluate.[26] In our case, we are interested in bar exam scores as our outcome variable. Our input variables—the variables that we will explore as possible predictors for bar exam scores—are law school aptitude scores (LSAT), graduating law school grade point averages (LGPA), age, underrepresented minority status, gender (female or male), program division (full- or part-time student), Intermediate Legal Analysis (ILA) student (a remedial second-year legal analysis course), Legal Analysis Strategies (LAS) student (a third- or fourth-year last

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23.   CHAVA FRANKFORT-NACHMIAS & ANNA LEON-GUERRERO, SOCIAL STATISTICS FOR A DIVERSE SOCIETY 96, 107 (5th ed. 2009). See selected pages from chapters three and four for an overview of descriptive statistics using both common numerical measures of central tendencies, such as mean, median, and standard deviation, and various graphical methods to present data visually. *Id.* at 65–83, 94–120.

24.   MUIJS, *supra* note 9, at 93.

25.   It is important for researchers to guard against using regression analysis as a sort of "fishing expedition" in the hopes of uncovering some statistical relationship; rather, researchers should have a theory or a conceptual reason for analysis before embarking on regression analysis. PALLANT, *supra* note 15, at 146. In this project, as mentioned earlier, we hypothesize that externship experiences ought to correspond with higher bar exam scores because externships provide active learning contexts for the practice of law, and the bar exam is designed to test and measure attorney competencies to practice law.

26.   *See, e.g.*, SHIVELY, *supra* note 15, at 99–100 (substantiating that regression "provides a single, precise summary measure of how great an impact the independent variable has on the dependent variable").

semester academic bar preparation course), Bar Success participant (a voluntary two-month postgraduate writing-intensive workshop), and externship participation (whether a student took one or more externship classes during the course of their legal education).[27] Our theoretical hypothesis is that externship participation translates into improved bar exam scores, controlling for our other input variables.[28]

Prior to undertaking linear regression analysis, we conducted statistical tests on the database itself to see whether it was complete, sufficiently distributed, and met the prerequisites for engaging in robust statistical analysis.[29] With satisfaction of these requirements, we were able to conduct linear regression analysis to ascertain which variables, if any, might be statistically related to bar exam scores.[30] It is these results—both

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27. For more details about the statistical influence of these variables on bar exam scores and details about the bar passage program courses, please see our previous research, which found that some of our bar exam programs are statistically related to improved bar exam scores. Johns, *supra* note 14, at 35–36.

28. Secondarily, we also hypothesize that the number of externships taken improves bar exam scores because the bar examiners administer the bar exam as a test of practitioner competencies—something which is at the heart of externship pedagogy.

29. For a helpful overview of how to properly engage in regression analysis in educational contexts, including verification of necessary assumptions, see MUIJS, *supra* note 9, at 139–57.

30. Before we begin empirical analysis, it is important to outline the various types of variables that we are analyzing because the differences in types of variables impact the particular statistical tests available to us. There are a number of different ways to conceptualize variables, but it is useful to think of variables as taking various forms based on their ability to precisely measure differences. In this article, we are working with three different kinds of variables. First, we analyze continuous variables. A continuous variable is a variable that is measured on a continuous scale, much like a ruler. In our case, we have several continuous variables—LSAT, LGPA, age, and bar exam scores. Second, we evaluate nominal variables. A nominal variable is a variable that uses the numbers 0 and 1 to serve as numerical descriptors to replace the name so that we can engage in mathematical statistical analysis. In our case, we analyze several nominal variables such gender; underrepresented minority status; full-time or part-time program division; ILA student; LAS student; Bar Success participant; and externship student. Third, in our analysis of descriptive statistics, we explore an ordinal variable. An ordinal variable is one that takes on a hierarchical meaning based on one or more categories but does not include precise measurements of the magnitude of individual differences (such as pass/fail course grades). In this article, bar passage constitutes an ordinal variable because we can enumerate it as follows: bar passage (fail = 0; pass = 1). Because our output variable—bar exam scores—is a continuous variable, we are able to use the robust statistical tool of linear regression analysis. *See* MUIJS, *supra* note 9, at 141. We can use linear regression with all of our types of predicator variables (our variables that we would like to analyze for potential predictive power for bar exam scores): both continuous variables, such as LSAT and LGPA, and nominal variables, such as Bar Success participation and externship participation. *See id.*

in terms of descriptive statistics and inferential regression analysis—that we report in this article's next section.

To summarize, linear regression using bar exam scores (rather than merely pass/fail results) is a robust statistical tool for several reasons. First, linear regression analysis allows us to evaluate the impact of our input variables—how well they serve to predict bar exam scores when all of the input variables are taken together as a whole. Second, linear regression analysis takes into account (or controls or isolates) for the impact of various other variables that might also be statistically related to bar exam scores. Thus, we can see whether particular variables are actually related to bar exam scores, when, for example, we control for LSAT, LGPA, and other input variables. With this background in mind, in the article's next section we first explore our data using descriptive statistics and then engage in inferential statistical analysis to evaluate the possible relationship between externship participation and bar exam scores.

IV. STATISTICAL ANALYSIS

In this section, we explore the results of our statistical analysis of the relationship, if any, between externship participation and bar exam outcomes. We first look at descriptive statistics.

A. Descriptive Statistical Analysis

As observed in Table 1, we analyzed comprehensive bar passage data for 637 first-time July bar exam takers (n = 637) over the period of 2008 to 2010.[31] As a point of reference with respect to bar exam scoring, in Colorado one must achieve a passing score of at least 276 points out of 400 total available points in order to succeed on the bar exam.[32] The mean

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Again, we did not statistically analyze the impact(s) of our predictor variables regarding the ordinal variable of bar passage because we have the more robust measurement of actual bar exam scores. And, we did not use first-year LGPA because first-year law school grades are highly correlated with graduating law school grades. In sum, we verified that linear regression analysis can serve as a robust statistical tool to explore whether taking externship courses—controlling for the influences of other input variables such as LSAT, LGPA, ILA, LAS, and Bar Success—correspond to improved bar exam scores.

31.   The total number of first-time takers in our data set is 642. However, there are 5 bar takers that lacked valid LSAT scores, most often because the LSAT scores were based on a previous scale. Consequently, we analyze bar exam results for 637 first-time bar takers for the July bar exams in 2008, 2009, and 2010.

32.   *General Information About the Colorado Bar Exam*, COLO. SUPREME COURT,

bar exam score was 302.58 with a standard deviation of 22.445, which means that bar exam scores were widely distributed across a broad spectrum of scores. The mean LSAT score was 156.85 with a standard deviation of 5.233. The mean graduating LGPA was 3.1818, with a standard deviation of 0.33532. Based on the standard deviations, LSAT and LGPA were more narrowly distributed with less variation than bar exam scores. That is not to say that LSAT and LGPA are not significant.[33] Rather, as we will see when we explore regression analysis, small differences in the magnitude of predictor variables can sometimes be related to significant differences in our outcome variable of bar exam scores. That will be particularly true with respect to LGPA but not as true with respect to LSAT.[34]

With respect to participation in various courses, we observe that 8% of bar takers from Denver Law took a second-year remedial legal analysis course (ILA); 47% took a third- or fourth-year credit-bearing bar preparation course (LAS); 62% participated in one or more externship courses; and 75% participated in the postgraduate Bar Success program. With respect to demographic distributions, 42% of test takers from Denver Law were female; 11% were underrepresented minority graduates; and 9% were part-time program graduates. Overall, a supermajority participated in the Bar Success program; a large majority participated in the externship program; almost half took the bar passage course (LAS) in their last semester of their law school studies; and a small subset took our remedial second-year course (ILA). As indicated in Table 1, the average bar passage rate for first-time bar takers from July 2008 to July 2010 was 89.9 percent.

Table 1: Descriptive Statistics
July First-Time Bar Takers 2008 to 2010
n = 637

http://www.coloradosupremecourt.com/Future%20Lawyers/AboutBarExam.asp [https://perma.cc/lb2x-C92Q].

33. *See, e.g.*, Nicholas L. Georgakopoulos, *Bar Passage: GPA and LSAT, Not Bar Reviews* 7–8, 10 (Ind. Univ. Robert H. McKinney Sch. of Law Legal Studies Research Paper Series, Paper No. 2013-30, 2013), http://ssrn.com/abstract=2308341 [https://perma.cc/LAW3-UUES] (indicating that LSAT has a "mild influence" while LGPA has "extraordinary power" in predicting bar exam outcomes).

34. *See, e.g.*, Scott Johns, *Testing the Testers: The National Conference of Bar Examiner's LSAT Claim and a Roller Coaster Bar Exam Ride*, 35 Miss. C. L. Rev. 436, 436 (2017) (providing empirical evidence that LSAT has limited statistical impact on bar passage rates and therefore that bar pass rates must vary based on other, more complex empirical factors than LSAT scores alone).

Variable	Mean or Percent	Standard Deviation	Minimum Value	Maximum Value
LSAT	156.85	5.233	137	175
LGPA	3.1818	.33532	2.23	3.85
Bar Exam Total Score	302.58	22.445	222	358
Age	29.49	5.445	24	58
Gender	42%			
Underrepresented Minority	9%			
Division (part-time versus full-time program)	11%			
ILA (2L remedial legal analysis course)	8%			
LAS (3L/4L academic bar passage course)	47%			
Bar Success Participant (bar passage workshop)	75%			
Externship Student (one or more externship courses)	62%			
Overall First-Time Bar Pass Rate	89.9%			

Next, as seen in Table 2 below, we see first-time pass rate comparisons based on the number of externships taken. As mentioned previously, 62% of our bar takers in this three-year data set participated in one or more externships. As illustrated below, we see that a large number of students took one externship (n = 224), a substantial group of students took two externships (n = 128), a number of students took three externships (n = 40), and only a few students took four externships (n = 3). Across the groups, we see only marginal differences in first-time pass rates, except for the limited group of three individuals that took four externships.[35]

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35. The number of students in the group that took four externships (n = 3) is far too small to have any statistical impact. Of course, as explained earlier, inferential statistical analysis is necessary in order to ascertain precisely whether the number of externships taken has any statistical significance on bar exam outcomes. Because the NCBE seems to suggest that too much experiential learning has a negative impact on bar passage outcomes, later in this article we will evaluate the number of externships taken in relationship to bar

Thus, there seems to be little to no relationship between the number of externships taken and bar passage outcomes.

Table 2: First-Time Bar Passage Results Based on the Number of Externships Taken by July First-Time Bar Takers 2008 to 2010
n = 637

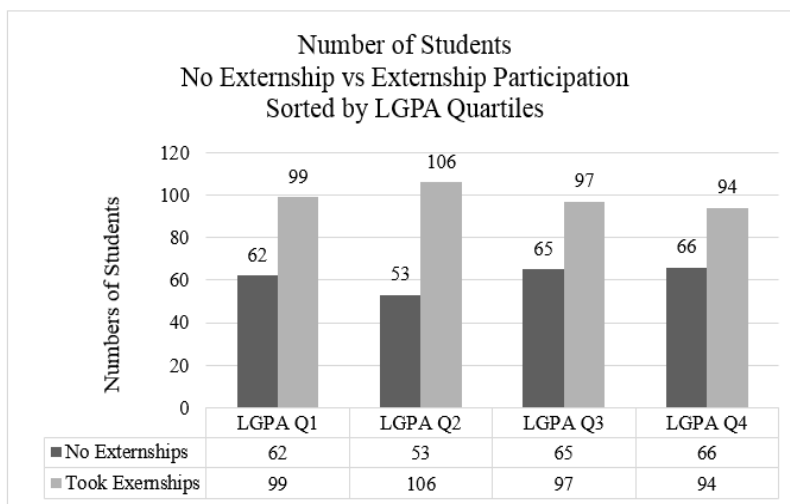| No Externships Taken	Number of Extern Students Per Category	Percent of Students Per Category	First-Time Pass Rate Per Category
0	242	38.0	86.0
1	224	35.2	92.9
2	128	20.1	92.2
3	40	6.3	97.5
4	3	0.5	66.7

In addition to tabular numerical descriptions of the data, pictorial presentations can also provide helpful overviews of the general trends of the data. As illustrated in Figure 1, we see the number of students, categorized by LGPA quartiles, who participated in externships versus the numbers of students that did not participate in externships. Each quartile is composed of about 160 students.[36] As seen below, there is consistent externship participation across the LGPA quartiles with only a slight downward trend in externship participation for the bottom two quartiles (LGPA Q3 and LGPA Q4). Overall, the graph indicates that the externship program is reaching vast numbers of students across all LGPA quartiles, including academically struggling law school students. Based on previous research, the demographic group most at risk of not passing the bar exam is the bottom LGPA quartile.[37]

exam scores using linear regression analysis. As a preview, we find no statistically significant relationship between number of externships taken and bar exam scores.

36.   The graduating LGPA quartile groups are as follows: Q1 (greater than 3.4356); Q2 (equal to or less than 3.4356 but greater than 3.21); Q3 (equal to or less than 3.21 but greater than 2.9489); and Q4 (equal to or less than 2.9489).

37.   *See* Johns, *supra* note 14, at 51–52, 52 tbl.4 (finding that the students with low

Figure 1: Externship vs. Non-Externship Participation per LGPA Quartiles
July First-Time Bar Takers 2008 to 2010
n = 642[38]

Number of Students
No Externship vs Externship Participation
Sorted by LGPA Quartiles

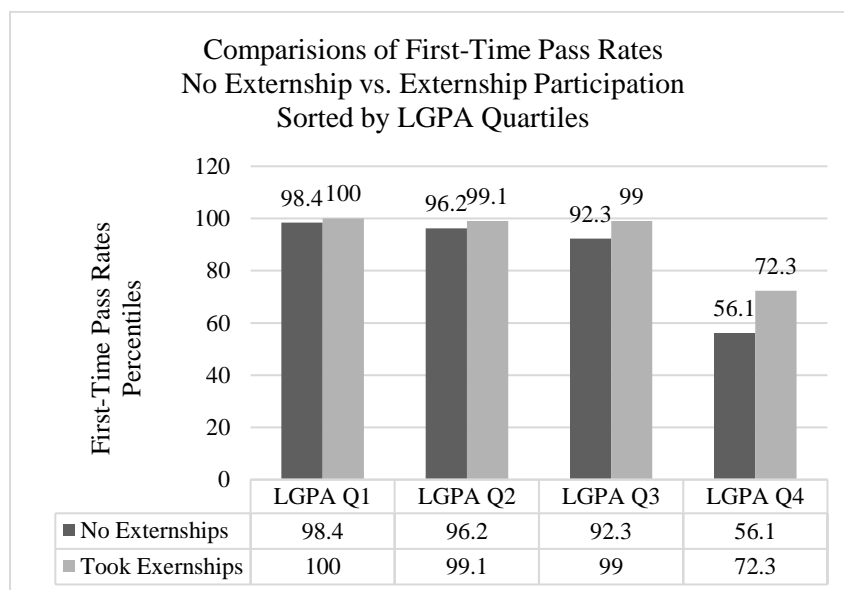|	LGPA Q1	LGPA Q2	LGPA Q3	LGPA Q4
■ No Externships	62	53	65	66
▨ Took Externships	99	106	97	94

Next, as illustrated in Figure 2 below, we see graphical comparisons of first-time pass rates across LGPA quartiles for externship participants versus students that did not participate in externships. The first-time pass rates for the first LGPA quartile (LGPA Q1) only exhibit minor differences in pass rates with externship students performing slightly better than nonexternship participants (100% versus 98.4%, respectively). Similarly, the first-time pass rate for LGPA Q2 indicates only marginal differences in pass rates with externship participants performing slightly better than non-externship participants (99.1% versus 96.2%, respectively). For LGPA Q3, we observe that externship participants outperform nonexternship participants in first-time bar passage rates with a slightly higher bar exam pass rate (99% versus 92.3%, respectively). Finally, looking at LGPA Q4, we observe that first-time pass rates are overall much lower for both externship participants and nonparticipants, with externship participants having a much higher first-time pass rate than

LGPAs are most at risk of not passing the bar exam).

nonexternship participants (72.3% for externship participants versus 56.1% for nonexternship participants). Thus, based on initial appearances, externship participation seems to correlate to improvements in bar exam outcomes across all LGPA quartiles and, in particular, for students in LGPA Q4.

Figure 2: Externship vs. Non-Externship Pass Rates per LGPA Quartiles
July First-Time Bar Takers 2008 to 2010
n = 642[38]

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38.   Again, the number of bar takers represented in this chart (n = 642) is slightly higher than the number of takers (n = 637) used for regression analysis because we needed to exclude five bar takers from our linear regression analysis due to the lack of accurate LSAT data for these five individuals.

Comparisions of First-Time Pass Rates
No Externship vs. Externship Participation
Sorted by LGPA Quartiles

	LGPA Q1	LGPA Q2	LGPA Q3	LGPA Q4
■ No Externships	98.4	96.2	92.3	56.1
■ Took Exernships	100	99.1	99	72.3

First-Time Pass Rates Percentiles

B. Inferential Statistical Analysis

But as Sir Arthur Conan Doyle cautions, we should not jump to conclusions, namely that externship participation correlates to enhanced bar exam outcomes, particularly for those in the bottom LGPA Q4. The pictorial presentations of bar passage rates presume that pass rate differentials must necessarily be the result of participating in externships without controlling or taking account of various other possible influences such as LSAT differences; variations in LGPA, even within quartiles; and participation in various bar passage program courses. Consequently, the presumption that externship participation improves bar exam scores must be tested using inferential statistics because it might be that we are seeing patterns resulting from chance or related to the influences of other variables.

There are two critical assumptions that must be explained before we can engage in inferential statistics using linear regression analysis.[39]

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39.   *See* MUIJS, *supra* note 9, at 153−56 (describing the major requirements as (1) linearity, which requires few outliers within the data set, and (2) multicollinearity, which eliminates using variables that are too closely related within the same regression analysis test).

First, as the name of the statistical test implies, the relationships should be linear in nature. In order to find out whether our data is sufficiently linear in nature, we look at the residual values in Table 3.[40] Roughly speaking, the residuals are those observations that linear regression analysis identifies as outliers—values that do not fit well to the line created when we undertake linear regression analysis.[41] The higher the residual, the more distant that value is from the line produced in linear regression analysis.[42] Linear regression requires that most of our data fit close to the linear regression line in order for us to be confident in the accuracy of our results.[43] The requirement of linearity is generally met so long as no more than 10% of our actual observations are outliers from the predicted line created in linear regression analysis.[44] Table 3 identifies three cases with observed values quite distant from the values predicted. Thus, we have only three cases that do not fit well to the line produced in our regression analysis. Therefore, we have met the required assumption of linearity given that our regression analysis involves comprehensive bar exam data for 637 students (n = 637).

Table 3: Linear Regression Analysis
Residual Cases
n = 637

Residual Cases	Residual
A	47.225
B	-52.273

40. *See id.* at 153–54.
41. *See* Samprit Chatterjee & Ali S. Hadi, Regression Analysis by Example 100–01 (4th ed. 2006).
42. Muijs, *supra* note 9, at 153–54.
43. *See id.*
44. *See id.* at 154 (discussing that while one outlier in a sample over 800 is unproblematic, it could be a sign of nonlinearity if the number of outliers is around 10%).

C	-48.492

The second requirement is that our variables not be too strongly correlated with each other.[45] If two variables are strongly correlated with each other, then the variables are in essence measuring similar things. We use the term "multicollinearity" to describe variables that are too strongly related to each other for us to properly undertake linear regression analysis using both of those highly correlated variables at the same time.[46] As an example of multicollinearity, first-year LPGA and graduating LGPA are highly correlated because the later includes the former.[47] Thus, we cannot include in our analysis both first-year LGPA and graduating LGPA.[48]

Statistically, we want to assure ourselves that all of our input variables are not strongly correlated with one another so that all of our input variables are all actually measuring different constructs of one another. In order to see if the assumptions related to multicollinearity are satisfied, we look at Table 4 under the category of collinearity tolerance. Based on a numerical range from 0 to 1, low values indicate strong correlations while high values indicate only weak correlations with respect to regression analysis.[49] As stated earlier in this article, we are evaluating ten variables as predictive of bar exam scores, namely LSAT, LGPA, age, gender, underrepresented minority status, program division (part-time in comparison to full-time program), and whether students took ILA, LAS, Bar Success, or externship courses. In this case, we observe that all of our input predictor variables have tolerance values equal to or greater than 0.773, which means that our variables are not closely correlated with one another. Therefore, all of our input variables meet the multicollinearity requirement for proper linear regression analysis.

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45. *See id.* at 153−57 (walking step by step through the process of verifying that "multicollinearity" is not an issue (emphasis omitted)).

46. *See id.* at 153−56.

47. *See* Austin, Christopher & Dickerson, *supra* note 7, at 766–67 (verifying that first-year LGPA and graduating LGPA are highly correlated).

48. Consequently, in this article, we are using graduating LGPA because we do not have first-year LGPA for all of the bar takers as a number of our takers were either transfer students (and therefore do not have first-year LGPA scores that are necessarily consistent with our grading practices) or advanced standing students (such that they do not have first-year law school grades consistent with our law school grading curve and practices).

49. *See* MUIJS, *supra* note 9, at 153−57.

Table 4: Linear Regression Analysis
Multicollinearity Statistics
n = 637

Variable	Collinearity Tolerance
LSAT	0.773
LGPA	0.834
Age	0.851
Gender	0.975
Underrepresented Minority	0.868
Division	0.787
ILA Student	0.956
LAS Student	0.883
Bar Success Participation	0.901
Externship Participation	0.949

The next issue is whether linear regression analysis performed on our input variables taken as a whole predicts bar exam scores in a statistically significant way.[50] As mentioned earlier, the first step is to evaluate whether the results from our statistical tests might be due simply to chance or actual relationships among the test variables. If the linear

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50. *See id.* at 139–41(explaining that linear regression analysis allows researchers first to identify whether variables—taken as a whole—accurately predict the outcome of a continuous variable (in this case, bar exam scores).

regression test is statistically significant, then we are more than 95% confident that chance played no role in the results.[51] To determine statistical significance, we look at the probability value (sometimes referred to as the *significance level*, abbreviated *sig*, *p-value*, or *p*).[52] For our test results to be statistically significant, the p-value must be less than 0.05, which means that there is less than a 5% chance that our results were produced simply by chance rather than actual influences from our test variables.[53] As observed in Table 5, our linear regression analysis is statistically significant because our p-value is less than 0.05 (p = 0.000). Thus, we are confident that we are observing valid test results based on the ten variables that we have inputted into the regression analysis as a whole (LSAT, LGPA, age, gender, underrepresented status, division, ILA, LAS, Bar Success, and externship participation) in relationship to predicting bar exam scores.

Table 5: Linear Regression Analysis
Test Results for Statistical Significance
n = 637

	Sum of Squares	Degrees of Freedom	Mean Square	F statistic	Sig. (p-value)
Regression	194351.984	10	19435.198	96.518	0.000
Residual	126052.940	626	201.363		
Total	320404.923	636			

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51. *Id.* at 67.
52. *Id.*
53. *See, e.g.*, STEPHEN GORARD, QUANTITATIVE METHODS IN EDUCATIONAL RESEARCH 115–16 (2001) (indicating that researchers commonly use a value of 0.05 to determine whether statistical results are due to random chance).

However, the word significant when used in statistical analysis does not necessarily mean important or valuable.[54] Our results could be statistically significant and yet unimportant (or rather meaningless) because, even though not due to chance, our input variables might have very little power or influence in predicting bar exam scores. Consequently, we must look at Table 6, which summarizes the overall importance or value of our model in predicting bar exam scores based jointly on all of our ten input variables combined. As background, we look to the value R to numerically identify how well our model predicts bar exam scores using all of our ten combined input variables jointly as predictors.[55] The higher the R the better the predictive power of our analysis.[56] In order to make sense of the numerical value of R, we take the square root of R, which provides us with the amount of variance (the extent to which our model of combined input variables accurately predict bar exam scores). (The higher the R-squared (R^2) value, the better our model of input variables fits in predicting bar exam scores.) However, because we would like to generalize our results to extrapolate the results of future test takers, we must look at the value labeled adjusted R^2, which is R^2 adjusted downward slightly to take into account how well our model is likely to fit future populations of test takers given random differences in bar exam measurements and test takers.[57]

As observed in Table 6, adjusted R^2 equals 0.600. As mentioned previously, adjusted R^2-values greater than 0.50 indicate that our input variables are a strong fit as a whole in predicting bar exam scores. In our analysis, all of the R^2-values are greater than 0.50, which means that our input variables jointly serve as a powerful statistical model for accurately predicting bar exam scores. Specifically, our variables as a whole successfully predict about 60% of the variance of bar exam scores. Consequently, we now want to determine which input variables are statistically significant contributors in predicting bar exam scores and, if

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54. MUIJS, *supra* note 9, at 67.

55. *See id.* at 141–43.

56. *See id.* at 143–44 (indicating that a model is a "strong fit" if R is greater than 0.50, a "moderate fit" if R is between 0.50 and 0.31, a "modest fit" if R is between 0.30 and 0.11, and a "poor fit" if R is less than 0.10).

57. *See id.* (specifying that it is important to use adjusted R^2 to correct the R-values to take into account that our analysis is based on a sample, in this case, of 637 bar takers over a period of three summer bar exams).

significant, which input variables have the strongest correlations in predicting bar exam scores.

Table 6: Linear Regression Analysis
Model Summary
n = 637

Model	R	R-Squared	Adjusted R Squared
	0.779	0.607	0.600

To look at the isolated effects of our various input variables, we start with the p-values for each input variable. As mentioned earlier, the p-value indicates how likely it is that the relationship between the particular input variable and our outcome variable is the result of a real relationship, absent chance. As indicated in Table 7 in bold print, we have six input variables that are statistically significant in predicting bar exam scores: LGPA ($p = 0.000$), LSAT ($p = 0.000$), age ($p = 0.000$), division ($p = 0.008$), ILA ($p = 0.047$), LAS ($p = 0.000$), and Bar Success ($p = 0.005$). In contrast, we have three variables—gender ($p = 0.930$), underrepresented minority status ($p = 0.268$), and externship participation ($p = 0.283$)—that are not statistically significant predictors of bar exam scores because the p-values for these variables are all greater than 0.05. In other words, based on linear regression using externship participation, we find that externship participation has no statistical influence on bar exam scores controlling for the influences of other variables.

In addition, because the NCBE suggests that too much experiential learning might have negative impacts on bar exam scores, we

also evaluated the number of externships taken. In this analysis, again using linear regression analysis, we evaluate the following variables: LSAT, LGPA, ILA, LAS, Bar Success, and number of externships (from 0 to 4). Consistent with regression results explained previously, we found that the number of externships has no statistical relationship in predicting bar exam scores (p = 0.315) while LGPA (p = 0.000), LAS (p = 0.000), Bar Success (p = 0.003), and LSAT (p = 0.000) (in orders of magnitude from strongest to weakest impact) all demonstrated statistical significance in relationship to predicting bar exam scores. Thus, neither externship participation (regardless of number) nor externship participation based on the number of externships are statistically related to bar exam scores. Therefore, to the extent that the NCBE claims that too much experiential learning negatively effects bar exam outcomes, our evidence does not lend support for this claim, at least with respect to the number of externship courses taken.

Table 7: Linear Regression Analysis
Regression Coefficients for Predictor Variables
n = 637

Variable	Unstandardized Coefficients	Standardized Coefficients	Significance (p-value)
Constant	8.427		0.659
LSAT	**1.032**	**0.241**	**0.000**
LGPA	**44.118**	**0.659**	**0.000**
Gender	-0.101	-0.002	0.930
Underrepresented Minority	2.324	0.030	0.268
Age	**-0.429**	**-0.104**	**0.000**
Division	**-5.318**	**-0.075**	**0.008**
ILA Student	**4.115**	**0.051**	**0.047**
LAS Student	**5.196**	**0.116**	**0.000**

Bar Success Student	3.908	0.075	0.005
Externship Student	-1.279	-0.028	0.283

The variables identified in bold are statistically significant predictors of bar exam scores, while the variables not identified in bold have no statistical significance in predicting bar exam scores.

Next, before we move on to discuss the meaning of our results concerning externship participation further, we briefly observe the orders of magnitude of the input variables to determine if there is a statistically significant impact on bar exam scores. In Table 7, the column identified as the unstandardized coefficients provides an indication of the extent that the value of a person's bar exam score is predicted to change if the value of the input variable changes by one unit.

According to Table 7, an increase in LSAT of one point (for example, from 152 to 153) correlates to approximately one more point achieved on the bar exam (for example, from 281 to 282).[58] In other words, even though LSAT is a statistically significant predictor of bar exam scores, its impact is weak. In contrast, a one-point increase in LGPA (for example, from 2.8 to 3.8) would result in an increase in approximately 44 bar exam points. With respect to students taking ILA, the bar exam scores of ILA students are predicted to be about 4 points higher than those who did not take ILA. With respect to students taking LAS, the bar exam scores of those students are predicted to be about 5 points higher than if they had not taken LAS. Similarly, Bar Success participants are predicted to score approximately 4 points higher on the bar exam as a result of participating in the postgraduate Bar Success program.[59]

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58. For a helpful step-by-step demonstration on how to interpret coefficients, see *id.* at 166–68.

59. Although the regression coefficients indicate, for example, that LGPA correlates with bar exam scores, that does not mean that higher LGPA marks cause higher bar exam scores. That is because regression analysis is limited to explorations of correlation based on associations, not causation. Simply put, correlation tests explore whether two variables might be associated with each other in a meaningful way but do not show causal connections between variables. *See generally* PALLANT, *supra* note 15, at 126–27. Consequently, regarding the statistical relationship between LGPA and bar exam scores, the high correlation seems to suggest that the sorts of skills that are most related to (or associated with) achieving high LGPA also correspond to the sorts of skills most useful for earning high bar exam scores. To the extent that these skills correspond to lawyering, legal education should focus on developing these skills, not because they lead to either higher

In contrast, because externship participation is not a statistically significant predictor, the predicted decrease in bar exam scores for externship students (-1.279) is not a valid statistical predictor of bar exam scores. Consequently, this value must be ignored. Similarly, gender and underrepresented minority status are not statistically significant predicators of bar exam scores based on linear regression analysis.

In addition, we see two variables that are statistically significant negative predictors of bar exam scores, namely, age and division. As indicated in Table 7, part-time program students are predicted to score 5.318 points lower than daytime program students, even controlling for the other variables. Similarly, scores are predicted to decline based on age with each one-year increase in age predicting a slight decrease in bar exam score by 0.429 points (less than half a point on a 400-point bar exam scale).

Finally, we look briefly at the column labeled standardized coefficients. Because our variables are measured across different scales, we cannot use the unstandardized coefficients to compare and contrast the magnitudes of the predictive power among our input variables. Through the process of standardization, we convert all of our variables to the same scale of measurement so that we can compare the relative strength of their impacts on bar exam scores against one another. Thus, we look at the standardized coefficients to ascertain which variables provide the strongest impacts in predicting bar exam scores. As indicated in Table 7, we see that LGPA has the strongest effect on bar exam scores, with LSAT, LAS, Bar Success, ILA, age, and program division having diminished orders of magnitude in predicting bar exam scores. In other words, based on our input variables, the best predictor of bar exam scores is LGPA. In contrast, the other variables are predictive of bar exam scores (either positively or negatively) but much less so than LGPA.

C. Overall Implications Based on Our Statistical Analysis

Overall, our analysis indicates that externship courses have no measurable statistical impact on bar exam scores, either positive or negative. In addition, we see that the number of externships taken has no statistically significant impact on bar exam scores. Although we do not have evidence that externship programs correspond to increases in bar exam scores, the raw pass rate differentials are encouraging for students: They are not compromising their abilities to pass the bar exam by taking

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grades or bar exam scores, but because they are necessary for good lawyering.

externship courses. And, for those in the bottom LGPA quartile, the raw differential pass rate for externship students versus nonexternship students is positive, even though not statistically significant. Consequently, we should actively encourage students to participate in externship experiences, particularly because externships serve as guided experiences in the actual practice of law and therefore directly facilitate professional development and gaining practical expertise as a legal practitioner.[60]

As a whole, our analysis indicates that externship participation has no measurable relationship with bar exam scores when controlling for other variables. And consistent with previous research, our empirical results suggest that law students should consider taking academic bar passage courses and participating in their law school's postgraduate supplemental bar preparation programs if a bar taker is concerned about passing the bar exam (particularly for those in the bottom LGPA quartile). Overall, the results in our analysis indicate that the best way to maximize the opportunity for success on the bar exam lies in maximizing the student's academic performance, regardless of whether he or she participates in externships or not.[61] Therefore, law students should heartily engage themselves in learning to be successful law learners, regardless of their curricular choice of whether to participate in externships.[62] Finally, for those students struggling academically, the differential pass rates between externship participants and non-externship participants are substantial, albeit not statistically verifiable, which might provide helpful assurances to academically struggling students that they can pass the bar exam by engaging in across-the-board active learning experiences through their law school's externship program.

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60. *See, e.g.*, Keith A. Findley, Commentary, *Assessing Experiential Legal Education: A Response to Professor Yackee*, 2015 WIS. L. REV. 627, 629 (arguing that "clinical and experiential learning are valued because they are sound pedagogy, and they provide a depth and substantive scope of learning that simply cannot be provided in the classroom alone").

61. *See, e.g.*, Daniel Schwarcz & Dion Farganis, *The Impact of Individualized Feedback on Student Performance*, 67 J. LEGAL EDUC. 139, 139–41, 143 (2017) (demonstrating that a student can improve his or her law school grades by engaging in multiple opportunities for individualized feedback throughout his or her academic studies).

62. *See* Louis N. Schulze, Jr., *Using Science to Build Better Learners: One School's Successful Efforts to Raise Its Bar Passage Rates in an Era of Decline* (Fla. Int'l Univ. Legal Studies Research Paper Series, Research Paper No. 17-11, 2017), https://ssrn.com/abstract=2960192 [https://perma.cc/96ES-GH63] (preeminently describing the science of learning and the application of the best practices in legal education for increasing bar passage rates).

V. Conclusions

Our results are surprising. According to our analysis, externship courses have no statistical relationship with bar exam scores, either positive or negative. And, the number of externships taken likewise has no statistical relationship with bar exam scores. Importantly, our empirical analysis suggests that the NCBE's concern, namely, the suggestion that experiential learning opportunities might negatively correlate (or be associated) with bar exam outcomes, seems to be without merit, at least regarding externship participation as a critical type of experiential learning opportunity (and with respect to the number of externships taken).

That being said, this raises a different question. Is it possible that we do not observe a positive statistical relationship between externship participation and bar exam scores because the bar exam is not actually measuring what it purports to measure? There can be no question that externship experiences are some of the most valuable educational opportunities for our law students precisely because externships provide students with hands-on, guided experience in the practice of law. And yet, at least statistically speaking, externship experiences are not measurably related to bar exam scores.

The challenge of this research is not so much that we did not observe a statistical relationship between externships and bar exam scores but rather that the lack of a statistical relationship might suggest caution in attributing bar exam scores as valid measurements of competency to practice law.[63] In other words, our results potentially suggest that the bar exam instrument itself might have inherent limitations in its ability to measure fitness to practice law.[64] In short, our empirical results have

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63.   *See, e.g.*, Carol Goforth, *Why the Bar Examination Fails to Raise the Bar*, 42 Ohio N.U. L. Rev. 47, 51 (2015) (suggesting that the bar exam tests skills and contains content that are not relevant to the practice of law).

64.   *See, e.g.*, *More on the Bar Exam: Correlation and Competence*, Law Sch. Cafe (May 31, 2017), https://www.lawschoolcafe.org/2017/05/31/more-on-the-bar-exam-correlation-and-competence/ [https://perma.cc/485X-A4DB] (explaining that a 1980 California study on the relationship between practical lawyering skills and bar exam scores suggests that there are serious flaws with respect to the bar exam as a valid instrument for measuring competency to practice law). *But see* Derek T. Muller, *Does the Bar Exam Adequately Test Prospective Lawyers' Minimum Competence?*, Excess of Democracy (May 26, 2017), http://excessofdemocracy.com/blog/2017/5/does-the-bar-exam-adequately-test-prospective-lawyers-minimum-competence [https://perma.cc/RXG2-MJJ4] (suggesting that the same 1980 California study impressively substantiates the link between bar exam scores and competency to practice law).

answered one question but raised another: a much more critical question that requires a response from all of us. In the words of Sir Arthur Conan Doyle, perhaps we are "twisting the facts" to fit a theory, a theory that just might not hold true to life: presuming that bar exams measure competency to practice law.