

# **Law Student Success and Supports: Examining Bar Passage and Factors that Contribute to Student Performance**

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### Abstract

In recent years, law schools have experienced a decline in enrollment and bar passage. Higher education has been challenged to understand this new phenomenon and conduct research that can inform law student success practices and policies. This paper presents findings from research conducted at a large, Midwestern public university that aimed to investigate which factors and student characteristics contribute to bar passage. Results suggest that bar passage can be predicted by a wide battery of variables. Despite some literature that suggests otherwise, however, LSAT and undergraduate GPA are weakly predictive, while information from the first year of law school – even just performance in one first semester course – explains significantly more variation in bar passage. These preliminary results provide important first insights into bar passage.

*Keywords:* Graduate and professional education, student success, bar passage, assessment

### **Law Student Success and Supports: Examining Bar Passage and Factors that Contribute to Student Performance**

Over the last decade, law schools across the country have struggled with an increasingly complex educational and political climate, impacted simultaneously by shifting enrollment patterns, declining bar passage rates, and the consequences of policy changes that have generally drawn greater attention to the assessment of student outcomes. Many law schools have found themselves and their students' data on the front pages of unfortunate news articles which describe bar results as failures overall, with "plummeting" scores and "record lows." The combination of these forces have created a "growing consensus that law schools in the United States are in the midst of a 'crisis'" (Landrum, 2015, p. 250). This crisis rhetoric is nothing new to the field of education, although law schools do represent a relatively new target.

During the same period, law schools have faced decreasing student enrollment and an associated pressure to compete for a shrinking pool of prospective students (Arewa, Morriss, & Henderson, 2014; Sloan, 2015; Taylor, 2014). While recent data suggest the worst may be over – with nearly no change in enrollment in 2016 (Ward, 2016) – the changes to law school policies and practice as a result have been enormous. Decreasing enrollment prompted changes in student composition, including a slight reduction in mean undergraduate grade point averages (UGPAs) and LSAT scores (Taylor, 2015), a fact the National Conference of Bar Examiners cited among much controversy as one potential explanation for decreasing bar performance data.

Declining enrollment also contributed to a marginal increase in student diversity (McEvers, 2016; Taylor, 2015) with students of color accounting for 26% of law students in 2014 compared to just 21% in 2004 (Taylor, 2014). This change is mostly attributable to a decline in the enrollment of white students rather than an increase in the number of underrepresented students, however, and students of color remain "profoundly underrepresented" within law schools across the country (Taylor, 2015). In fact, in 2015, the *Washington Post* referred to law as the "least diverse profession in the nation," noting that there are fewer people of color practicing law than among engineers, accountants, or surgeons (Rhode, 2015). As a result, law schools remain driven to increase law student diversity while also combatting enrollment declines.

Despite declining performance, the relative import of the bar examination within legal education has increased. Law schools have long felt compelled to increase bar passage rates to maintain or improve U.S. News and World Report rankings, which weight post-graduation outcomes including bar passage (Morriss & Henderson, 2008). That pressure intensified in the last decade when the ranking calculation methodology was modified to more heavily weight post-graduation employment in positions requiring bar passage. This shift ostensibly increased the influence of bar passage in overall rankings, even though it was enacted with employment data. Furthermore, in 2015, the American Bar Association (ABA) instituted Standard 316, formally linking law school accreditation to bar success for the first time ("Standard 316 Bar Passage," 2017), intensifying public scrutiny regarding bar passage even

further. The pressure to meet Standard 316 has increased and many law schools struggle to reconcile that demand with decreasing enrollment, fewer prospective students, and a changing applicant pool (Arewa, et al., 2014; McEvers, 2016; Sloan, 2015; Taylor, 2014).

Together, these trends have sparked fierce competition for students, resulting in what some scholars have labeled a law school “arms race” for higher rankings and the application – and matriculation – of prospective students. Further, given the heightened focus on bar passage, law schools seek students who will not only successfully complete their legal education but also ultimately pass the bar exam (Arewa et al., 2014; Wellen, 2005) and find bar-dependent employment after graduation (Yakowitz, 2010). While law schools have always been concerned with producing competent graduates (Marks & Moss, 2016; Merritt, Hargens, & Reskin, 2001), the legal education field now faces intensified efforts to raise bar passage rates and increased research regarding bar exam results, curriculum, and testing protocols (Goforth, 2015). As a result, understanding how to support incoming students and help graduates pass the bar is both an ongoing and growing priority for legal educators, researchers, and policymakers.

To address this changing climate in legal education, this research attempts to understand more fully law student success and the various factors, student characteristics, and programmatic interventions that contribute to positive student outcomes and ultimate bar passage. Prior literature suggests that a variety of student factors and characteristics are predictive of bar exam passage, including undergraduate grade point average (GPA) (Alphran, Washington, & Eagan, 2011; Austin et al., 2016; Georgakopoulos, 2013), LSAT score (Austin et al., 2016; Goforth, 2015; Rosin, 2008; Wightman, 1998), law school cumulative and first year GPA (Austin et al., 2016; Christopher, 2014; Goforth, 2015; Wightman, 1998), and academic support programs (Johns, 2016). We explore those factors to better understand the relative predictive utility of each. We then utilize findings from that empirical investigation to explore bar passage and failure more deeply, focusing on course taking patterns and the role of student support programs. We conclude with recommendations for law schools, researchers, and the broader field of higher education.

### **Literature Review & Theoretical Grounding**

This research is predicated on the notion that student experiences and contexts matter for student outcomes, including bar performance. As such, we draw upon the framework for student success in college (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006) and Astin and Antonio’s (2012) Input-Environment-Output (I-E-O) model, which provides a simple way to conceptualize the role of student inputs and the learning environment on student outcomes, and allows researchers to more accurately evaluate the role of environmental variables and student inputs on student outcomes (Thurmond et al., 2002). In the section that follows, we first summarize these conceptual underpinnings and how they relate to law student success. We then summarize the extant research regarding law student success, and organize it according to the I-E-O framework. Here, we review relevant literature regarding

the bar exam as a measure of student success, the factors that predict passage, and the impact of academic support services on student outcomes (e.g., bar passage).

### **Underlying Theoretical Framework**

To strengthen the conceptual basis for our research, particularly with regard to understanding the role of student support programs, we draw loosely on the framework for student success in college (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006) and Astin and Antonio's (2012) I-E-O model, both of which acknowledge the importance of context and student engagement in student success, disrupting notions that there exists a simple or straightforward relationship between incoming student credentials and student outputs. According to Kuh, et al. (2006), the college experience consists of two key aspects, student behavior (e.g., time and effort put into studies, interaction with faculty, peer involvement) and institutional conditions (e.g., resources, educational policies/practices, programs, and structural features). Situated at the intersection of student behavior and institutional conditions is student engagement. Educational policies and practices can enhance student engagement through faculty-student contact, collaborative and active learning environments, and a generally inclusive and affirming culture (Kuh et al., 2006). As such, student experiences and academic preparation are key attributes to student success, especially when defining success as educational attainment/persistence or desired educational credential such as bar passage (Kuh et al., 2006).

Figure 1 summarizes visually the modified version of Astin and Antonio's I-E-O model used to shape the present study. It provides a simple way to operationalize the framework advanced by Kuh, et al. (2006), highlighting the role of both educational inputs (I) and the learning environment (E) in determining student outcomes (O). The I-E-O model has successfully been used as a framework for assessments in higher education, although it has yet to be applied in the systematic study of bar passage. Sesate, Milem, McIntosh, and Bryan (2017) use the I-E-O in a similar fashion within medicine; they considered how input variables (e.g., sex, underrepresented minority status, MCAT, GPA) and environment variables (e.g. specific courses) might be used to predict passage of the United States Medical Licensing Exam Step 1 (Sesate et al., 2017). Extending this model to the study of bar passage could be an important contribution to the legal education literature. Further, using this framework to approach data analysis holds researchers accountable in addressing both student input and environmental factors along with student outcomes. In return, it can create a more accurate and nuanced model. All of this can help researchers and practitioners better and more holistically understand the student characteristics and factors related to bar passage.

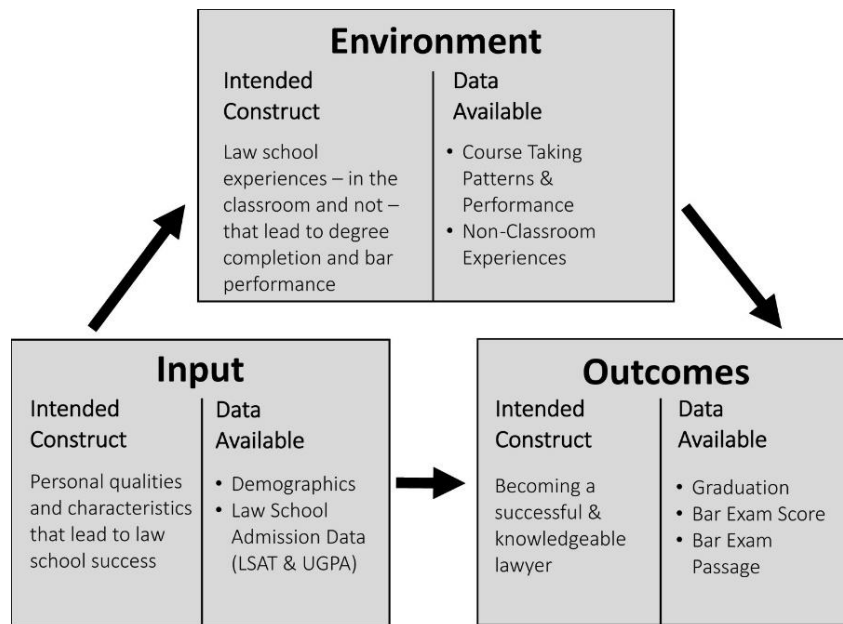


Figure 1. I-E-O model (Astin & Antonio, 2012) of student outcomes in law programs

### Summarizing the Prior Literature

**The role of the bar examination in legal education.** Whereas traditional postsecondary scholarship often operationalizes student outcomes graduation and employment attainment, the importance of the bar exam cannot be overstated within legal education. Like all professional programs, law schools have an obligation to adequately train, educate, and produce individuals that can enter the profession with the knowledge and tools necessary to succeed. Unlike many programs, however, the legal profession includes a rigorous licensing exam that serves as the ultimate measure of student success.

Historically, the bar examination was built to ensure society that practitioners were competent in their practice of the law (Trujillo, 2007). It does not – and reasonably cannot – measure all the skills necessary to practice law, but is designed to allow students to demonstrate their ability to analyze facts, identify issues, and test general law knowledge (Trujillo, 2007). Almost all jurisdictions now require a written examination of some sort, although there remains large variation across the composition and requirement for said exams (Goforth, 2015).

Passage rates also vary significantly by jurisdiction, with some places recording passage rates below 60% and others over 85% (Goforth, 2015). Regardless of these differences, bar passage remains a critical hurdle on the way to practicing law: In fact, Yakowitz (2010) estimated that over time there have probably been approximately 150,000 law school graduates who sat for the bar exam at least once and were never able to pass the test. Given that it can bar students from accessing the profession, the importance of the bar exam is incontestable. And, given the shifting trends in legal education and heightened scrutiny surrounding bar passage, many argue the stakes are higher for students to pass the bar today than at any other point in history. Failing the bar can have severe implications for

students, including unemployment, a sense of professional incompetence, social embarrassment, and financial insecurity accompanied by extensive debt (Kaufman, LaSalle-Ricci, Glass, & Arnkoff, 2007).

**Factors that predict bar passage.** Much of the literature to date regarding bar passage has focused on the predictive utility of student inputs in general and students' incoming credentials, including undergraduate GPA (UGPA) and the LSAT in particular. Although the LSAC continually stresses that the LSAT should not be used to predict bar passage (Austin et al., 2016), several researchers have shown that there may be a relationship between LSAT scores and bar passage (Austin et al., 2016; Goforth, 2015; Rosin, 2008; Wightman, 1998), although those results are somewhat contested. The predictive power of the UGPA is even less certain. Some researchers have found evidence that UGPA can predict bar passage (Fordyce, Jepsen, & McCormick, 2017; Wightman, 1998), but others have found little support for this claim (Alphran, Washington, & Eagan, 2011; Austin et al., 2016; Georgakopoulos, 2013). Consistent with educational research regarding high-stakes tests in a variety of contexts, the literature has shown a relationship between bar passage and student demographics. Subotnik (2013) argues that the bar exam has taken "an especially high toll on minorities," and research has confirmed the finding that African Americans pass the bar at significantly lower rates than their white counterparts (Curcio, 2002; Subotnik, 2013).

While much of the literature has focused on student inputs, some studies have concentrated on law school experiences that might predict bar passage. Research regarding specific changes to a law school's program is limited (see, for example, Alphran, Washington, & Eagan, 2011; Schulze, 2017), while research regarding the predictive power of law school grades is common and has demonstrated a strong association with bar passage (Austin, Christopher, & Dickerson, 2016; Christopher, 2014; Goforth, 2015; Wightman, 1998). Some researchers claim that law school grades are the strongest overall predictor of bar passage (Christopher, 2014). Our prior results confirm the power of law school GPA, and further demonstrate that first semester grades may be as powerful at predicting bar passage as 1L GPA.

**Potential impact of student support programs.** Curcio (2002), in a formal position from the Society of American Law Teachers, asserted that poor student performance on the bar exam reflects poorly on a school, in part due to the influence of U.S. News and World Report rankings. This in turn disincentivizes law schools from admitting students who are unlikely to pass the bar. Despite this claim, research has suggested that while student inputs may be weakly related to student success, classroom experiences are likely more strongly related to bar passage. Furthermore, some literature suggests academic support and bar preparation programs have the potential to positively impact student success on the bar exam (Johns, as cited in Austin et al, 2016). This is particularly important given the changing climate of legal education described above.

Law schools have generally been slower to adopt academic supports than other education sectors (Schulze, 2010). But, that has changed in the last two decades with most schools now offering a variety of support programs: "The American Association of Law

Schools includes a section for Academic Support, the LSAC sponsors a biennial national workshop and more frequent regional workshops, and regional consortiums of academic support professionals has emerged” (Schulze, 2010, p. 106-107).

The nature of these programs varies widely across law schools. Schulze (2010) and Landrum (2015) describes four stages of ASPs: pre-law, first year, upper-level, and bar prep supports. Landrum also describes different forms, or delivery strategies, of these programs, including individual supports (e.g., tutoring), workshops, passive supports like resource centers or libraries, and courses for credit, including bar preparation courses most often offered in the final year. Finally, support programs typically have one of two intended audiences: all students within a programs or targeted programs for students deemed “at-risk” by their institutions (Landrum, 2015). Landrum notes that while the earliest programs mostly focused on “at-risk” students, “as academic support programs have evolved, more and more programming is offered to all students in law school. This trend is particularly true for first-year law students” (Landrum, 2015, p. 264).

Despite the promise of these programs, the literature regarding their effectiveness, particularly for bar success, is relatively shallow.<sup>1</sup> Shulze (2010) argues that ASPs do more than just improve bar passage. Instead they also “help humanize the law school environment” and also support students in developing self-determination and autonomy.

### **Research Method**

This research aims to explore the characteristics and factors that contribute to law student success – operationalized as bar passage – at the University of Cincinnati (UC), a public research institution. In this section, the research questions, relevant data sources, and analytical approach are described in greater detail.

### **Research Questions**

As described above, the extant literature is somewhat mixed regarding the predictive utility of various student factors and characteristics in estimating bar exam passage. While there is agreement that law school course-taking, including law GPA, is generally related to bar passage, there is less certainty regarding the effectiveness of measures collected prior to law school enrollment, including undergraduate grade point average (UGPA) and LSAT score, or participation in academic support programs. Furthermore, much of the literature to date has explored these relationships in isolation, rather than attempting to craft a more cohesive narrative about the various influences on student success and bar passage within a university.

To deepen this body of literature, our research agenda addresses a central overarching question: What do we know about bar success based on a larger collection of relevant and available student data, and what remains unknown? In this paper, we explore that question via the following three research questions:

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<sup>1</sup> See Jellum & Reeves (2005) and Todd (2003) more.



- Research Question 1. What are key predictors of law student success post-graduation, operationalized as bar exam passage, at the UC College of Law, and how does this compare to the extant literature?
- Research Question 2. How early in a student's course of study can we reliably predict bar success and identify students at risk of failure?
- Research Question 3. Can we use available data to learn more about student characteristics or activities associated with success and failure, particularly for those who perform differently than predicted by the empirical model?

### **Context and Student Sample**

**University of Cincinnati College of Law.** Data for this study were drawn from five cohorts of students from the UC College of Law, a large, urban university located in the Midwest. UC is the fourth oldest continuously operating law school in the country and has a storied history, having graduated William Howard Taft, the only person in U.S. history to serve as both the President and Chief Justice of the United States. UC's College of Law is competitive, largely considered one of the nation's premier small, urban, public law schools and classified as a "regional elite" program (Arewa et al., 2014).

The UC College of Law is well-positioned as the context for this research for several reasons. First, the college, like many other law schools across the country, has struggled with many of the phenomena described in the introduction to this paper. The composition of the school is rapidly changing, with a significant reduction in overall enrollment and a slight increase in the enrollment of students of color and first-generation college students. Consistent with national trends, the credentials of incoming students have also declined slightly, largely attributable to a general reduction in the pool of law school applicants. This reduction in qualifications – particularly those that ultimately predict bar exam passage – necessitates a more comprehensive and nuanced understanding of the factors that contribute to law student success. Finally, the college's leadership is committed to collaborating on this research agenda and using results to directly and immediately inform practice, something unique in educational research.

**Relevant student population.** Data were collected from five cohorts of students – those admitted in 2009-2013 and who correspondingly graduated between 2012-2016. Among the 603 students who matriculated to UC in this timeframe, roughly 67% or 404 students<sup>2</sup> ultimately sat for the Ohio bar examination. Students taking the Ohio bar were selected as the population of interest for this study because of the greater data granularity available for the in-state bar examinees, as outlined below.

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<sup>2</sup> For more information about the patterns of retention and graduation for the original 603 matriculated students, consult Figure 2 in the results section.

Table 1 presents data summarizing the number of admitted/matriculated students and the number of graduates who took the Ohio bar from each cohort, along with basic demographic data regarding Ohio bar takers. The academic qualifications for entering law school (i.e., undergraduate GPA and LSAT scores) are also presented. In general, these data mirror national trends. The number of matriculated students decreased nearly 30% from 138 to 99 students between 2012 and 2016, while the percentage of Ohio bar takers decreased nearly 20% (from 94 to 77 students). There is also a slight decrease in UGPA and LSAT scores; trends within Ohio bar performance are more variable year-to-year and do not reflect an overall downward trend.

Table 1. *Law school graduate demographic data for first time Ohio Bar Takers, by year*

| Graduate Cohort | Admit <i>n</i> | OH Bar <i>n</i> | Percent Female | Percent URM | Mean UGPA | Mean LSAT | Mean Bar Score | Percent Bar Passage |
|-----------------|----------------|-----------------|----------------|-------------|-----------|-----------|----------------|---------------------|
| 2012            | 138            | 94              | 43%            | 6%          | 3.51      | 159       | 444            | 89%                 |
| 2013            | 144            | 80              | 36%            | 6%          | 3.53      | 160       | 453            | 84%                 |
| 2014            | 119            | 82              | 44%            | 6%          | 3.56      | 159       | 446            | 88%                 |
| 2015            | 103            | 71              | 38%            | 9%          | 3.46      | 158       | 452            | 84%                 |
| 2016            | 99             | 77              | 40%            | 12%         | 3.44      | 158       | 445            | 90%                 |

### Data Sources

We utilized de-identified, longitudinal administrative data and bar performance data collected from the UC College of Law. One thing that differentiates this research from prior investigations of a similar nature is the relatively unprecedented access to bar examination results from the Supreme Court of Ohio, including overall passage data, data for individual subscores and essays, and overall bar examination scores, including both raw and scaled scores. These data were combined with administrative records from UC's College of Law to develop a more complete narrative of bar passage at UC, aligned to Astin and Antonio's (2012) I-E-O model.

**I-E-O model input measures.** Student input data should address personal qualities and characteristics related to bar success (Astin & Antonio, 2012) that students bring with them to their legal studies. We utilized two primary forms of student input data, collected at the time of initial application to the UC College of Law, including (a) student law school admissions data (i.e., LSAT score, UGPA, undergraduate institution, and major), and (b) student demographic data, including race/ethnicity (operationalized in the analyses as a binary indicator of whether students identify as an underrepresented minority), gender, and age.

**I-E-O environment measures.** Environmental data include the experiences within the classroom and beyond that lead to degree and bar performance. Environment data enriches student input data, providing additional information about how student outcomes develop.

For the present study, environment measures included (a) comprehensive course-taking data from College of Law administrative records, including course name, term and year of study, and student grade; and (b) support program participation data from College of Law administrative records, including student participation in a (i) structured study group program, (ii) summer bridge Program, or (iii) bar writing preparation course.

**I-E-O output measures.** Student output measures included bar exam data, including a binary indicator of student passage, total Ohio bar examination scaled score, and Ohio bar examination sub-component scaled scores. For the purposes of these analyses, student success was primarily operationalized as bar *passage*, although supplemental analyses did consider total exam score. Future research will more carefully examine predictors of Ohio bar examination sub-component scaled scores and the relationship of performance on sub-components to overall bar success.

### Analytical Approach

We employed logistic regression to explore predictors of bar passage as posed in Research Question 1. The binary logistic model of bar passage can be generally specified as:

$$P(Y_s = 1) = \frac{e^{f(\underline{X})}}{1 + e^{f(\underline{X})}}$$

where  $Y_s$  is a dichotomous variable that takes a value of 1 if student  $s$  passes the Ohio bar examination and 0 otherwise, and  $\underline{X}$  represents a combination of candidate variables at various times throughout the course of study, including student input variables available at the time of admission and environment variables produced during the program of study (e.g., course-taking and performance data).

To address Research Question 2, logistic regression model performance was compared across various temporal configurations – most notably at admission, following the first year of study, and upon graduation – to explore the relative predictive power and accuracy of predictors available throughout the trajectory of the law school career. These comparisons are presented in Table 2 and considered three measures of model fit and accuracy. First, we compared Nagelkerke pseudo R-squared values for each model. Pseudo R-squared values differ from traditional OLS R-squared values and represent more generally an empirical estimate of how well a given model explains the data when compared to similar models. Hosmer and Lemeshow (2013) warn that these figures can mislead readers who are more familiar with a traditional OLS approach, and they suggest they may be more helpful when selecting among candidate models during model building. Models were also compared by considering the accuracy of predicted values compared to observed values, using two measures: (a) the percent of bar failers correctly identified as at-risk by the model (i.e., those with predicted probabilities of passage below 75%), and (b) the percent of students identified as at-risk who were ultimately successful on the bar.

Finally, analyses for Research Question 3 examined data patterns and trends related to empirical predictions of passage and misclassification (i.e., students falsely identified as at-risk

or probable passers). More specifically, we employed basic descriptive analyses to examine the complex relationships between bar passage and predicted performance, as mediated by student characteristics and student behaviors after the first year of study – including participating in student support programs or electing to take a greater number of bar preparation courses.

## **Results**

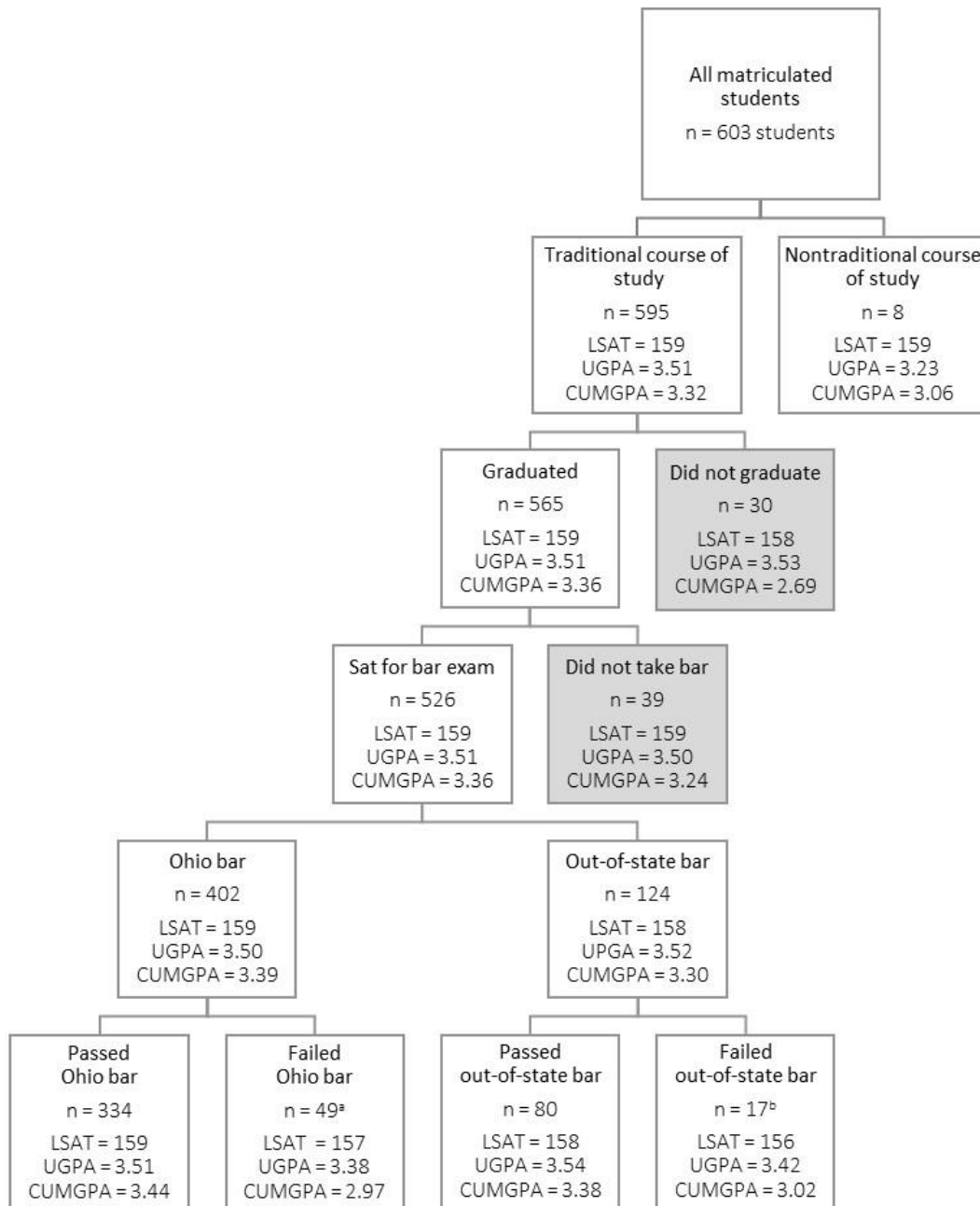
The results that follow are organized into three sections. The first explores law student performance at UC in general and examines student outcomes over time, mapping the retention and student decision-making over the entire course of study (e.g., retention after the first year), at graduation, and for the bar examination. The second section summarizes results of logistic models of bar passage to answer Research Questions 1 and 2. The third section presents results of descriptive analyses to deepen understanding of bar passage patterns outlined in section two.

### **Path Toward Bar Examination**

While the preponderance of literature around student success in law schools has focused on bar success, it is common for more general studies of postsecondary student success to focus on graduation and retention of students over time. Figure 2 summarizes the patterns of student enrollment and attrition across all five cohorts, at various points as student progress toward the bar examination. Several important patterns emerge upon close examination of these data. First, at UC, the vast majority of students successfully complete the law program, earning a JD. In total, 595 of 603 matriculated students followed a traditional course of study, meaning they continuously enrolled in courses each fall and spring throughout the program. Only eight students in the five-year sample took a leave of absence and returned at a later date.<sup>3</sup> Among students following a traditional course of study, nearly 95% of student received their JD. Among the 30 students on a traditional course of study who did not graduate, the vast majority – 26 out of 30 – left before the beginning of the second year, or 2L.

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<sup>3</sup> Two of these students took the Ohio bar and are included in subsequent analyses of bar passage.



<sup>a</sup> Ohio bar passage data were missing for 19 students; <sup>b</sup> out-of-state bar passage data were missing for 27 students.

**Figure 2.** Flow chart of student retention, graduation, and bar examination results

While these students had similar incoming credentials as graduates, their mean cumulative law school GPA at the time of attrition was considerably lower – almost two standard deviations – than the mean cumulative GPA of their graduating peers. This pattern suggests that although admission information would have been unlikely to identify these students as at-risk for non-completion, course performance may have been an early signal.

The trends in the data are less clear when differentiating between students who elect to take the bar examination and those who do not. Once again, incoming credentials were quite similar, although the differences in cumulative law school GPA were much smaller. It may be that a myriad of reasons inform students’ decisions to sit for the bar. Among bar takers, 402 students on the traditional course of study – and two additional students not on a traditional sequence – took the Ohio bar, and 124 took an out-of-state bar. Passage rates for Ohio and out-of-state bar takers were similar – 87% and 82% respectively. As with graduation trends, there are once again marked differences in mean cumulative law school GPA among those who pass the bar and those who do not, both within Ohio and beyond.

**Predicting Bar Passage**

As described in detail in the research method section, logistic regression was employed to explore predictors of bar passage across various temporal configurations – most notably at admission, following the first year of study, and upon graduation. Figure 3 presents pseudo R-squared estimates for eight tested models, ordered by the timing of the availability of various predictors.

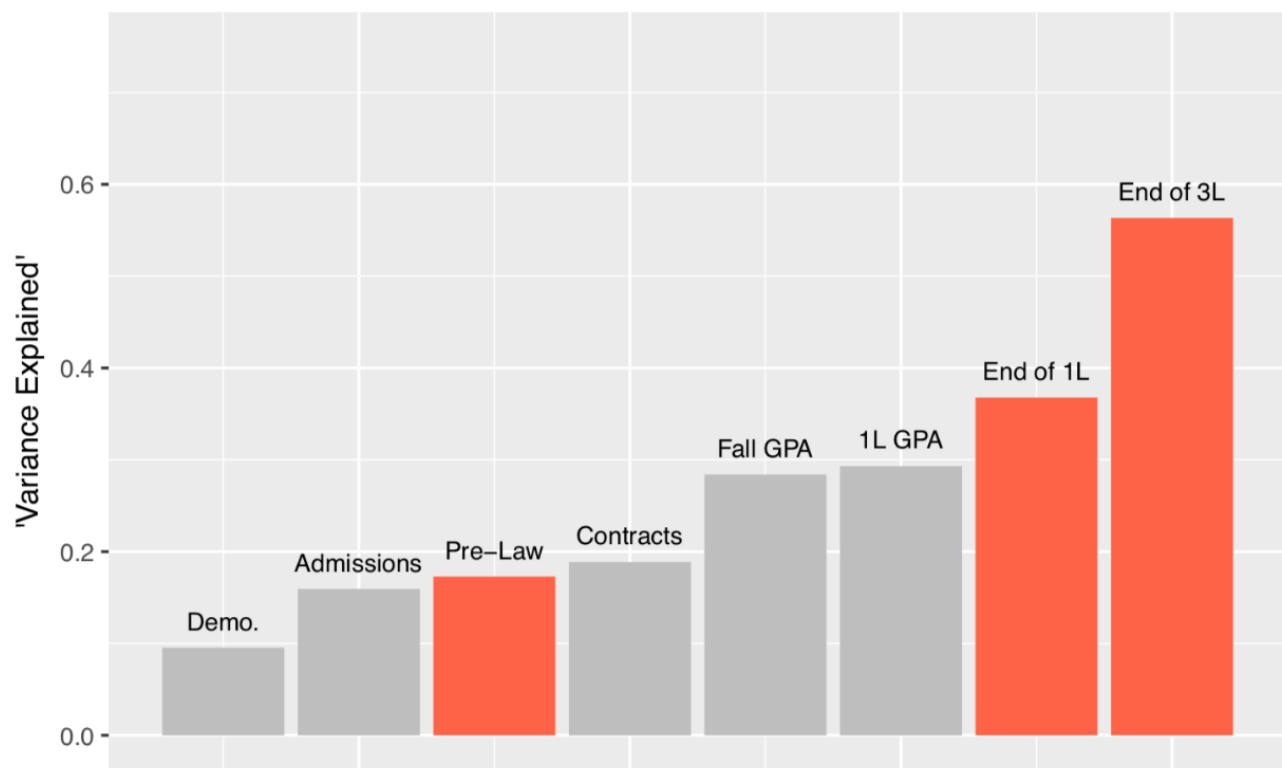


Figure 3. Pseudo R-squared across various temporal models of bar passage

To provide more detailed information, Table 2 summarizes model estimates for the three cumulative models highlighted in Figure 3.

Table 2. *Logistic models of bar passage for first time Ohio Bar Takers*

| Variable Category | Predictor Variables                | Constant-Only   | Pre-Law Model    | Post 1L Model   | Post 3L Model     |
|-------------------|------------------------------------|-----------------|------------------|-----------------|-------------------|
| Empty Model       | Constant                           | 1.88***<br>0.15 | -23.32**<br>8.55 | -16.80+<br>9.63 | -33.80**<br>11.61 |
| Admissions        | LSAT                               |                 | 0.12*<br>0.05    | 0.02<br>0.06    | 0.01<br>0.07      |
|                   | Undergrad GPA                      |                 | 1.40*<br>0.56    | 0.82<br>0.65    | 0.66<br>0.76      |
|                   | Undergrad Selectivity <sup>a</sup> |                 | 0.62+<br>0.33    | 0.79*<br>0.38   | 0.91*<br>0.44     |
|                   | Humanities/SocSci/Policy Major     |                 | -0.69+<br>0.38   | -0.91*<br>0.42  | -0.84+<br>0.49    |
| Demographics      | Female                             |                 | 0.03<br>0.34     | 0.11<br>0.39    | -0.05<br>0.47     |
|                   | Age                                |                 | -0.00<br>0.044   | 0.06<br>0.053   | -0.10<br>0.06     |
|                   | Underrepresented Minority          |                 | -0.93+<br>0.53   | -0.98<br>0.61   | -0.63<br>0.72     |
| 1L Information    | First Semester GPA                 |                 |                  | 2.68***<br>0.60 | 0.84<br>0.80      |
|                   | Second Semester GPA                |                 |                  | 0.42<br>0.51    | -2.40**<br>0.84   |
| 3L Information    | Final Law GPA                      |                 |                  |                 | 8.59***<br>1.69   |
|                   | Upper Level Bar Course Count       |                 |                  |                 | 0.74***<br>0.17   |
| Model Summaries   | Percent of Failers Identified      | -               | 36%              | 58%             | 78%               |
|                   | Percent of False Positives         | -               | 6%               | 9%              | 8%                |
|                   | Nagelkerke R-squared               | -               | 0.17             | 0.37            | 0.56              |

+ p < 0.10 \* p < 0.05 \*\* p < 0.01 \*\*\* p < 0.001

<sup>a</sup> Undergrad selectivity is an overall measure of selectivity based on ACT scores, coded as 1=inclusive, 2=selective, and 3=more selective. Source: Indiana University Center for Postsecondary Research (n.d.). *The Carnegie Classification of Institutions of Higher Education, 2015 edition*. Bloomington, IN: Author.

Several important findings emerge from a comparison of these models. First, first semester course taking – as represented by fall GPA – provides considerable insights into bar passage.

To explore the relationship between first semester GPA and bar passage more closely, we present Table 3. Table 3 presents student characteristics and outcomes by first semester GPA quartile. In general, students' incoming admission credentials – UGPA and LSAT – vary only slightly across quartile, while bar passage rates vary considerably. In fact, almost all students who do not go on to pass the bar are clustered in the bottom half of the class.

Table 3. *Student characteristics and outcomes by semester 1 GPA*

| Sem1 GPA Quartile | n   | UGPA | LSAT | Sem1 GPA | Final GPA | Bar Score | Bar Pass % |
|-------------------|-----|------|------|----------|-----------|-----------|------------|
| 1                 | 86  | 3.43 | 157  | 2.44     | 3.01      | 418       | 65         |
| 2                 | 101 | 3.48 | 158  | 2.88     | 3.26      | 440       | 86         |
| 3                 | 99  | 3.47 | 159  | 3.22     | 3.44      | 454       | 94         |
| 4                 | 118 | 3.60 | 160  | 3.67     | 3.72      | 470       | 98         |

*Note: There are a significant quantity of ties after the first semester*

Second, among students who had already matriculated to UC, both demographic data and admission data provided limited predictive utility. The information contained in one course grade in the first semester of law school – represented by the *contracts* model – yielded better model performance overall than all the data available in the *pre-law* model. Further, while several pre-law variables were significant predictors of bar passage, including LSAT and UGPA, in the *pre-law* model, their predictive power diminishes considerably when student performance in law school was included in the analyses. Neither LSAT nor UGPA nor any demographic variable was a significant predictor of bar passage once student performance in law school was included in the model. Furthermore, the *pre-law* model was only able to accurately identify 36% of the students who go on to fail the bar, whereas data from the first year of law school yields considerably more accurate predictions. More specifically, the *post-1L* model accurately identified 58% of failers, and the most comprehensive *post-3L* model accurately detected nearly 4 out of 5 students who would fail the bar.

### **A Deeper Look at Passage and Failure**

**Upper-level bar course taking.** One of the priorities in our analytical approach was to consider not only student GPA, but also examine patterns and trends in the courses that students took. One way to approximate course-taking patterns lied in the number of upper-level bar courses (ULBC) students elected to take. Upper-level bar courses are not required courses in the program, but are instead post-first year courses aligned to tested content on the Ohio bar; UC currently offers 10 such courses. Across the sample, students took anywhere from zero to 10 of these courses, and those choices appear to be associated with their success on the bar examination. As is noted above in Table 4, the number of ULBC taken was a significant predictor of bar passage in the post-3L model. In fact, each additional ULBC taken was associated with a 2.1 times increased odds of bar passage, while controlling for final GPA and model information from the first year.



Furthermore, for students defined at-risk after their first year (i.e., by the *post-1L* model), this association was far more critical because their predicted bar score sat on the margins of passage. As presented in Table 4, among students identified at-risk by the *post-1L* model, those who ultimately passed the bar took, on average, one additional ULBC than at-risk students who did not pass the bar.

Table 4. *ULBC among at-risk students*

| Predicted risk and actual performance | <i>n</i> | UGPA | LSAT | Sem1 GPA | ULBC <i>n</i> |
|---------------------------------------|----------|------|------|----------|---------------|
| At-risk; passed bar                   | 33       | 3.36 | 157  | 2.56     | 5.8           |
| At-risk; did not pass                 | 29       | 3.39 | 155  | 2.40     | 4.9           |
| Not at-risk; passed bar               | 295      | 3.53 | 159  | 3.24     | 5.5           |
| Not at-risk; did not pass             | 21       | 3.43 | 159  | 2.94     | 4.5           |

**Student success programs.** We also investigated students who participated in the various student support programs outlined in the research methods section above to determine whether participation was related to bar success. The structured study group program was only available to the graduating classed of 2014-2016. In total, 131 students participated in the program, while 113 eligible students did not participate. Among first-time Ohio bar takers, 100 students participated in the program and 99 did not. Overall, there was very little difference across any of the variables included in the *pre-law*, *post-1L* or *post-3L* models by participation in the SSG program. The same can generally be said for bridge program participation and participation in the bar writing course.

One notable exception did surface, however: Female participation was far higher across programs. Thirty-six percent of women opted into structured study groups, compared to just 26% of men. Similarly, 63% of invited women opted into the bridge program versus 44% of men, and 38% of women participated in the bar writing program, compared to 25% of men. URM students are also slightly more likely to participate in these programs than non-URM students, and gender differences hold or are exacerbated here, as well. Finally, initial analyses suggest that URM male students at-risk of failing the bar are much less likely to participate in these programs than URM males not at-risk. This is not the case among URM females.

This relationship between gender, URM, and at-risk is important, because participating in these student support programs was generally not associated with differences in predicted passage using *pre-law*, *post-1L*, or *post-3L* models. In other words, students who participate in these programs have similar likelihood of passing the bar, based on empirical models, suggesting the programs may not be reaching the students most at-risk of not passing the bar. While these analyses are not comprehensive enough to adequately evaluate the effectiveness of these programs, the available data does appear to suggest there is an opportunity to better identify students in need of support and ensure they participate across the programs. This may be particularly true for URM males. However, that claim assumes that

these programs effectively contribute to student success, and additional research is needed to investigate these data more conclusively.

One additional result warrants inclusion here and does provide some promise regarding the potential value of these programs as it relates to bar passage. We also looked at students who participated in more than one support program and an interesting pattern emerged. Among Ohio bar-takers, students who participated in both the structured study group and the bar writing program were more likely to pass the bar than any other group. While it is unclear whether participation in both is a particularly effective intervention or if dual participation is approximating another variable (e.g., motivation), those who participate in both programs (n=38) consistently beat model predictions of success and pass at the highest rate (passage rate = 94.7%) of all possible combinations of participation, including those who take neither (n=63, passage rate = 90.5%), those who take only bar writing (n=35, passage rate = 88.6%) and those who participate only in a structured study group (n=61, passage rate = 88.5%). Furthermore, this group is also significantly more female (63.2%) than all other combinations (neither = 28.6%, Bar Writing Only = 40.0%, SSG Only = 42.6%).

### Discussion

With regard to the key predictors of law student success post-graduation, operationalized as bar exam passage, the analyses outlined above suggest that bar passage can be predicted by a battery of variables. Despite considerable attention in the existing literature, however, our results suggest that student inputs from the I-E-O model – including student demographics, LSAT, and UGPA – explain very little variation in bar passage. The selectivity of undergraduate institution is one exception here, with students from more selective institutions more likely to pass the bar across all three temporal models, even when controlling for incoming credentials and law school performance. On the other hand, as both Kuh, et al. (2006) and Astin and Antonio (2012) suggest, student experiences within an institution – captured as environment variables in the I-E-O model – provide much more predictive power than data collected prior to matriculation. Both course performance (i.e., GPA) and course-taking patterns (i.e., the number of upper-level bar courses taken) predict student bar performance. As noted above, controlling for student GPA, demographics, and admissions data, each additional upper-level bar course taken is associated with a 2.1 times increase in the odds of bar passage.

This paper also poses the question of when in a student's course of study we can reliably predict bar success and identify students at risk of failure. Not surprisingly, the *post-3L* model provides the most accurate and robust predictions of bar passage overall. In fact, it accurately identified 78% of students who did not pass the bar. However, identifying students at-risk of not passing the bar this late in a student's course of study may not be particularly helpful in intervening on their behalf. Moreover, while model fit and accuracy are somewhat diminished, data from the first year of law school was still able to predict 58% of students who did not pass the bar. While that is fewer students than the percent identified in the *post-3L* model, the additional opportunity to act is critical.

Consider, for example, the following thought experiment. Imagine that the UC law school was able to develop an intervention applied after the first year to support students who were identified as “at-risk.” Using empirical data from the *post-1L* model, 62 students in the five cohorts would have received this intervention, or just over 12 each year. Thirty-three of those students would have passed the bar anyway, so the intervention would not impact their performance. However, for the other 29 students, even marginal gains on total bar score may mean the difference between passing and failing the bar exam. In fact, we have bar exam scores for 16 of these students. Even a modest 10 point improvement in scores would mean that seven of the 16 students – or 43% - who previously failed the bar would have passed. The individual value of passing the bar for those seven students is invaluable: Not only would they have access to the legal profession and greater financial opportunities as a result, but they would also be spared some of the deleterious effects that occur when students do not pass the bar, as summarized above. Furthermore, increasing bar passage for those seven students could likely have significant consequences for the passage rates for the university – something that may impact national rankings and accreditation.

Finally, we used descriptive statistics to deepen our understanding of bar passage and failure, particularly when the model is unable to accurately predict student bar performance. This is an important line of inquiry, although one that requires considerably more attention than given in the present study. Despite the predictive power of the models described above, even the best-performing model is unable to predict student performance with accuracy 100% of the time. As was just noted, the model that best predicted student bar performance was still only able to identify 78% of students who did not pass the bar, meaning the other 22% of students who did not pass were misidentified. Furthermore, the model identified 30 students as at-risk, who ultimately passed the bar. To explore passage and failure more deeply, and begin to understand the factors related to passage beyond what is captured in the models, we employed basic descriptive analyses to examine the complex relationships between bar passage and predicted performance. In particular, we examined how that relationship between predicted and observed performance may be mediated by student characteristics and student behaviors after the first year of study – including electing to take a greater number of bar preparation courses and participating in student support programs. In general, these analyses raise more questions than answers, although they provide important first insights in the complexity of bar passage.

### **Conclusion and Implications**

In total, the findings presented here provide important insights into bar passage at a major research university. Nevertheless, the findings outlined above are necessarily limited in scope. Future analyses should explore additional data that may strengthen model predictive power and also explore the characteristics of students misclassified by the model. This will paint a much more complete picture of law student success. Furthermore, the present findings are inherently limited in that they only examine passage at a single institution – and one where the vast majority of students are ultimately successful on the bar exam. The legal

education field desperately needs additional research that examines these patterns across a wider variety of contexts and institutions, including schools where significantly fewer students pass the bar. This will be particularly important in establishing the idea that in-school experiences matter more for bar passage than student admission credentials.

Despite these limitations, this research is timely and has the potential to impact local and national conversations about student success and support programs for students, particularly for underprepared or traditionally underrepresented students. Before addressing the so-called crisis in legal education and exploring the factors that negatively impact bar passage, researchers, educators, and practitioners must first understand law student success. The consequences of decreasing bar passage are not just a concern within the legal profession, but within the broader field of education. Educational institutions possess a moral obligation to train and education students adequately and prepare them to be productive and competent members in the legal profession. Together, this information will not only provide insight into student success at UC and associated programs designed to support students at risk of failing the bar, but also has the potential to contribute to the national literature regarding law student success, bar exam outcomes, and support services for law students.

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