

APÉNDICE VII



Puerto Rico Bar Examination Applicant Comparability Evaluation 2010-2020

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Introduction

The Supreme Court of Puerto Rico requested an evaluation of the empirical performance of applicants over a period of 10 years on the Puerto Rico Bar Examination. Since 2010, performance on the Puerto Rico Bar Examination has experienced a decline in the percentage of applicants passing the examination. This investigation was designed to focus on three critical questions regarding the applicants taking the examination, their preparedness for the exam, and the difficulty level of the examination. More specifically, this research focused on three specific questions:

1. What are the relationships among LSAT and EXADEP as admission indicators, law school GPA, and performance on the Puerto Rico Bar Examination?
2. What are the performance trends from admission decisions and law school GPA (approximately 2007-2021) and Puerto Rico Bar Examination (2010-2020) on these measures that contribute to interpretation of the results?
3. What are the common item characteristics from the Puerto Rico Bar Examination that have appeared on two or more forms of the examination from even numbered years beginning in 2010?"

To respond to this primary evaluation question, the Puerto Rico Board of Bar Examiners contracted with ACS Ventures, LLC (ACS) to complete a series of analyses focused on the characteristics of the applicant population and their performance on the Bar examination. To address these questions, the Puerto Rico Board of Bar Examiners extracted applicant performance data for the Puerto Rico Bar Examination in even years from 2010 to 2020. The analyses focused on the even numbered years to allow for the analyses to cover a reasonable span of time while also limiting the amount of data and information to be consumed and digested. In this way, any trends or shifts could still be observed. The data that presented throughout this report were for all applicants who sat for Puerto Rico Bar Examination in the years 2010, 2012, 2014, 2016, 2018, and 2020. For all applicants, the following data were available:

- Examen de Admisión a Estudios de Posgrado (EXADEP)
- The Law School Admission Test (LSAT)
- Law school grade point average (LGPA)
- Law school attended
- Repeater status for each applicant
- Total score on the Puerto Rico Bar Examination
- Score on the multiple-choice section of the Puerto Rico Bar Examination
- Score on the essay portion of the Puerto Rico Bar Examination

This report presents results for each of the three specific research questions, reviews the data analyzed, and discusses its implications for the overall Puerto Rico Bar Examination.



Research Questions 1 and 2 – Relationships among variables and Performance trends

What are the relationships among LSAT and EXADEP tests as admission indicators, law school GPA, and performance on the Puerto Rico Bar Examination?

What are the performance trends from admission decisions and law school GPA (approximately 2007-2021) and Puerto Rico Bar Examination (2010-2020) on these measures that contribute to interpretation of the results?

At the outset of the analysis, the pass rates for the Bar Exam were reviewed and are reported in Table 1 below. Reviewing the data in Table 1, some important trends were observed. First, the number of applicants for the Bar Exam has declined in the past few administrations. In 2010, the number of applicants was 668 as compared to 630 in 2020. Perhaps even more notably, the overall pass rates for the Puerto Rico Bar Examination have been declining since 2010. In 2010, the overall pass rate was 46.6% compared with a pass rate 33.2% in 2020. At the same time, the percent of the overall population appears to be fewer first-time test takers, with the percentage of first-time test takers declining from 63.4% in 2010, to 57.5% in 2020. However, while it may be tempting to point to this increase in repeat test-takers as being a primary driver of the declining pass rates, it is notable that the decline in pass rates appears to be more dramatic for the first-time test takers. In 2010, 56.4% of first-timer test takers passed the Puerto Rico Bar Examination, compared with 35.4% in 2020. For repeat test takers, the pass rate has remained relatively stable, with 29.5% of repeat test takers passing the Puerto Rico Bar Examination in 2010 compared to 30.2% passing the Puerto Rico Bar Examination in 2020.

Table 1. Bar exam pass rates and percent of repeating students in Puerto Rico Bar Examination population

Year	Total applicants	Pass Rates			Population % 1st time
		All	First-time	Repeater	
2010	668	46.6%	56.4%	29.5%	63.4%
2012	741	40.5%	48.6%	25.9%	64.1%
2014	696	42.4%	47.4%	33.2%	64.5%
2016	620	38.1%	40.3%	34.9%	58.9%
2018	578	37.4%	37.8%	36.7%	61.8%
2020	630	33.2%	35.4%	30.2%	57.5%

After reviewing the pass rates, analyses of the performance on the Bar exam along with the other measures were completed. Table 2 reports the mean score for the two tests that are used as part of law school admission in Puerto Rico (EXADEP, LSAT), law school grade point average (LGPA), and the overall score on the Puerto Rico Bar Examination. A complete summary of data points can be found in Appendix A. The data are included for the population as well as for first-time takers only. As can be seen in Table 2, the decline in pass rates reported in Table 1 was also observed in the change in mean total score on the Puerto Rico Bar Examination. For first-time applicants, the mean overall score on the Puerto Rico Bar Examination declined from a mean of 596.32 in 2010 to a mean score of 566.07 in 2020. Interestingly, a similar decline in performance is also observed when looking at the EXADEP, but not when looking at the LSAT where the scores have been relatively stable or law school GPA, which more recently experienced a slight increase.

Table 2. Average scores for Puerto Rico law school admission tests, law school GPA, and total Puerto Rico Bar Examination score

year		All applicants				First-time applicants			
		EXADEP	LSAT	LGPA	Total Bar Score	EXADEP	LSAT	LGPA	Total Bar Score
2010	N	652	649	653	668	414	413	414	424
	Mean	595.92	138.25	3.09	583.08	605.46	139.12	3.19	596.32
	Std. Dev.	50.84	6.22	0.33	62.38	49.206	6.03	0.32	63.91
2012	N	736	735	736	741	471	471	471	475
	Mean	600.13	138.98	3.10	574.55	608.20	139.88	3.20	584.22
	Std. Dev.	51.46	6.34	0.34	60.29	50.592	6.38	0.33	63.56
2014	N	683	683	687	696	439	439	441	449
	Mean	604.25	139.02	3.12	577.59	610.52	140.16	3.21	585.55
	Std. Dev.	53.22	6.60	0.34	59.94	55.544	6.86	0.34	63.43
2016	N	603	603	606	620	355	355	356	365
	Mean	594.34	139.20	3.11	566.38	597.40	140.20	3.21	568.00
	Std. Dev.	51.59	6.29	0.34	61.42	54.060	6.46	0.34	66.41
2018	N	565	565	565	578	349	349	349	357
	Mean	574.23	138.89	3.17	567.28	576.45	140.05	3.26	566.28
	Std. Dev.	55.51	6.37	0.31	59.28	60.839	6.55	0.32	66.44
2020	N	612	613	616	630	353	353	354	362
	Mean	562.26	138.48	3.16	563.81	559.36	138.81	3.27	566.07
	Std. Dev.	63.23	6.44	0.32	59.39	65.285	6.84	0.32	65.19

After reviewing the overall performance on the Puerto Rico Bar Examination and other measures, the investigation also reviewed the relationships among the various measures. As seen in Table 3, along with the shifts in the overall performance on these measures, we also observed some shifts in the relationships among these measures. The correlations across the measures were calculated; complete results are provided in Appendix B. Table 3 shows the correlations of the two law school admission tests (EXADEP and LSAT) and the law school GPA with overall score on the Puerto Rico Bar Examination for all applicants as well as first-time applicants. For the EXADEP and LSAT, the correlation between scores on these measures and the Puerto Rico Bar Examination appears to be declining slightly. The correlation with EXADEP and LSAT was 0.297 and 0.247 respectively for first-time applicants in 2010, as compared to values of 0.143 and 0.214 in 2020. In contrast, the relationship between LGPA and overall Puerto Rico Bar Examination score appears to be relatively stable, with a slight decline for all applicants and a slight increase for first-time takers.

Table 3. Correlation of admission and law school measures with total score on the Puerto Rico Bar Examination

	All applicants			First-time applicants		
	EXADEP	LSAT	LGPA	EXADEP	LSAT	LGPA
2010	0.295	0.245	0.565	0.297	0.247	0.582
2012	0.211	0.190	0.632	0.207	0.190	0.680
2014	0.199	0.225	0.597	0.155	0.173	0.635



2016	0.072	0.124	0.549		0.128	0.150	0.722
2018	0.109	0.121	0.581		0.155	0.200	0.729
2020	0.128	0.162	0.530		0.143	0.214	0.650

Finally, these same measures were also reviewed using regression analysis to evaluate how well each of these measures could predict eventual performance on the total Puerto Rico Bar Examination score. The first regression analysis investigated how well the EXADEP and LSAT can predict performance on the Puerto Rico Bar Examination while the second analysis evaluated the predictive power of law school GPA. The third regression analysis combined all three measures to determine how well all three could predict total score on the Puerto Rico Bar Examination.

Table 4 presents the R values for each of the regression equations. As can be seen in the table, the relationship between the two admission tests and the Puerto Rico Bar Examination total score has generally declined from 2010-2020. Most notably, between 2014 and 2016, the R value decreased from 0.235 in for all applicants in 2014 to 0.125 for all applicants in 2016. This decrease was also observed with using only the first-time applicants, though it was slightly less of a drop. When looking at LGPA, the patterns do not appear to be consistent, with a slight decrease in the overall population, but a slight increase when looking only at first-time applicants.

Table 4: R values for regression of admission tests and law school GPA to Puerto Rico Bar Examination total score

	All applicants				First-time applicants		
	EXADEP & LSAT	LGPA	All 3		EXADEP & LSAT	LGPA	All 3
2010	0.289	0.565	0.585		0.260	0.582	0.606
2012	0.218	0.632	0.633		0.217	0.680	0.680
2014	0.235	0.597	0.601		0.181	0.635	0.642
2016	0.125	0.549	0.552		0.155	0.722	0.724
2018	0.130	0.581	0.582		0.203	0.729	0.730
2020	0.164	0.530	0.538		0.215	0.650	0.659

In reviewing the EXADEP, LSAT, and LGPA data from 2010 to 2020, there was not a clear trend that explains the declining pass rates observed on the Bar exam. Specifically, the scores on the LSAT remained stable for the applicants. Alternatively, scores on the EXADEP did also experience a decline. The mean scores on the Puerto Rico Bar Examination decline were approximately 3.3% when comparing 2020 to 2010. In contrast, LSAT scores remained essentially unchanged (increase of 0.2%) while the EXADEP experienced a slightly larger decline in scores (decline of 5.6%). At the same time, LGPA also remained consistent to slightly increasing over the time period, with 2020 showing a 2.5% increase as compared to 2010. If we review these trends looking only at first-time applicants, the trend becomes slightly more dramatic, with the decline in both EXADEP and Puerto Rico Bar Examination score being greater, while the LSAT and LGPA remain essentially the same. Reviewing these trends, there does not appear to be a direct, strong relationship between the decrease in pass rates for the Puerto Rico Bar Examination with any of the other indicators available.

When reviewing the correlation and regression results, there does appear to be some shift in the relationships among the variables that begin in 2016 where the correlation between the EXADEP and LSAT and LGPA with Puerto Rico Bar Examination scores was reduced significantly. Unlike the score decrease, the shift in this relationship was *not* consistent between the first-time takers and the overall population. In 2016, the correlation

for first-time takers between LGPA and Puerto Rico Bar Examination scores increased significantly and has remained higher in the 2018 and 2020 testing years. Along the same lines, when looking at the correlation between LSAT and Puerto Rico Bar Examination scores, the correlation declined significantly for the overall population starting in 2016. However, considering only the first-time applicants, while the correlation did decrease in 2016, it returned in 2018 and 2020 to levels that were observed in 2010-2014. In contrast, when evaluating the correlation between the EXADEP and Puerto Rico Bar Examination scores, the correlation dropped significantly starting in 2016, and that change happened for both first-time applicants and the overall population.

Research Question 3 – Anchor items analysis

What are the common item characteristics from the Puerto Rico Bar Examination that have appeared on two or more forms of the examination from even numbered years beginning in 2010?

A goal of this evaluation was to collect and analyze data to determine whether more recent applicants for the examination were less prepared than previous applicants on the examination using items that are common across years. This portion of the evaluation did not include considerations such as law school admission practices, law school curriculum, or instructional practices to prepare applicants. Rather, this series of analyses focused on the empirical change in performance by applicants across years.

To respond to this evaluation question, the ACS completed a review of applicant performance on specific sets of items on the Puerto Rico Bar Examination. The Puerto Rico Bar Examination is administered twice a year in the spring and in the fall. The test is comprised of 184 multiple-choice items along with 8 essay questions.¹ To support scoring, scaling, and equating of the exams across test administrations, the bar exam contains a set of anchor multiple-choice items with known empirical properties that can be used to link applicant performance. This is a common practice for testing programs to maintain consistency of the interpretation of scores over time.

On the Puerto Rico Bar Examination, the anchor items are a set of common multiple-choice items that are administered across multiple administrations to support the scaling and equating of the examinations. By using anchor items, test forms can be adjusted to account for any variability in the empirical difficulty of test forms and shifts in overall applicant ability. The statistical process of equating is an important step to ensure the overall consistency and meaning of the passing score for licensing examinations and helps to ensure the fairness of the exam across time.

Because the anchor items are identical across examination forms, the items can provide a valuable metric in the evaluation of the preparedness of applicants over time. If applicants in 2020 performed similarly on the anchor items than applicants who completed the examination in earlier years, it would support a hypothesis that applicants in 2020 were equivalent in terms of their preparation previous applicants. However, if a decline in performance on the anchor items was observed, that would support the hypothesis that applicants in 2020 were *not* as prepared as previous applicants on the examination. A decline in the performance on the anchors items would further support observations for why overall examination performance and passing rates would also

¹ The number of operationally scored multiple-choice items may decrease if any of them do not meet statistical quality criteria.



decline. This is a particularly important point because anchor items are used to maintain the meaning of the passing score over time.

This part of the evaluation used the anchor items on the test forms to complete two distinct set of analyses. In the first analysis, ACS reviewed the performance of a set of anchor items that appeared on all test forms. These 14 anchor items allowed for a direct, consistent comparison across each year of data included in this study. In the second set of analyses, each consecutive year was reviewed and every anchor item that appeared on both tests were reviewed. In other words, when looking at the 2010 and 2012 test years, the set of items that appeared on both test forms, not every other year, was identified and analyzed. Each of these analyses will be described in more detail below along with the results for each.

Common anchor across all forms

To evaluate the historic trends of applicant performance on anchor items on the Puerto Rico Bar Examination, the first set of analyses utilized data from a common set of items that appeared in every year that was included in the study. For each test administration, the empirical item difficulty for all multiple-choice items was calculated. Item difficulty was estimated by calculating the *P-value* for each item. The P-value is an item-level statistic that is frequently used within testing programs to estimate the overall difficulty level of items and is determined by calculating the percentage of applicants who get each item correct. For example, a P-value of 0.80 indicates that 80% of applicants answered the item correctly within a given test administration. Interpretation of the P-value statistic may appear counterintuitive in that as these values increase, it indicates that the item has become *less* difficult, or easier, as more applicants answer the item correctly. In other words, if one item has a P-value of 0.60, and a second item has a P-value of 0.75, the second item would be interpreted as being empirically easier than the first for applicants.

By keeping items consistent and administering them across multiple different groups of bar examination applicants, the P-values for the items can be used to evaluate the preparedness of these different groups. For example, the same set of items can be given to two different sets of applicants to compare whether they are equivalent in terms of performance. The first group administered the items produces an average P-value (item difficulty) for all items that is equal to 0.50. The same items are administered to a second group with the average item difficulty on the items calculated as 0.55. Because we have administered the same items, we can directly compare the results to determine that the second group of applicants scored better on and could be considered better prepared for the given content.

For this analysis, once the P-values for all items were determined, the previous bar exam forms were further reviewed to identify 14 items that appeared across each of the 6 test administrations in the study. The P-values for the items were compared and reported in Table 5 below. As can be seen in Table 1, the average P-value across the six test administrations did decrease as we move from 2010 to 2020. The average P-value decreased in each year except for the comparison of 2012 to 2014, which saw a slight increase. Although some item difficulties (it031, it046, it096) did move higher, most items declined contributing to the overall decline in common item p-value.

Overall, the results of this analysis respond to the primary evaluation question of whether applicants taking the examination in 2020 were similarly prepared to applicants who took the examination in previous years. Except for a slight increase in average performance on anchor items from 2012 to 2014, there is a general trend of declining performance on these common items from 2010 to 2020. Specifically, on the same set of items, applicant performance was not as high in 2020 than was observed in each of the previous years. Comparing the



average difficulty in 2010 (0.564) to the average difficulty in 2020 (0.489), we see a notable decline over the time period that would likely lead to some expected decline the percentage of applicants successfully passing the examination. These results suggest that applicants in 2020 were not as well prepared as applicants in prior test administrations.

Table 5. Average P-values for 14 anchor items appearing on each test administration 2010-2020

item	2010	2012	2014	2016	2018	2020
it004	0.689	0.709	0.736	0.658	0.653	0.649
it031	0.417	0.474	0.588	0.557	0.527	0.583
it038	0.394	0.328	0.308	0.240	0.238	0.279
it040	0.632	0.552	0.583	0.601	0.583	0.544
it043	0.392	0.366	0.368	0.391	0.345	0.307
it046	0.455	0.501	0.455	0.557	0.594	0.470
it047	0.625	0.549	0.492	0.495	0.440	0.605
it053	0.222	0.063	0.098	0.112	0.095	0.061
it078	0.764	0.663	0.647	0.612	0.661	0.677
it088	0.590	0.491	0.510	0.456	0.333	0.320
it096	0.481	0.581	0.588	0.530	0.524	0.514
it118	0.821	0.815	0.856	0.814	0.776	0.707
it167	0.693	0.636	0.678	0.648	0.700	0.635
it174	0.717	0.577	0.559	0.533	0.434	0.497
Average	0.564	0.522	0.533	0.515	0.493	0.489

Comparison across pairs of years

The analysis of the 14 anchor items appearing on each test form in the study did provide some valuable information on the preparedness of the applicant populations across those years. However, any conclusions drawn from the analysis were also limited due to the small number of items used in the comparison. When developing anchor sets, it is usually recommended that a minimum of 20% of the test form be comprised of anchor items.² With that guidance, a traditional anchor set from the multiple-choice items would have been approximately 36-37 items in length.

To help address this limitation, ACS completed an additional set of analyses that focused on creating pairs of test administrations and investigating the performance of any anchor items that appeared on both test forms. In other words, rather than identifying any items that appeared on all six forms, we determined what items appeared on the 2010 and 2012 test form pair and reviewed their performance. The analysis then moved forward to investigate the 2010 and 2014 pair, and so on until all potential test administration pairs were investigated.

Once item test administration pair was identified, the P-value for the item in the later year was subtracted into the P-value for the earlier year. For example, with the 2010 and 2012 test administration, the formula was written as:

$$2010 \text{ P-value} - 2012 \text{ P-value}$$

² Kolen, M. J. & Brennan, R. L. (1995). *Testing equating: Methods and practices*. New York, NY: Springer-Verlag.



With this formula, positive values would indicate that the P-value was higher in 2010, which supports the hypothesis that the applicants in 2010 were better prepared than the applicants in 2012. Alternatively, negative values would indicate that the P-value was higher in 2012 and that applicants in 2012 were better prepared than applicants in 2010.

Table 6: Average P-value difference for each test administration pair

	2010	2012	2014	2016	2018	2020
2010						
2012	0.028 (n=47)					
2014	0.046 (n=37)	0.000 (n=155)				
2016	0.077 (n=35)	0.030 (n=137)	0.024 (n=159)			
2018	0.094 (n=32)	0.032 (n=130)	0.027 (n=150)	0.000 (n=166)		
2020	0.075 (n=14)	0.029 (n=64)	0.028 (n=71)	0.002 (n=78)	-0.006 (n=87)	

Table 6 provides the mean difference observed when comparing the performance across the test administration pairs. It should be noted here that because the analysis was completed with each test administration pair, the number of anchor items in common across each pair was not the same. The number of items that were compared within each pairing is also included in Table 6. As can be seen in Table 6, when looking at the difference in P-values across test administrations, the average values are almost always positive. For example, if you compare the P-values in 2010 to the set of common items in 2016, we calculated there to be a 0.077 difference in P-values, meaning the applicants in 2010 scored, on average, 0.077 better than applicants on the 2016 examination. There were some instances where the average difference observed was either close to zero (i.e., 2012 and 2014, 2016 and 2018, 2016 and 2020, 2018 and 2020), but we did not see any test administration pairs where the P-values notably increased from one year to the next. The consistency of the difference in P-values is notable as if the differences were primarily just statistical variability, we would expect to see roughly the same number of positive and negative average differences. Instead, the consistent positive values support the hypothesis that applicants across each year were not as well prepared as in previous years.



Conclusions

An important component of the overall investigation completed by ACS was focused on applicant performance on the items administered on the Bar exam. For both set of analyses completed, the results did support the hypothesis that the applicants in the more recent years were not as well prepared than the applicants in previous years. Average P-values for a common set of items declined over time, and when comparing specific test administration pairs, the pattern consistently saw applicants from earlier test administrations performing better.

It should also be noted that the average difficulty level of a set of items can fluctuate for reasons other than the overall preparedness of applicants. For example, the content of the items may have been covered more extensively in training or instruction historically and may not be considered as important at this time. As noted earlier, the items can also be evaluated from a content validity perspective to determine if the content being measured has shifted or changed in the job-related importance among practitioners.

While this analysis does have some limitations, it does also provide significant empirical support to the hypothesis that applicants in 2020 are not as well prepared as historic applicants populations. The hypothesis that the steady decline in overall pass rate on the Puerto Rico Bar Examination is a result of applicants being less prepared for the examination is supported by the decline in performance on the 14 anchor items administered on every test administration. It is also supported by the consistent decline in performance when looking at specific test administration pairs, indicating applicants in recent years are consistently not as well prepared as applicants in earlier years.



Appendix A: Full descriptive data for all variables

Table A1: Complete descriptive for all variables with all applicants

		All applicants					
year		EXADEP	LSAT	LGPA	MC	Essay	Total
2010	N	652	649	653	668	668	668
	Mean	595.92	138.25	3.09	581.64	582.54	583.08
	Median	592.50	138.00	3.07	584.00	586.75	583.50
	Std. Deviation	50.84	6.22	0.33	65.93	66.16	62.38
	Minimum	348	120	2.23	387.7	357.0	384
	Maximum	774	157	4.00	764.0	776.5	748
2012	N	736	735	736	741	741	741
	Mean	600.13	138.98	3.10	573.22	574.00	574.55
	Median	594.00	138.00	3.09	571.30	576.90	575.00
	Std. Deviation	51.46	6.34	0.34	63.94	64.17	60.29
	Minimum	274	124	2.08	373.7	386.9	384
	Maximum	774	163	4.00	746.4	781.6	753
2014	N	683	683	687	696	696	696
	Mean	604.25	139.02	3.12	576.19	577.15	577.59
	Median	597.00	138.00	3.08	579.90	576.90	580.00
	Std. Deviation	53.22	6.60	0.34	63.88	64.13	59.94
	Minimum	503	125	2.19	390.7	398.1	417
	Maximum	773	164	3.96	746.6	768.7	754
2016	N	603	603	606	620	620	620
	Mean	594.34	139.20	3.11	565.08	565.76	566.38
	Median	587.00	138.00	3.08	568.10	565.10	567.50
	Std. Deviation	51.59	6.29	0.34	65.03	65.34	61.42
	Minimum	427	125	2.15	335.0	388.0	379
	Maximum	753	164	4.00	749.4	801.5	758
2018	N	565	565	565	578	578	578
	Mean	574.23	138.89	3.17	565.94	566.79	567.28
	Median	564.00	139.00	3.16	568.50	571.10	568.00
	Std. Deviation	55.51	6.37	0.31	62.57	62.94	59.28
	Minimum	375	123	2.38	398.6	368.7	395
	Maximum	775	171	3.95	710.1	756.2	733
2020	N	612	613	616	630	630	630
	Mean	562.26	138.48	3.16	562.42	563.40	563.81
	Median	559.00	138.00	3.15	565.20	562.20	562.00
	Std. Deviation	63.23	6.44	0.32	63.51	63.92	59.39
	Minimum	135	122	2.38	387.8	387.9	388
	Maximum	734	165	4.00	731.1	761.2	741

Table A21: Complete descriptive for all variables with all first-time applicants

		First-time applicants					
year		EXADEP	LSAT	LGPA	MC	Essay	Total
2010	N	414	413	414	424	424	424
	Mean	605.46	139.12	3.19	593.87	596.59	596.32
	Median	602.50	138.00	3.19	600.40	601.90	601.00
	Std. Deviation	49.206	6.03	0.32	67.33	67.71	63.91
	Minimum	348	121	2.23	387.7	357.0	384
	Maximum	774	157	4.00	764.0	776.5	748
2012	N	471	471	471	475	475	475
	Mean	608.20	139.88	3.20	584.01	582.53	584.22
	Median	603.00	139.00	3.19	584.30	585.30	592.00
	Std. Deviation	50.592	6.38	0.33	66.79	67.32	63.56
	Minimum	524	129	2.08	373.7	386.9	384
	Maximum	774	163	4.00	746.4	781.6	753
2014	N	439	439	441	449	449	449
	Mean	610.52	140.16	3.21	582.14	587.12	585.55
	Median	606.00	140.00	3.21	583.10	588.90	585.00
	Std. Deviation	55.544	6.86	0.34	67.04	67.39	63.43
	Minimum	503	127	2.38	426.0	398.1	417
	Maximum	773	164	3.96	746.6	768.7	754
2016	N	355	355	356	365	365	365
	Mean	597.40	140.20	3.21	565.73	568.34	568.00
	Median	587.00	140.00	3.20	564.90	566.90	566.00
	Std. Deviation	54.060	6.46	0.34	69.00	71.22	66.41
	Minimum	427	125	2.15	393.3	388.0	417
	Maximum	753	164	4.00	749.4	801.5	758
2018	N	349	349	349	357	357	357
	Mean	576.45	140.05	3.26	565.23	565.47	566.28
	Median	565.00	140.00	3.27	565.40	568.40	568.00
	Std. Deviation	60.839	6.55	0.32	69.62	69.23	66.44
	Minimum	375	123	2.38	398.6	368.7	395
	Maximum	775	163	3.95	710.1	756.2	733
2020	N	353	353	354	362	362	362
	Mean	559.36	138.81	3.27	562.85	567.46	566.07
	Median	556.00	139.00	3.25	559.40	567.35	562.00
	Std. Deviation	65.285	6.84	0.32	68.69	69.18	65.19
	Minimum	138	122	2.41	399.2	401.5	421
	Maximum	734	165	4.00	731.1	761.2	741

Appendix B: Complete correlation matrices

Table B1: Complete correlation matrices for all applicants

2010	EXADEP	LSAT	LGPA	MC	Essay	Total
EXADEP	1					
LSAT	0.663	1				
LGPA	0.241	0.127	1			
MC	0.266	0.221	0.530	1		
Essay	0.287	0.239	0.537	0.782	1	
Total	0.295	0.245	0.565	0.931	0.955	1
2012	EXADEP	LSAT	LGPA	MC	Essay	Total
EXADEP	1					
LSAT	0.690	1				
LGPA	0.310	0.247	1			
MC	0.248	0.238	0.629	1		
Essay	0.147	0.120	0.560	0.771	1	
Total	0.211	0.190	0.632	0.941	0.941	1
2014	EXADEP	LSAT	LGPA	MC	Essay	Total
EXADEP	1					
LSAT	0.651	1				
LGPA	0.301	0.253	1			
MC	0.208	0.231	0.563	1		
Essay	0.165	0.190	0.557	0.756	1	
Total	0.199	0.225	0.597	0.937	0.937	1
2016	EXADEP	LSAT	LGPA	MC	Essay	Total
EXADEP	1					
LSAT	0.653	1				
LGPA	0.210	0.209	1			
MC	0.129	0.164	0.540	1		
Essay	0.006	0.070	0.494	0.775	1	
Total	0.072	0.124	0.549	0.942	0.942	1
2018	EXADEP	LSAT	LGPA	MC	Essay	Total
EXADEP	1					
LSAT	0.576	1				
LGPA	0.162	0.238	1			
MC	0.151	0.174	0.572	1		
Essay	0.055	0.055	0.526	0.789	1	
Total	0.109	0.121	0.581	0.945	0.946	1
2020	EXADEP	LSAT	LGPA	MC	Essay	Total
EXADEP	1					
LSAT	0.584	1				
LGPA	0.086	0.139	1			
MC	0.144	0.151	0.503	1		
Essay	0.094	0.151	0.484	0.737	1	
Total	0.128	0.162	0.530	0.931	0.932	1

Table B2: Complete correlation matrices for all first-time applicants

2010	EXADEP	LSAT	LGPA	MC	Essay	Total
EXADEP	1					
LSAT	0.624	1				
LGPA	0.208	0.101	1			
MC	0.273	0.237	0.569	1		
Essay	0.286	0.230	0.537	0.789	1	
Total	0.297	0.247	0.582	0.934	0.957	1
2012	EXADEP	LSAT	LGPA	MC	Essay	Total
EXADEP	1					
LSAT	0.683	1				
LGPA	0.318	0.277	1			
MC	0.256	0.232	0.684	1		
Essay	0.137	0.128	0.603	0.795	1	
Total	0.207	0.190	0.680	0.947	0.948	1
2014	EXADEP	LSAT	LGPA	MC	Essay	Total
EXADEP	1					
LSAT	0.660	1				
LGPA	0.272	0.179	1			
MC	0.186	0.203	0.629	1		
Essay	0.106	0.124	0.569	0.783	1	
Total	0.155	0.173	0.635	0.944	0.945	1
2016	EXADEP	LSAT	LGPA	MC	Essay	Total
EXADEP	1					
LSAT	0.661	1				
LGPA	0.213	0.158	1			
MC	0.199	0.198	0.727	1		
Essay	0.046	0.087	0.641	0.794	1	
Total	0.128	0.150	0.722	0.945	0.949	1
2018	EXADEP	LSAT	LGPA	MC	Essay	Total
EXADEP	1					
LSAT	0.635	1				
LGPA	0.184	0.209	1			
MC	0.195	0.249	0.719	1		
Essay	0.101	0.133	0.676	0.836	1	
Total	0.155	0.200	0.729	0.958	0.958	1
2020	EXADEP	LSAT	LGPA	MC	Essay	Total
EXADEP	1					
LSAT	0.648	1				
LGPA	0.166	0.172	1			
MC	0.170	0.214	0.639	1		
Essay	0.102	0.190	0.589	0.788	1	
Total	0.143	0.214	0.650	0.945	0.946	1