Getting to Know Your ACES Admission Validity Study

Overview for the Web



Overview

- This presentation will go through all of the deliverables that you receive as part of your admission study
- We will go over what is in each file and how to use them.

Overview

ACES Deliverables

ACES™		🔒 Home	+ New Study	+ Natio	nal Validity Study 🛛 🌰 File Transfe	er 🕜 Help 🗸
2024 National Validity Study						-
	Stu	idy Design	Data Submission	Study Re:	sults	
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ACES Deliverables

For an Admission Validity Study

- Original Data File
- Standardized Data File
- Data Quality Report (PDF)
- Institution Report (PDF)
- Interactive Graphs (HTML)



SAT Admission Validity Study Institution Report



- Section 1: Descriptive summary of the admission measures
- Section 2: Evaluating admission measures
 - Mean First-Year GPA by SAT Total Score
 - Mean First-Year GPA by HS GPA Quartile and SAT Total Score Quartile
 - Predictive strength of admission measures in your study
- Section 3: Using the admission measures for future students
 - Percentage of students at or above selected First-Year GPA values by SAT Total score quartiles and HS GPA quartiles
- Section 4: Using predicted First-Year GPA to identify current students possibly at risk for not completing their degrees at Sample University
 - Plot of actual First-Year GPA by predicted First-Year GPA
- Appendix A: Prediction equations for all students
- Appendix B: Statistical summaries for subgroups

Institution Report

Study Description

- This section orients you to what you will see in the report.
- Provides the sample size (N) for the study.
- Identifies all measures used in the study and where they came from (institution provided or CB provided if applicable)
 - Criterion score
 - High school measure of academic achievement
 - SAT scores
 - Additional predictors
 - Any grouping variables

Section 1: Descriptive summary of the admission measures

This section presents a descriptive summary of the admission measures in your study.

The table below displays the mean, standard deviation (SD), minimum, and maximum of each individual admission measure selected for your study, and the number of students (N) with information available on each measure. Some measures may be available for all or nearly all of your students. Others may only be available for smaller groups of students. The table presents all measures with information available on 15 or more students.

Statistical summaries of study measures

Туре	Measure Name	N	Mean (SD)	Minimum	Maximum
College Outcome	Cumulative GPA through first year	2,922	3.13 (0.49)	1.37	4.00
High School GPA	HSGPA	2,922	3.61 (0.27)	2.80	4.00
SAT Test Score	SAT RW Section	2,922	639 (64)	365	800
SAT Test Score	SAT Math Section	2,922	660 (72)	410	800
SAT Test Score	SAT Total score	2,922	1299 (110)	850	1600
Add. Predictor	InterviewScore	2,922	8.68 (1.19)	4.00	12.00

Statistical summaries of study measures

- Section 1 provides descriptive summaries for all measures in your study
- Descriptive summaries include
 - Means
 - Standard deviations
 - Minimums/Maximums
 - Number of Students (N)
- Some measures are available for all students in your study and some are available for a subset
- Note that certain statistics will not be reported for less than 15 students.

Section 1: Descriptive summary of the admission measures

This section presents a descriptive summary of the admission measures in your study.

The table below displays the mean, standard deviation (SD), minimum, and maximum of each individual admission measure selected for your study, and the number of students (N) with information available on each measure. Some measures may be available for all or nearly all of your students. Others may only be available for smaller groups of students. The table presents all measures with information available on 15 or more students.

Statistical summaries of study measures

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College Outcome	Cumulative GPA through first year	2,922	3.13 (0.49)	1.37	4.00
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Mean First-Year GPA by SAT Total Score graph

- SAT total score is divided into four equally sized groups
- Bars show the mean first-year GPA in each of the SAT total score quartiles





Mean First-Year GPA by HSGPA Quartile and SAT Total Score graph

- Takes the previous graph one step further
- HSGPA is broken down into quartiles and each SAT total score quartile is shown within a HSGPA quartile.
- Each SAT total score quartile is represented by a separate color in the graph allowing you to compare across HSGPA groups
- Bars represent mean first-year GPA within a SAT total score quartile/HSGPA quartile pair

Mean Cumulative GPA though first year by HS GPA Quartile and SAT Total Score Quartile



Predictive strength of admission measures in your study

- Shows correlations between variables in your study and first year GPA
 - Individual variables
 - Combinations of variables
- Bars color coded by strength of the relationship—the darker the color, the stronger the relationship



Admission Measures



College Readiness Predictions for All students and subgroups

- Shows the percentage of students meeting the College Board Readiness Benchmark for all students and subgroups.
- Also shows mean predicted and actual GPAs for all students and subgroups.
- The last column shows the mean difference in actual GPA and predicted GPA for your students
 - A negative value means, on average, predicted GPAs are higher than actual GPAs
 - A positive value means, on average, actual GPAs are higher then predicted GPAs.

Evaluating college readiness and predictions for all students and subgroups

Subgroup	Number of Students	Meeting SAT Readiness Benchmark (percent)	Mean Predicted GPA	Mean Actual GPA	Mean Difference: Actual GPA - Predicted GPA
All Students	2,922	96.20%	3.13	3.13	<0.01
Gender: Female	1,456	96.36%	3.14	3.13	<0.01
Gender: Male	1,466	96.04%	3.13	3.14	<0.01
Ethnicity: African American	146	86.30%	2.99	2.89	-0.10
Ethnicity: Asian	798	98.12%	3.15	3.10	-0.04
Ethnicity: Hispanic	305	94.43%	3.05	3.01	-0.04
Ethnicity: Other	151	94.04%	3.12	3.07	-0.04
Ethnicity: White	1,475	96.68%	3.16	3.21	0.05
Commuter: Commuter	884	96.27%	3.17	3.18	0.02
Commuter: Non-	2,038	96.17%	3.12	3.11	-0.01

Percentage of students at or above selected first-year GPA values by SAT total score and HSGPA quartiles

- Displays tables by HSGPA quartiles usually 4, but sometimes 3
- The rows in each table represent the SAT total score quartiles and the columns show different cut points of first-year GPA
- The percentages in each cell of a table show the **estimated** percentage of students with those SAT and HSGPA qualifications who meet or exceed the first-year GPA cut point in each column.
- For example: A student with a total SAT score of 1250 and HSGPA of 3.30 has the following estimated probability of earning a minimum FYGPA as shown in the column

Percentage of students at or above selected Cumulative GPA though first year values by SAT Total score quartiles and HS GPA quartiles

For HS GPA Quartile: 3.90 to 4.00 [4th quartile]

SAT Total Score	GPA 2.00+	GPA 2.33+	GPA 2.67+	GPA 3.00+	GPA 3.33+	GPA 3.67+	N
850 - 1225	95%	90%	81%	62%	36%	13%	97
1230 - 1300	97%	95%	92%	79%	49%	22%	147
1305 - 1370	99%	97%	95%	86%	60%	31%	171
1375 - 1600	99%	99%	97%	94%	78%	48%	250

For HS GPA Quartile: 3.70 to 3.80 [3rd quartile]

SAT Total Score	GPA 2.00+	GPA 2.33+	GPA 2.67+	GPA 3.00+	GPA 3.33+	GPA 3.67+	N
850 - 1225	96%	91%	73%	51%	28%	5%	158
1230 - 1300	98%	95%	85%	62%	36%	10%	189
1305 - 1370	98%	96%	94%	77%	48%	16%	198
1375 - 1600	99%	96%	92%	83%	60%	24%	199

For HS GPA Quartile: 3.50 to 3.60 [2nd quartile]

SAT Total Score	GPA 2.00+	GPA 2.33+	GPA 2.67+	GPA 3.00+	GPA 3.33+	GPA 3.67+	N
850 - 1225	99%	95%	78%	56%	26%	2%	203
1230 - 1300	97%	91%	81%	58%	26%	5%	190
1305 - 1370	97%	94%	86%	72%	32%	10%	145
1375 - 1600	98%	94%	85%	70%	42%	18%	154

For HS GPA Quartile: 2.80 to 3.40 [1st quartile]

SAT Total Score	GPA 2.00+	GPA 2.33+	GPA 2.67+	GPA 3.00+	GPA 3.33+	GPA 3.67+	N
850 - 1225	96%	89%	58%	31%	10%	1%	291
1230 - 1300	98%	91%	71%	46%	19%	5%	241
1305 - 1370	99%	94%	81%	59%	31%	9%	170
1375 - 1600	97%	89%	81%	63%	40%	15%	119

An example for the 1st HSGPA Quartile: 2.80 to 3.40

- Imagine you are looking at two different students with the following HSGPA and SAT total score:
 - Student 1: HSGPA 3.30, SAT total score 1250
 - Student 2: HSGPA 3.00, SAT total score 1340
- Using the table you can see that Student 2 has a 13% higher chance of earning at least a 3.00 FYGPA than Student 1

For HS GPA Quartile: 2.80 to 3.40 [1st quartile]

SAT Total Score	GPA 2.00+	GPA 2.33+	GPA 2.67+	GPA 3.00+	GPA 3.33+	GPA 3.67+	N
850 - 1225	96%	89%	58%	31%	10%	1%	291
1230 - 1300	98%	91%	71%	46%	19%	5%	241
1305 - 1370	99%	94%	81%	59%	31%	9%	170
1375 - 1600	97%	89%	81%	<mark>6</mark> 3%	40%	15%	119

Summary of performance

- Presents a cross tabulation of counts and row percentages for students with actual and predicted first-year GPAs falling above and below a set threshold—your criterion for success
- You want to see the most students in the two circled categories
- In the example
 - 60% of students expected to earn below a 3.0 had an actual firstyear GPA below 3.0 and 40% did not.
 - 74% of students who were expected to earn a 3.0 or higher did and 26% did not

Summary of performance - expected and actual First-Year GPA at college success cut-point

Expected First-Year GPA	Actual First-Year GPA below 3.0	Actual First-Year GPA 3.0 or higher
Expected First-Year GPA below 3.0	489 (60%)	328 (40%)
Expected First-Year GPA 3.0 or higher	548 (26%)	1,557 (74%)

Plot of actual first-year GPA by predicted first-year GPA

- Visualizes the relationship between predicted first-year GPA and actual first-year GPA
- The diagonal line represents where predicted first-year GPA equals actual first-year GPA
- The darkness of each of the little hexagons represents the number of students within that area—the darker it is, the more students are there
- The colors blue, green, and red represent how predicted performance compares to actual
 - Blue are doing better than predicted
 - Green are doing as well as predicted
- Red are doing worse than predicted

Plot of actual Cumulative GPA though first year by predicted Cumulative GPA though first year



Additional performance details

- Gives further details on those students performing lower than predicted and higher than predicted
 - Counts
 - Percent of performing lower than or performing higher than predicted groups
 - Mean differences in actual vs predicted first-year GPA
- Provides information on students performing "ok" in general, but worse than they were predicted to do
- Note that certain statistics will not be reported for less than 15 students.

Additional detail for students performing lower than predicted

Actual First-Year GPA	Number	Percent	Mean Difference (Actual - Predicted First-Year GPA	
2.5 to 2.99	13	8%		
2.0 to 2.49	95	56%	-0.93	
Below 2.0	62	36%	-1.32	
Total	170	100%	-1.06	

Additional detail for students performing higher than predicted

Actual First-Year GPA	Number	Percent	Mean Difference (Actual - Predicted First-Year GPA
3.5 and Above	249	84%	0.66
3.0 to 3.49	46	16%	0.58
Total	295	100%	0.64

Appendix A

Raw and adjusted correlations

- Revisits correlations from early in the report and provides the raw correlation and the adjusted correlation
- The raw correlation is that which is seen in the provided data file
- The adjusted correlation is adjusted for the restriction of range in the submitted data

Predictive strength of admission measures (raw and adjusted correlations)

Measure	Ν	Predictive Strength (adjusted correlation)	Predictive Strength (raw correlation)
SAT Tests, HSGPA, Add. Predictors	2,922	0.61	0.46
SAT Tests and HSGPA	2,922	0.61	0.46
SAT Tests	2,922	0.56	0.38
SAT RW Section	2,922	0.56	0.37
SAT Math Section	2,922	0.48	0.19
HSGPA	2,922	0.44	0.34
InterviewScore	2,922	0.28	0.15

Appendix A

Prediction equations for all students

- Presents all prediction models used in the report
- Lists all related statistics for each model
- Provides all coefficients to build each regression model
- You can use this information for future applicants if you want
- A sample regression equation is provided as a guide for using the prediction equations for future students

Prediction equations for all students

Statistic or Predictor	SAT Model	SAT and HS GPA Model	SAT, HS GPA, and Add. Predictors Model
N	2,922	2,922	2,922
Statistic or Predictor	SAT Model	SAT and HS GPA Model	SAT, HS GPA, and Add. Predictors Model
Raw Multiple Correlation	0.38	0.46	0.46
Corrected Multiple Correlation	0.56	0.61	0.61
Standard Error	0.46	0.44	0.44
Constant	1.05546	-0.26861	-0.35047
SAT RW Section	0.00266	0.00231	0.00221
SAT Math Section	0.00058	0.00031	0.00032
HSGPA		0.47683	0.47830

InterviewScore

0.01569

Your decision on which equation to use may be based on the information available in each student's record and/or mandated by your institution or state. For example, if a student has SAT Test scores only and supplies no other information, the appropriate prediction equation (using data from column one) would be:

Predicted Cumulative GPA though first year = Constant + (SAT RW Section score * SAT RW Section weight) + (SAT Math Section score * SAT Math Section weight)

Predicted Cumulative GPA though first year = 1.05546 + (640 * 0.00266) + (660 * 0.00058) = 3.14

Appendix B

Statistical summaries for subgroups

- Shows statistics presented in the paper by subgroups.
- Gender and Ethnicity will be shown if • they have at least 50 students in each subgroup.
- You can also select other subgroups • to see these summaries for-other subgroups will also include correlation and regression (prediction equations) analyses as in the paper.

Results by Gender

Gender: Female

Descriptive statistics of the college success criterion and the admission measures in your study appear below.

Statistical summaries of study measures for Gender: Female

Туре	Measure Name	Female N	Female Mean (SD)
College Outcome	GPA	1,456	3.13 (0.50)
High School GPA	HSGPA	1,456	3.61 (0.28)
SAT Test Score	SAT RW Section	1,456	639 (63)
SAT Test Score	SAT Math Section	1,456	661 (73)
SAT Test Score	SAT Total score	1,456	1301 (110)
Add. Predictor	InterviewScore	1,456	8.68 (1.18)

Gender: Male

Descriptive statistics of the college success criterion and the admission measures in your study appear below.

Statistical summaries of study measures for Gender: Male

Туре	Measure Name	Male N	Male Mean (SD)
College Outcome	GPA	1,466	3.14 (0.49)
High School GPA	HSGPA	1,466	3.61 (0.27)
SAT Test Score	SAT RW Section	1,466	639 (64)
SAT Test Score	SAT Math Section	1,466	658 (71)
SAT Test Score	SAT Total score	1,466	1297 (110)
Add. Predictor	InterviewScore	1,466	8.67 (1.20)

ACES Deliverables

For an Admission Validity Study

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- Interactive Graphs (HTML)



Section 1: Descriptive Summary

• All columns are sortable

ACES Admission	Validity Study Sample University	Study Sections 🗸	Appendix A 👻	Appendix B 👻	ę
Section 1: Descriptiv	e summary of the admission measures		_		
Statistical summaries	of study measures				
Туре	🔷 Measure Name	♦ N \$	Mean (SD) 🍦	Minimum	Maximum 🖨
College Outcome	Cumulative GPA through first year	2,922	3.13 (0.49)	1.37	4.00
High School GPA	High School GPA	2,922	3.61 (0.27)	2.80	4.00
SAT Test Score	SAT RW Section	2,922	639 <mark>(</mark> 64)	365	800
SAT Test Score	SAT Math Section	2,922	660 (72)	410	800
SAT Test Score	SAT Total score	2,922	1299 (110)	850	1600
Add. Predictor	InterviewScore	2,922	8.68 (1.19)	4.00	12.00

- Lots of different figures and charts in ٠ section 2
- All are interactive •



SAT Total Score Quartile

1305-1370

(N=684)

1230-1300

(N=767)

850-1225

(N=749)

1375-1600

(N=722)

- Hovering your mouse over one bar shows the descriptive statistics for that group of students
- This tool bar allows you to interact with each graph.

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850-1225

(N=749)



SAT Total Score Quartile

1305-1370

(N=684)

1230-1300

(N=767)

0

1375-1600

(N=722)

- Download the figure as a png file
- Multiple ways to zoom:
 - Allows you to drag a box and zoom into a part of the graph
 - Zoom in and out with the plus and minus
- Pan—drag the graph around the axis space
- Autoscale—resets the scale of your graph
- Home—resets the graphs to the default settings
- Toggle spike lines—turns on or off dotted lines showing values on x- and y-axis
- These control how the data labels are shown on the graphs and are shown on the next two slides

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Choose this option to see descriptive statistics for one column





 Choose this option to see descriptive statistics for the entire grouping of bars



 In graphs with multiple bars, toggle on and off each color to compare groups.



Section 3: Using the Admission Measures for Future **Students**

- This section color codes the percentage of students falling into each SAT score band and GPA bucket within HSGPA quartile
- The darker the color, the more students predicted to be in that category

ACES Admission Validity Study Sample University

Appendix A 🗸 Study Sections -

Appendix B 🗸

Section 3: Using the Admissions Measures for Future Students

Percentage of students at or above selected Cumulative GPA through first year values by SAT Total score quartiles and HS GPA quartiles for Students with High School GPA between 3.90 to 4.00

Percentage of students at or above selected Cumulative GPA through first year values by SAT Total score quartiles and HS GPA quartiles for Students with High School GPA between 3.70 to 3.80

Percentage of students at or above selected Cumulative GPA through first year values by SAT Total score quartiles and HS GPA quartiles for Students with High School GPA between 3.50 to 3.60

Percentage of students at or above selected Cumulative GPA through first year values by SAT Total score quartiles and HS GPA quartiles for Students with High School GPA between 2.80 to 3.40

SAT Total Score 🍦	GPA 2.00+ 🔶	GPA 2.33+ 🍦	GPA 2.67+ 🔶	GPA 3.00+ 🔅	GPA 3.33+ 🛊	GPA 3.67+ 🝦	N \$
850 - 1225	95%	90%	81%	62%	36%	13%	97
1230 - 1300	97%	95%	92%	79%	49%	22%	147
1305 - 1370	99%	97%	95%	86%	60%	31%	171
1375 - 1600	99%	99%	97%	94%	78%	48%	250
Percent of Students 60% - 75% 75% +							

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Section 4: Using the Predicted GPA for Current Students

- This graph gives more detail to the one included in the written report here each student is represented by a point on the graph
- You can interact and manipulate this graph including zooming in and out, isolating color groups, and hovering over points to get values



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ACES	♠ Home + New Study + National Validity Study Q Study History 🌰 File Transfer ⊘ Help 🗸
2018 SAT /	Admission Validity Study
Design	In Review Analysis in Process Delivery
	Image: Study Design Data Submission Study Results
	READY Standardized Data Files A compressed file containing the standardized data files transformed from your original data. 1.17 KB harmonized_data.zip CREATED Nov 7, 2024, 11:21 AM
Institution Report Full institution report in PDF form 30.00 bytes institution_report.bt UPLOADED Nov 7, 2024, 11:23 AM	nat. 30.00 bytes interactive_report.txt UPLOADED Nov 7, 2024, 11:23 AM

Questions?

Please contact us if you have any questions about your study or deliverables

- Contact us by email at <u>aces-collegeboard@norc.org</u> or phone 1-800-439-8309 if you need technical assistance.
- Feel free to reach out to Helen Ng at <u>validity@collegeboard.org</u> with study questions.