The National SAT Validity Study:
Sharing Results from Recent College Success Research

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The College Board
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Admission Validity
Differential Validity
Retention
Discrepant HSGPA and SAT
Admitted Class Evaluation Service™ (ACES™) System
Q&A
Focus on Criterion-Related Validity (or Predictive Validity)

- **Predictive validity** refers to the "power" or usefulness of test scores to predict future performance.

- Over time, validity evidence will continue to gather, either enhancing or contradicting previous findings.

- Establishing predictive validity is particularly useful when colleges or universities use standardized test scores as part of their admission criteria for enrollment or for admittance into a particular program.

- This is also the responsibility of the test publisher.
National SAT Validity Study

• Cross-institutional, longitudinal validity and higher education research informing ways to ensure that students are ready for and successful in college.

• Data supplied by four-year institutions from around the U.S. and matched to College Board data.

• Topics studied include:
  • Predictive validity of SAT with regard to FYGPA, cumulative GPA, retention (will study graduation when those data are available)
  • Understanding discrepant performance on SAT and HSGPA – implications for college performance
  • AP participation and performance and related college outcomes
  • Relationship between self-reported and actual HSGPA
  • Characteristics of students who switch from and remain in STEM majors
  • Many more
Sampling Plan
(developed in 2006)

• The population of colleges: 726 institutions receiving 200 or more SAT score reports in 2005.

• The target sample of colleges: stratified target sample was 150 institutions on various characteristics (public/private, region, admission selectivity, and size)

• Institutions have been recruited via: E-mail invites and/or visits from CB staff; Conference Exhibit Booths; Print announcements in CB and Association for Institutional Research (AIR) publications; etc.
Institutional Characteristics \((N=110)\)
(entering class of Fall 2007 – 1st Yr)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Region</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midwest</td>
<td>16%</td>
<td>16%</td>
</tr>
<tr>
<td>Mid-Atlantic</td>
<td>21%</td>
<td>18%</td>
</tr>
<tr>
<td>New England</td>
<td>18%</td>
<td>13%</td>
</tr>
<tr>
<td>South</td>
<td>14%</td>
<td>25%</td>
</tr>
<tr>
<td>Southwest</td>
<td>13%</td>
<td>10%</td>
</tr>
<tr>
<td>West</td>
<td>18%</td>
<td>18%</td>
</tr>
<tr>
<td><strong>Selectivity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>under 50%</td>
<td>19%</td>
<td>20%</td>
</tr>
<tr>
<td>50 to 75%</td>
<td>57%</td>
<td>44%</td>
</tr>
<tr>
<td>over 75%</td>
<td>24%</td>
<td>36%</td>
</tr>
<tr>
<td><strong>Size</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small: 750 to 1,999 undergrads</td>
<td>22%</td>
<td>18%</td>
</tr>
<tr>
<td>Medium to Large: 2,000 to 7,499 undergrads</td>
<td>37%</td>
<td>43%</td>
</tr>
<tr>
<td>Large: 7,500 to 14,999 undergrads</td>
<td>17%</td>
<td>20%</td>
</tr>
<tr>
<td>Very large: 15,000 or more undergrads</td>
<td>24%</td>
<td>19%</td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>46%</td>
<td>57%</td>
</tr>
<tr>
<td>Private</td>
<td>54%</td>
<td>43%</td>
</tr>
</tbody>
</table>
File Submission Takes Place with the Admitted Class Evaluation Service (ACES)

• ACES is a free online service that predicts how admitted students will perform at a college or university, generally (admission validity), and how successful students will be in specific courses (placement validity).

• By using ACES to submit the SAT Validity Study file, each institution receives a unique admission validity study and a returned file with supplementary variables from the College Board database (e.g. AP scores, SAT Questionnaire responses, etc.)

• www.collegeboard.com/aces
Fall 2006 Entering Cohort

1st Year
- 110 institutions
- 196,364 students across the US; 151,316 students had complete data (SAT, HGPA, FYGPA)

2nd Year
- 67 returning institutions
- 109,153 students across the US; ~74,955 students had complete data (SAT, HGPA, FYGPA)

3rd Year
- Importing in progress
- 60 returning institutions

Fall 2007 Entering Cohort

1st Year
- 110 institutions
- 216,081 students across the US; 159,286 students had complete data (SAT, HGPA, FYGPA)

2nd Year
- Importing in progress
- 94 institutions submitted data

Fall 2008 Entering Cohort

1st Year
- Importing in progress
- 130 institutions submitted data
Data Included in Files

For example, a First-Year Data on Fall 2008 Cohort *(first-time, first-year students that began at institution in fall 2008)* would contain students’:

- Name
- SSN
- Date of birth
- Gender
- University-assigned student ID
- Retention to the 2\textsuperscript{nd} year ("yes" or "no")
- First-year GPA
- Grades in first-year courses
- Course abbreviations for first-year courses (e.g., ENG 101)
- Course long names for first-year courses (e.g., Introductory English)
- Credit hours attempted for each course
- Semester each course was taken
- High School GPA (can be supplied by the ACES system or the institution)

*After 1\textsuperscript{st} year of data, we also ask for Major and CIP code*
Institutional data matched to CB records:

- Test scores (SAT, AP, SAT subject tests, PSAT/NMSQT)
- SAT Questionnaire responses
  - Gender
  - Race/Ethnicity
  - Self-reported HSGPA
  - High school coursework and activities
  - College plans
- Annual Survey of Colleges (institutional characteristics)
  - Size
  - Selectivity
  - Control
  - Region
Cleaning the Data after ACES Processing

Student Level Checks to Remain in the Study
- Student earned enough credit to constitute completion of a full academic year
- Student took the SAT after March 2005 (SAT W score)
- Student indicated their HSGPA on the SAT Questionnaire (when registering for the SAT)
- Student had a valid FYGPA

Institution Level Checks to Remain in the Study
- Check for institutions with high proportion of zero FYGPA (should some be missing or null?)
- Grading system makes sense (e.g. an institution submitted a file with no failing grades)
- Recoding variables for consistency (e.g. fall semester or fall trimester or fall quarter = term 1 for placement analyses)
Validating a Test for a Particular Use

The most common approach used to validate an admission test for educational selection has been through the computation of validity coefficients and regression lines. Validity coefficients are the computed correlation coefficients between predictor variables and a criterion or outcome variable(s), which can determine the predictive validity of a test.

A large correlation indicates strong predictive validity of a test to the criterion, however, a large correlation by itself does not satisfy all facets required of test validity.
SAT Validity Study results - snapshot

• Admission Validity Study

SAMPLE (2007 entering cohort)

110 colleges participating in Validity Study (N = 216,081)

• Schools provided first year performance data for Fall 2007 cohort through the Admitted Class Evaluation Service™ (ACES™) portal

Restrict sample to students who completed the new SAT, submitted self reported HSGPA, and had a valid FYGPA (N=159,286)
• SAT Writing has the highest correlation with FYGPA among the three individual SAT sections \( (Adj. \ r = 0.53) \).
  - SAT CR \( (Adj. \ r = 0.50) \); SAT M \( (Adj. \ r = 0.49) \)

• As expected, the best combination of predictors of FYGPA is HSGPA and SAT scores \( (Adj. \ r = 0.64) \), reinforcing the recommendation that colleges use both HSGPA and SAT scores to make the best predictions of student success.
The adjusted correlation of HSGPA and FYGPA is 0.56, which is the same as the multiple correlation of the SAT (CR, M, and W combined) with FYGPA (Adj. $r = 0.56$).

The increment in predictive validity attributable to the SAT when HSGPA is taken into account is 0.08.

The increment in validity attributable to the Writing section over and above the CR and M sections is 0.02. When HSGPA is also considered, the increment in validity attributable to the Writing section is 0.01.
Another way to think of a correlation of 0.53
Mean FYGPA by SAT Score Band
Another View of Incremental Validity

Mean FYGPA by SAT Score Band, Controlling for HSGPA

<table>
<thead>
<tr>
<th>SAT Score Band</th>
<th>600 - 890 (1500 - 1790)</th>
<th>900 - 1190 (1800 - 2090)</th>
<th>1200 - 1490</th>
<th>2100 - 2400</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.81</td>
<td>1.98</td>
<td>1.98</td>
<td>2.22</td>
<td></td>
</tr>
<tr>
<td>2.12</td>
<td>2.27</td>
<td>2.51</td>
<td>2.52</td>
<td></td>
</tr>
<tr>
<td>2.27</td>
<td>2.54</td>
<td>2.74</td>
<td>2.79</td>
<td></td>
</tr>
<tr>
<td>2.47</td>
<td>2.74</td>
<td>2.94</td>
<td>3.09</td>
<td></td>
</tr>
<tr>
<td>2.54</td>
<td>2.94</td>
<td>3.15</td>
<td>3.34</td>
<td></td>
</tr>
<tr>
<td>2.74</td>
<td>2.94</td>
<td>3.15</td>
<td>3.34</td>
<td></td>
</tr>
<tr>
<td>2.94</td>
<td>3.15</td>
<td>3.34</td>
<td>3.56</td>
<td></td>
</tr>
</tbody>
</table>

FYGPA

HSGPA

C or Lower

B

A

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Differential Validity and Prediction

**Differential Validity:** refers to a finding where the computed validity coefficients are significantly different for different groups of examinees. (A test can be predictive for all groups but to different degrees.)

**Differential Prediction:** refers to a finding where the best prediction equations and/or the standard errors of estimate are significantly different for different groups of examinees. Differential prediction is therefore the result of varying degrees of validity for the variables across examinee groups.

- Underprediction: Performing better in college than was predicted.
- Overprediction: Performing worse in college than was predicted.
Differential Validity Results

Similar to previous findings…

Differential Validity

- SAT and HSGPA were more predictive of FYGPA (higher correlations) for females versus males, White students versus other racial/ethnic groups, and students indicating English as best language versus English and Another or Another language as their best language.

- Within subgroups, SAT scores (versus HSGPA) were more predictive of FYGPA for females, American Indian or Alaska Native, Asian, Black, and “Other” students, as well as those indicating their best language to be Another language or English and Another.
Differential Prediction Results

Differential Prediction

- SAT and HSGPA tend to underpredict FYGPA for females; however, magnitude is larger for the SAT.

- SAT and HSGPA tend to overpredict FYGPA for minority students; however, magnitude is larger for HSGPA

- SAT-CR & SAT-W tend to underpredict FYGPA for students whose best lang. is not English. SAT-M accurately predicts their FYGPA.

- SAT & HSGPA both tend to overpredict FYGPA for students whose best lang. is English and another language; however, magnitude is larger for HSGPA.
SAT and Retention

This study answers:

• Is performance on the SAT related to retention?

• What are the demographic characteristics of returners vs. non-returners?

• Similarly, do retention rates vary by student and institutional characteristics?
  
  • If so, are these differences reduced or eliminated when controlling for SAT performance?
Sample & Measures

Sample

• Analyses based on data collected for the national SAT Validity Study
  • The sample included the 147,999 students (106 institutions) that had complete data (SAT, HSGPA, retention)

Measures

• Institutions provided retention
• SAT scores (most recent) were obtained from CB records
• HSGPA was self-reported, obtained from the SAT-Questionnaire
Analyses & Results

Comparison of returners (86%) and non-returners

- By student and institutional characteristics (%) – Of note:
  - % of non-returners that are American-Indian, African-American, and Hispanic were slightly higher than for the total group.
  - Students from lower SES families made-up a greater percentage of the non-returners as compared to the total group.
  - 15.4% of the sample attended a selective institution (i.e., admits fewer than 50% of applicants); however, this percentage varied markedly for returners (16.8%) and non-returners (7.2%).
## Comparison of Returners and Non-returners

- Mean performance on academic indicators

<table>
<thead>
<tr>
<th>Measures</th>
<th>Returners</th>
<th>Non-returners</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAT - CR</td>
<td>562.5</td>
<td>526.3</td>
</tr>
<tr>
<td>SAT - M</td>
<td>580.8</td>
<td>538.7</td>
</tr>
<tr>
<td>SAT - W</td>
<td>556.2</td>
<td>516.8</td>
</tr>
<tr>
<td>HSGPA</td>
<td>3.6</td>
<td>3.4</td>
</tr>
</tbody>
</table>

- On average, returners had a SAT total score that was 97 points higher as compared to non-returners.
Analyses & Results

Retention rates by:

- Academic characteristics (SAT, HSGPA)
- Student characteristics (Gender, Race/Ethnicity, Parental Income and Education)
  - Academic × Student Characteristics
- Institutional characteristics (Control, Size, Selectivity)
  - Academic × Institutional Characteristics
Retention Rates by Academic Characteristics

Second Year Retention Rates by SAT Score Band

- 600 - 890: 63.8%
- 900 - 1190: 72.6%
- 1200 - 1490: 79.2%
- 1500 - 1790: 85.4%
- 1800 - 2090: 91.5%
- 2100 - 2400: 95.5%
Retention Rates by Academic Characteristics

Second Year Retention Rates by HSGPA

<table>
<thead>
<tr>
<th>HSGPA</th>
<th>% Returning</th>
</tr>
</thead>
<tbody>
<tr>
<td>C+</td>
<td>69.6</td>
</tr>
<tr>
<td>C</td>
<td>67.3</td>
</tr>
<tr>
<td>C-</td>
<td>65.0</td>
</tr>
<tr>
<td>B-</td>
<td>74.0</td>
</tr>
<tr>
<td>B</td>
<td>79.1</td>
</tr>
<tr>
<td>B+</td>
<td>83.2</td>
</tr>
<tr>
<td>A-</td>
<td>87.6</td>
</tr>
<tr>
<td>A</td>
<td>90.8</td>
</tr>
<tr>
<td>A+</td>
<td>93.4</td>
</tr>
</tbody>
</table>
Even within HSGPA categories, SAT provided additional information...

Retention Rates by HSGPA Category by SAT Score Band

<table>
<thead>
<tr>
<th>HSGPA</th>
<th>% Returning</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-</td>
<td>60-890</td>
</tr>
<tr>
<td>C</td>
<td>900-1190</td>
</tr>
<tr>
<td>C+</td>
<td>1200-1490</td>
</tr>
<tr>
<td>B-</td>
<td>1500-1790</td>
</tr>
<tr>
<td>B</td>
<td>1800-2090</td>
</tr>
<tr>
<td>B+</td>
<td>2100-2400</td>
</tr>
<tr>
<td>A-</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td></td>
</tr>
<tr>
<td>A+</td>
<td></td>
</tr>
</tbody>
</table>

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Retention Rates by Student Characteristics

- Gender: 86.3% - females; 85.7% - males
- Race/ethnicity: ranged from 89.3% for Asian students to 78.6% for American Indian students
- SES: As parental income and education increased, retention rates increased from 82% to 87%
- Differences in retention rates by student characteristics are minimized and, in some instances, eliminated when controlling for SAT scores.
Retention Rates by Institutional Characteristics

Retention Rate (%) vs. # of Institutions:
- 50-59%: 2
- 60-69%: 5
- 70-79%: 21
- 80-89%: 44
- 90-99%: 34
## Retention Rates by Institutional Characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall</strong></td>
<td>147,999</td>
<td>86.0</td>
<td>34.7</td>
</tr>
<tr>
<td><strong>Private</strong></td>
<td>45,761</td>
<td>88.9</td>
<td>31.4</td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td>102,238</td>
<td>84.7</td>
<td>36.0</td>
</tr>
<tr>
<td><strong>Public</strong></td>
<td>6,430</td>
<td>82.1</td>
<td>38.3</td>
</tr>
<tr>
<td><strong>Size</strong></td>
<td>30,110</td>
<td>86.1</td>
<td>34.6</td>
</tr>
<tr>
<td><strong>Small</strong></td>
<td>41,851</td>
<td>84.9</td>
<td>35.8</td>
</tr>
<tr>
<td><strong>Medium</strong></td>
<td>69,608</td>
<td>87.0</td>
<td>33.6</td>
</tr>
<tr>
<td><strong>Large</strong></td>
<td>22,848</td>
<td>93.5</td>
<td>24.7</td>
</tr>
<tr>
<td><strong>Very large</strong></td>
<td>84,784</td>
<td>85.7</td>
<td>35.1</td>
</tr>
<tr>
<td><strong>Selectivity</strong></td>
<td>40,367</td>
<td>82.5</td>
<td>38.0</td>
</tr>
</tbody>
</table>
Summary

- Performance on the SAT is related to college retention
  - Retention rates by SAT score bands vary substantially with only 63.8% percent of low performers returning versus 95.5% of high performers
  - This is true even after controlling for HSGPA
- Retention rates do vary by student and institutional characteristics
  - This is partly attributable to differences in the academic achievement level
This study examines:

- The frequency of students with discrepant HSGPA and SAT performance (difference ≥ 1 SD)

- Whether certain students are disproportionately more likely to exhibit discrepant performance

- Among those with discrepant performance, which measure is more indicative of college performance
## Distribution of Students by SAT-HSGPA Discrepant Groups

<table>
<thead>
<tr>
<th>Discrepant Groups</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher HSGPA</td>
<td>26,094</td>
<td>17.4</td>
</tr>
<tr>
<td>Nondiscrepant</td>
<td>98,025</td>
<td>65.2</td>
</tr>
<tr>
<td>Higher SAT</td>
<td>26,258</td>
<td>17.5</td>
</tr>
<tr>
<td>Total</td>
<td>150,377</td>
<td>100.0</td>
</tr>
</tbody>
</table>
## Performance on Academic Measures by SAT-HSGPA Discrepant Groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>Higher HSGPA</th>
<th></th>
<th>Nondiscrepant</th>
<th></th>
<th>Higher SAT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>SAT total</td>
<td>1468</td>
<td>177</td>
<td>1705</td>
<td>231</td>
<td>1871</td>
<td>247</td>
</tr>
<tr>
<td>SAT-CR</td>
<td>480</td>
<td>71</td>
<td>564</td>
<td>87</td>
<td>626</td>
<td>93</td>
</tr>
<tr>
<td>SAT-M</td>
<td>509</td>
<td>79</td>
<td>583</td>
<td>91</td>
<td>632</td>
<td>93</td>
</tr>
<tr>
<td>SAT-W</td>
<td>479</td>
<td>70</td>
<td>558</td>
<td>87</td>
<td>614</td>
<td>94</td>
</tr>
<tr>
<td>HSGPA</td>
<td>3.94</td>
<td>0.31</td>
<td>3.63</td>
<td>0.45</td>
<td>3.16</td>
<td>0.54</td>
</tr>
<tr>
<td>HS Rigor</td>
<td>2.24</td>
<td>1.85</td>
<td>2.98</td>
<td>2.07</td>
<td>3.30</td>
<td>2.11</td>
</tr>
<tr>
<td>FYGPA</td>
<td>2.91</td>
<td>0.69</td>
<td>3.01</td>
<td>0.69</td>
<td>2.90</td>
<td>0.76</td>
</tr>
<tr>
<td>Retention</td>
<td>86.8</td>
<td>33.8</td>
<td>88.3</td>
<td>32.2</td>
<td>86.4</td>
<td></td>
</tr>
</tbody>
</table>
FYGPA of SAT-HSGPA Discrepant Groups by HSGPA

Higher HSGPA  Nondiscrepant  Higher SAT

FYGPA of SAT-HSGPA Discrepant Groups by HSGPA

HSGPA

FYGPA

B-  B  B+  A-  A  A+

3.67  3.33  2.67  2.00  2.33  2.67  3.00  3.33  3.67  4.00

Higher HSGPA  Nondiscrepant  Higher SAT
Average Overprediction (-) and Underprediction (+) of FYGPA for HSGPA and SAT by SAT-HSGPA Discrepant Groups

Predictor(s)

- Higher HSGPA
- Nondiscrepant
- Higher SAT
Summary

• Over one-third of students exhibited discrepant performance.

• Using only HSGPA for admission under-predicted college performance for those students who performed significantly higher on the SAT as compared to HSGPA.

• Results underscore the utility of using both HSGPA and test scores for admission decisions.
Admitted Class Evaluation Service (ACES)

- The Admitted Class Evaluation Service (ACES) is a **free** online service that predicts how admitted students will perform at a college or university generally, and how successful students will be in specific classes.

http://professionals.collegeboard.com/higher-ed/validity/aces
About ACES

- ACES offers two models of validity studies:
  - Admission
    - Predictive
  - Placement
    - Predictive
    - Concurrent
Admission Validity Studies

• The primary purpose of an admission validity study is to validate measures used in admission decisions.

• Can determine how well admission criteria work alone and in combination with other predictors, and the most effective weighting for the predictors.
  • Success (the criterion) may be measured by college GPA
  • Relevant predictors may be
    • SAT scores – Critical Reading, Math, or Writing
    • High school GPA, or Class Rank
    • Interview scores, and
    • Other information
Requesting an Admission Validity Study

- A minimum of 75 student records is required for an admission study.

- You may specify up to 5 additional predictors – either from ACES-supplied data or from your institution (provided that 75+ students in your sample have that additional variable).

- ACES automatically breaks down the results of your study on the basis of gender, race/ethnicity, and first language spoken (provided that there are 75+ students in the sample in at least 2 levels of the subgroup)
  - You may also specify 2 additional subgroups – either ACES-supplied (e.g. degree-level goal, ability rating in math), from your data (e.g. resident versus commuter), or a combination.
Overview of ACES Process

The institutional contact/submitter will:

1. Click link on ACES web site for a new ACES study request:
   https://cbweb1s.collegeboard.org/aces/html/newrvs.html

2. Enter contact info (name, email, position, institution, etc.)

3. Design study (choose predictors, subgroups, etc.)

4. Receive automatically e-mailed user account, password, and request number from ACES

5. Login to submit data at this site:
   https://cbweb1s.collegeboard.org/aces/html/submit1.html

6. Record all variable locations, indicate value labels, etc.

7. Upload data file(s)

8. ACES reports are returned to institutions 25 - 35 business days after the receipt of clean data.
ACES Web Site – Requesting a Study

ACES offers you free, easy-to-read validity studies

ACES offers two types of validity studies—admission and placement. These studies identify the optimum combination of measures to predict a student’s future performance at your institution. ACES studies evaluate the differences for predicting the success of specific student groups and document the probability of error. Each ACES report features:

- In-depth analysis of findings
- General background information to help you examine the study in greater detail
- Interpretive text highlighting key findings
- Colorful presentation and graphics

ACES admission validity studies typically use high school grade point average (HSGPA) or high school rank, along with SAT Reasoning Test™ scores, to establish the best combination of variables to predict student performance at your institution. You choose additional variables based on what you believe to be important contributors for predicting the academic success of your students. Examples of additional predictors are:

- SAT Subject Tests™ scores
- Years of study in a particular subject area

Fact Sheet (.pdf/124K)
Request an Admission Validity Study
Request a Placement Validity Study

Contact

Admitted Class Evaluation Service™ (ACES™)
Research and Development
The College Board
45 Columbus Avenue
New York, New York 10022-3992
Phone: (212) 632-2227
Fax: (212) 616-9427

Questions about ACES online:
acessites@collegenboard.org
Admission Validity Study Request

Use this form to submit a first request prior to submitting your institution’s data.

All ACES Admission Validity Studies use first-year grade point average as the default criterion. You have the option of specifying a different criterion in Step 2 and of customizing other aspects of your validity study in Step 3.

If at any time you have questions about the request process you may e-mail ACES staff for assistance.

Contact Information
(Note: Items marked by an * are required)

- Name of institution: [ ]
- Institution’s College: [ ]
- Board code number: [ ]
- Last name: [ ]
- First name: [ ]
- M.I.: [ ]
- Position Title: [ ]
- E-mail address: [ ]
- Telephone number: [ ]
- Street: [ ]
- City: [ ]
- State: [ ]
- Zip code: [ ]
- Department or school: [ ]
- Secondary contact: [ ]

Please enter this exactly as it is to appear in your final report.

Institution code look-up: click here (Pop-ups must be enabled to view this link.)

Design Your Report

Continue to Step 2 where you can specify your criterion and predictors.
Specify a Criterion

You may use the default criterion, first-year grade point average, or type in your own. Remember to type all information exactly as you would like it to appear in your final report.

Specify Predictors

All ACES Admission Validity Studies use high school grade point average (GPA) or class rank, SAT Reasoning Test scores and SAT Subject Test scores (optional) as predictors. Please specify below your particular preferences for how these predictors should be used in your study.

Specify GPA or Class Rank

All Admission Validity Studies use either high school GPA or high school class rank as predictors. Please indicate below which predictor you would prefer. You must also specify if you will be providing this information or if you want to use ACES-supplied data.

<table>
<thead>
<tr>
<th>Type of high school data *</th>
<th>Source of data *</th>
</tr>
</thead>
<tbody>
<tr>
<td>○ IISGPA</td>
<td>◯ from data supplied by your institution</td>
</tr>
<tr>
<td>○ HS rank</td>
<td>◯ from ACES-supplied data</td>
</tr>
</tbody>
</table>
Specify Predictors - SAT Scores

<table>
<thead>
<tr>
<th>Individual Predictors</th>
<th>Multiple Predictor Sets</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Single Scores</strong></td>
<td></td>
</tr>
<tr>
<td>- Critical Reading</td>
<td>- Critical Reading, Math, Writing</td>
</tr>
<tr>
<td>- Math</td>
<td>- [Critical Reading + Math], Writing</td>
</tr>
<tr>
<td>- Writing</td>
<td>- Critical Reading, Writing</td>
</tr>
<tr>
<td></td>
<td>- Critical Reading, Math</td>
</tr>
<tr>
<td><strong>Composite Scores</strong></td>
<td></td>
</tr>
<tr>
<td>- [Critical Reading + Math]</td>
<td>- Math, Writing</td>
</tr>
<tr>
<td>- [Critical Reading + Writing]</td>
<td></td>
</tr>
<tr>
<td>- [Math + Writing]</td>
<td></td>
</tr>
<tr>
<td>- [Critical Reading + Math + Writing]</td>
<td></td>
</tr>
</tbody>
</table>

Specify highest or most recent score(s) *

- Use the highest score(s)
- Use the most recent score(s)
Specify Predictors - SAT Subject Tests

<table>
<thead>
<tr>
<th>English</th>
<th>Languages</th>
<th>- OR -</th>
<th>English</th>
<th>Languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature</td>
<td>Chinese with Listening</td>
<td></td>
<td>Highest Non-Language SAT Subject Test</td>
<td></td>
</tr>
<tr>
<td>History &amp; Social Sciences</td>
<td>French</td>
<td></td>
<td>Highest of All SAT Subject Tests</td>
<td></td>
</tr>
<tr>
<td>U. S. History</td>
<td>French with Listening</td>
<td></td>
<td>Average of Two Highest Non-Language SAT Subject Tests</td>
<td></td>
</tr>
<tr>
<td>World History</td>
<td>German</td>
<td></td>
<td>Average of Two Highest SAT Subject Tests</td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>German with Listening</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics Level 1</td>
<td>Modern Hebrew</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics Level 2</td>
<td>Italian</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science</td>
<td>Japanese with Listening</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biology</td>
<td>Korean with Listening</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry</td>
<td>Latin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physics</td>
<td>Spanish</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spanish with Listening</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Specify Additional Predictors

You may also specify as many as five additional pieces of information to be used as predictors. These can be drawn either from ACES-supplied data or from information supplied and defined by your institution, providing that at least 75 students in your sample have the additional variable(s) in their records. Variables to include would be those that are used in making admission decisions at your institution.

Using ACES-supplied data

- Years of study in arts and music
- Years of study in English
- Years of study in foreign and classical languages
- Years of study in mathematics
- Years of study in natural sciences
- Years of study in social sciences and history
- Number of different SAT Subject Tests
- Number of different AP exams
- Honors
- Number of activities

OR specify your own

Using your data

- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
- [ ]
**Admission Validity Study Request (continued - 3 of 3)**

**Specify Additional Subgroups**

All ACES studies break down your results on the basis of gender, ethnicity, and native language spoken whenever your sample includes 75 or more students for at least two levels of a subgroup (e.g., 75+ males and 75+ females). You may also specify up to two additional subgroups below, again, using either ACES-supplied data, your own data, or a combination (i.e., one subgroup from each).

<table>
<thead>
<tr>
<th>Select Additional Subgroup 1</th>
<th>Select Additional Subgroup 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>○ Degree-level goal</td>
<td>○ Degree-level goal</td>
</tr>
<tr>
<td>○ Ability rating in math</td>
<td>○ Ability rating in math</td>
</tr>
<tr>
<td>○ Ability rating in science</td>
<td>○ Ability rating in science</td>
</tr>
<tr>
<td>○ Ability rating in writing</td>
<td>○ Ability rating in writing</td>
</tr>
<tr>
<td>○ Other</td>
<td>○ Other</td>
</tr>
</tbody>
</table>

Would you like results for all Hispanic ethnic groups to be analyzed and reported together as one group? (Note: In order to analyze and report these groups separately, you must have no less than 75 students of one or more of these three Hispanic subgroups: Mexican or Mexican American, Puerto Rican, or Latin American, South American, Central American, or other Hispanic or Latino.)

○ Yes  ○ No

**Decide Whether to Account for Course-Taking Behavior**

By submitting college course-level data about your students for analysis, you may get more significant results. Submitting course-level data requires that you provide the following information for each student: for every course taken, you will need the name of the course (e.g., “ENG101”), the grade received, and the number of credits earned.
ACES Data Submission

- Choose from a variety of common formats including:
  - Excel
  - Access
  - SPSS
  - SAS
  - ASCII delimited format
- Upload the file directly from a PC to ACES
- ACES automatically encrypts the data during transmission to protect confidentiality
Submitting Data (cont.) – Course grades, Number of files

Submitting Your Data (continued)

If at any time you have questions about the data submission process you may e-mail ACES staff for assistance.

Course Grade Information

You indicated on your request that you would be submitting college course-level data. Please answer the questions below specifying how you will be submitting these data.

Will grades appear in numeric or letter form?

☐ letter grades
☐ numeric grades

What is the range of possible numeric grades, or numeric equivalents of alphabetic grades, at your school?

Lowest? ______  Highest? ______

What is the maximum number of courses per student for which grades will be submitted?

☐ Please Select •

Data File Information

When providing course grade data, you have the option of submitting a single file with all student data or submitting two separate files, one with admission-related data, the other with course grade data. When submitting separate files, certain requirements and restrictions and file formatting rules apply, which you may want to review.

In how many data files (and if two, in what format) will you be submitting data for this study request?

☐ submitting one file (horizontal format)
☐ submitting two files (both in horizontal format)
☐ submitting two files (with course grade file in vertical format)

Continue  Clear All Values
Submitting Your Data (continued)

If at any time you have questions about the data submission process you may e-mail ACES staff for assistance.

About Your Data File

Please select the year that students represented in your data entered college: 

- 2008 (required)

Please indicate what you would like to call the data file you will be submitting. This should be a simple descriptive label, e.g., "Entering Class of Fall 2008."

File label: [Input Field] (required)

Please specify how your student name is formatted. (required)

- In separate fields: first | middle | last (any order; e.g., Public, John, Q) (recommended)
- In a single field: last, first, middle (e.g., Public, John Q)
- In a single field: first, middle, last (e.g., John Q, Public)

Specify your file type below. (required)

- Microsoft EXCEL Spreadsheet
- Tab-Delimited ASCII
- Fixed Length ASCII
- Microsoft ACCESS Database
- SPSS Portable File
- Comma-Delimited ASCII (CSV)
- SAS Transport File
Submitting Data (cont.) - variable locations/values

<table>
<thead>
<tr>
<th>Label</th>
<th>Excel Column No. or ASCII Var. Position No.</th>
<th>Min. Value</th>
<th>Max. Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name *</td>
<td>First-Year GPA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle Name (Optional)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Last Name *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date of Birth *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SSN *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home ZIP (strongly recommended)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HS Code (strongly recommended)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Criterion *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative GPA (Other than First-Year GPA) *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retention Indicator *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Major area of study (when available)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University-Assigned Student ID (required) *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add'l Predictor 1</td>
<td>Math</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add'l Predictor 2</td>
<td>Need</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add'l Predictor 3</td>
<td>Filled Fafsa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add'l Predictor 4</td>
<td>Residence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add'l Predictor 5</td>
<td>WUE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add'l Subgroup 1</td>
<td>Ability rating in math</td>
<td>From ACES</td>
<td></td>
</tr>
<tr>
<td>Add'l Subgroup 2</td>
<td>Ability rating in science</td>
<td>From ACES</td>
<td></td>
</tr>
<tr>
<td>HS Avg. *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course 1 Label (abbreviation) *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Course 2 Label (abbreviation) *</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Retrieving an ACES Study

- ACES notifies the file submitter by e-mail when the study is completed.
- The document is password protected for confidentiality and is encrypted until downloaded at the institution.
- Results of ACES studies are confidential and only released to the institution that requested the study.
- Studies may also be mailed to an institution on a CD.
Inside of the ACES Admission Validity Report

- Information on the most useful predictors of success at an institution
- Optimal equations for predicting the success of future students
- A list of the students at risk

And…

- A matched student-level data set for use in follow-up studies
Evaluating Admission Measures

Section 1: Evaluating individual admission measures

This section examines the predictive strength of the individual admission measures in your study. First, for the measures available for most of your students, and then for measures available for smaller groups of students. The second analysis may include results for predictors, such as AP scores, that you did not explicitly choose to study but were present in your students’ records. You may wish to consider the use of this additional information for future admission decisions.

See Section 2 for combinations of the measures, which are likely to provide more reliable and stronger information on your applicants.

The tables below display the absolute values of correlations between each admission measure and First-Year GPA, the criterion you chose for this study.

### Individual admission measures in your study

<table>
<thead>
<tr>
<th>Measure</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAT Math</td>
<td>0.51</td>
</tr>
<tr>
<td>SAT Math + AP courses</td>
<td>0.57</td>
</tr>
<tr>
<td>SAT Critical Reading</td>
<td>0.42</td>
</tr>
<tr>
<td>SAT Writing</td>
<td>0.42</td>
</tr>
</tbody>
</table>

### Other admission measures available

<table>
<thead>
<tr>
<th>Measure</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAT Subject Test Math + AP</td>
<td>0.06</td>
</tr>
<tr>
<td>SAT Subject Test Reading</td>
<td>0.14</td>
</tr>
<tr>
<td>AP courses</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- All individual measures have moderate to strong correlations with First-Year GPA except for the AP courses or AP course plus.
- The measures showing moderate to strong correlations with first-year GPA are good candidates for inclusion in the predicted First-Year GPA calculations in Section 2.

Section 2: Evaluating combined admission measures

This section examines the admission measures that were evaluated individually in Section 1. It offers reports on the best prediction of first-year GPA, where all admission information is available for all students. The first table below displays the multiple correlations between combinations of admission measures and first-year GPA. Each equation is given so that you can use as much of the information provided as possible. This section of your report gives you the information you need to choose the best combination of predictors for each student.

The tables below display the absolute values of correlations between each combination of admission measures and First-Year GPA, the criterion chosen for this study. The bars on the right of each table represent the predictive strength of the multiple combinations of predictors.

### SAT combinations

- SAT Math
- SAT Critical Reading
- SAT Writing
- SAT Subject Test Math + AP

### SAT & SAT Subject Test combinations

- SAT Math + SAT Subject Test Math + AP
- SAT Math + SAT Reading + SAT Writing

**Notes:**
- The multiple correlations calculated using SAT Math, SAT Critical Reading, and SAT Writing was 0.54, which represents a strong correlation. The numbers in the boxes to the left of the bars show the relative contribution of each predictor in a percentage term for each prediction equation. SAT Critical Reading contributes 36 percent, SAT Math contributes 31 percent, and SAT Writing contributes 31 percent when using the SAT in predicting First-Year GPA.
- The second line of the SAT combination table adds AP courses to the SAT information. Of the SAT and AP combination, AP courses makes the greatest contribution toward predicting First-Year GPA. After adding AP courses, the multiple correlation increased from 0.54 to 0.67.
Identifying Students at Risk

To help you target retention efforts at Sample One University, the predicted First-Year GPA has been added to each student's record on the electronic file returned to you. A list of IDs for students possibly at risk for dropping out or transferring is provided in Appendix C.
Questions?

• Thank you!

• To access College Board research and reports: www.collegeboard.org/research

• Feel free to email me with questions at eshaw@collegeboard.org

• Researchers are encouraged to freely express their professional judgment. Therefore, points of view or opinions stated in College Board presentations do not necessarily represent official College Board position or policy.