
Relationship Between Operational SAT[®] Essay Scores and College Performance

An Early Look at the Validity Evidence for the SAT
Essay

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Executive Summary

This paper presents the results of a small-scale validity study examining relationships between new SAT Essay scores and first-semester grades in English and writing courses, as well as first-year grade point average (FYGPA) in college. The sample includes more than 4,500 first-year students across 10 four-year institutions. Results show that there is a positive relationship between the three SAT Essay score dimensions and both first-semester English and writing course grades and FYGPA. These findings provide support for institutions using or considering the use of SAT Essay scores for admission, placement, or advising.

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Introduction

The Importance of the SAT Essay

College professors, administrators, admission officers, and other higher education leaders expect students to arrive at college ready and able to write, as it is among the most critical skills for college success (Beyer, Gillmore, & Fisher, 2007; Conley, 2007). Knowing when writing is a weakness for a student and when additional instruction or support is needed is essential for advancing students on the path to success in college (Kuh, 2006). Research has also shown that the amount of writing a student does for a course is linked to a student's level of engagement with that course and has a positive impact on measures of critical thinking (Light, 2001; Pascarella & Terenzini, 2005).

High school English and writing experiences vary widely, and high school grades are not always the best measure of a student's writing ability (Conley, 2007). High school grades understandably include a lack of consistency with regard to scales and standards across high schools and teachers, are based on different types of assignments with different levels of rigor, and can include subjective information about the student unrelated to the content area being evaluated (Shaw, 2018). The SAT[®] Essay, which was implemented in March 2016, was developed in consultation with higher education faculty, in part, to fill the need to thoughtfully and fairly measure and understand student writing performance in an authentic, consistent, and nuanced way. It reflects college expectations of students by requiring them to analyze a text, formulate logical arguments, and appropriately use evidence in their writing (College Board, in preparation).

Essay testing has advantages over simply using multiple-choice formats, as essays focus on more global aspects of writing (Matzen & Hoyt, 2004; Shaw & Kobrin, 2012). Essays also measure skills (e.g., analysis of persuasive techniques) that are not as easily measured in multiple-choice formats and do not have the same conceptual organization of being either "correct" or "incorrect" the way multiple-choice questions do (Stiggins, 1982).

There are also advantages to having students share a writing sample produced in real time, independent of the work or input of others, and subject to test security measures for admission purposes. This is in contrast to other written materials for the college application such as essays or information on awards, honors, or activities, which can be difficult to verify for authenticity (Laird, 2005). The SAT Essay provides a way to evaluate all students' writing skills and readiness in a fair and standardized way within an assessment that focuses on the type of analytic writing that students will be doing in college.

Getting to Know the SAT Essay

The SAT Essay is closely aligned with the analytical writing required of students in college. It assesses whether students can comprehend an appropriately challenging source text and prepare a written analysis that uses critical reasoning skills and evidence from the source

text. It is different from many standardized direct-writing assessments as many other writing assessments ask students to write a persuasive essay based on their opinion.

The SAT Essay was developed to have a common prompt and SAT form-specific source texts. The same prompt is presented to students in every test. This has significant advantages for students compared to how most essay tests are administered. Students are able to focus their preparation on developing important reading, analysis, and writing knowledge and skills instead of trying to guess what question will be asked on test day. Students can get right to work instead of spending valuable time trying to form an opinion on a topic they might not have spent much time thinking about. You can find the prompt below:

As you read the passage below, consider how [the author] uses evidence, such as facts or examples, to support claims.

- *evidence, such as facts or examples, to support claims.*
- *reasoning to develop ideas and to connect claims and evidence.*
- *stylistic or persuasive elements, such as word choice or appeals to emotion, to add power to the ideas expressed.*

Write an essay in which you explain how [the author] builds an argument to persuade [his/her] audience that [author's claim]. In your essay, analyze how [the author] uses one or more of the features listed above (or features of your own choice) to strengthen the logic and persuasiveness of [his/her] argument. Be sure that your analysis focuses on the most relevant features of the passage. Your essay should not explain whether you agree with [the author's] claims, but rather explain how the author builds an argument to persuade [his/her] audience.

The SAT Essay source texts are passages that present arguments that examine ideas, debates, and trends in the arts, sciences, and civic, cultural, and political life. All source passages are taken from high-quality sources that have previously been published. The level of complexity of each passage is appropriate for high school students and is approximately 650–750 words in length. The SAT Essay is an optional component of the test and is administered at the end of the SAT. Test takers have 50 minutes to complete the essay. Refer to the Appendix for an example of the SAT Essay prompt and source text.

SAT Essay scores are reported on three dimensions. The dimension scores are Reading, Analysis, and Writing, and they are each reported on a scale of 2–8. To perform well on the Reading dimension, a test taker must show effective comprehension of the source text, an understanding of the central idea(s) and important details, and must appropriately use evidence to demonstrate his or her understanding. To perform well on the Analysis dimension, a test taker must decide which features of the source text are most relevant to the persuasiveness of the text and then develop an effective explanation of how those features help the author build his or her argument. Finally, to perform well on the Writing

dimension, a test taker’s response must be cohesive and demonstrate effective use and control of language.

Two independent and trained raters give a rating of 1–4 on each dimension, and these scores are combined to get the total score for each dimension. The majority of essay raters are current teachers or have previously taught high school or college-level courses that require writing, and all must have a bachelor’s degree or higher. As the essay is optional, the scores are reported separately from other SAT scores and do not factor into the SAT total score or the SAT Evidence-Based Reading and Writing score.

Common uses of the SAT Essay include using the scores in admission decisions, placing students in courses, and advising students. To collect validity evidence supporting the use of SAT Essay scores in admission, placement, or advisement processes, a first critical step is to understand the score relationships with relevant college outcomes. This study represents an initial examination of those relationships.

Methods

The current study explores the relationship between scores on the SAT Essay and grades in college. Specifically, first-semester English and writing course grades and first-year grade point averages (FYGPAs) will be examined for each of the three SAT Essay scores: Analysis, Reading, and Writing.

Institution Sample

Data for this study came from 10 diverse four-year institutions that varied in terms of size, selectivity, institutional control (public or private), and region of the U.S. (see Table 1). The sample of institutions was relatively equally divided in terms of control and region. Since the SAT Essay is optional and not all students take it, there were more selective institutions and more large institutions in the study sample to ensure a large enough sample of students with SAT Essay scores.

Table 1: Institutional Characteristics

Institutional Characteristics (k=10)		
Control	Private	40%
	Public	60%
Admittance Rate	Under 50%	40%
	50% to 75%	60%
	Over 75%	0%
Undergraduate Enrollment	Small	10%

	Medium	20%
	Large	20%
	Very Large	50%
U.S. Region	Midwest	10%
	Mid-Atlantic	20%
	New England	20%
	South	10%
	Southwest	20%
	West	20%

Note: Undergraduate enrollment was categorized as follows: small—750 to 1,999; medium—2,000 to 7,499; large—7,500 to 14,999; and very large—15,000 or more.

Student Sample

The initial sample had 38,277 students and then was further cleaned and coded for final analysis. To be included in the current study, a student had to have taken the SAT Essay and also have a first-semester English and writing GPA. This resulted in a final sample size of 4,583 students. See Table 2 for sample characteristics by gender, race/ethnicity, and highest parental education level. Fully 60% of the sample was female, 62% of the sample was white, 85% of the sample noted their best language as English only, and 74% of the sample had at least one parent with a bachelor's degree or higher.

With regard to academic characteristics, the mean SAT Evidence-Based Reading and Writing score for the sample was 617 (SD=72), mean SAT Math score for the sample was 611 (SD=82), and mean self-reported high school grade point average (HSGPA) was 3.77 (SD=0.42). The demographic and academic sample characteristics suggest that the study sample is less diverse and more highly able than the full cohort of 2017 college-bound students (College Board, 2017), which was expected given that these students are enrolled in four-year institutions and had taken the optional SAT Essay that is required or recommended at more selective institutions. When a larger and more diverse sample of students is available for analysis, it is expected that the results of that study will show even clearer and more stable patterns and relationships resembling those in the current study.

Table 2: Student Characteristics

Student Characteristics (n=4,583)			
		n	%
Gender	Male	1,818	40%
	Female	2,765	60%

Race/Ethnicity	American Indian or Alaska Native	13	< 1%
	Asian	536	12%
	Black or African American	302	7%
	Hispanic or Latino	639	14%
	Native Hawaiian or Other Pacific Islander	7	< 1%
	White	2,839	62%
	Two or More Races	171	4%
	Not Stated	76	2%
Best Language	English Only	3,874	85%
	English and Another	489	11%
	English and Spanish	64	1%
	Another Language	115	3%
	Not Stated	41	1%
Highest Parental Education Level	No High School Diploma	144	3%
	High School Diploma	686	15%
	Associate Degree	261	6%
	Bachelor's Degree	1,809	39%
	Graduate Degree	1,610	35%
	Not Stated	73	2%

Note: Percentages may not sum to 100 due to rounding.

Measures

SAT Essay Scores. Data for the study were based on students' most recent test scores. Each of the three SAT Essay scores is reported on a scale of 2–8. While a score of 0 is possible (and rare) when a student has an off-topic response, refuses to participate, provides either an illegible response or one not in English, or responds with an insufficient amount of text to score, students with a score of 0 were excluded from this study. The SAT Essay Reading score mean was 6 (SD=1.0), Analysis score mean was 5 (SD=1.3), and Writing score mean was 6 (SD=1.0).

SAT Questionnaire Responses. Self-reported gender, race/ethnicity, best language, and parental education level were obtained from the SAT Questionnaire that students complete during registration for the SAT.

English and Writing GPA (EWGPA). College coursework, provided by the participating institutions, was coded by content area. First-semester English and writing courses were then included in a calculation of the English and Writing GPA (EWGPA). The EWGPA was

calculated for each student, across all relevant numeric course grades received in English and writing courses during the first semester of college (excluding remedial coursework). Only coursework with valid numeric grades were included in the EWGPA. Valid nonnumeric grades such as P, I, or W were excluded. For example, if a student took only one English course in the first semester, then his or her average course grade in English/Writing would be based on the grade earned in that one course. If two English courses and one Writing course were taken, then the average course grade would be based on the average of those three course grades earned (taking into account the grades earned and the number of credits associated with each grade). EWGPA ranges from 0 to 4.00. In this sample the mean EWGPA was 3.47 (SD=0.69). Prior research has found that English grades tend to be among the highest grades earned in college (e.g., Marini, Shaw, Young, & Ewing, 2018).

First-Year Grade Point Average (FYGPA). First-year grade point averages (FYGPA) based on grades in all courses through the first year were obtained from institutions participating in the national SAT Validity Study. FYGPA ranged from 0 to 4.00. In this sample the mean FYGPA was 3.23 (SD=0.62).

Analyses

The focus of the current study is on gathering early validity evidence for the use of the SAT Essay in college admission and placement decisions. Therefore, analyses are primarily descriptive and graphical in nature depicting the relationship between SAT Essay scores and each criterion of interest. The graphical relationship of each of the three SAT Essay scores (Reading, Analysis, and Writing) is shown with first-semester EWGPA and FYGPA.

Results

First-Semester English and Writing GPA (EWGPA)

Figures 1 through 3 show the relationship between each SAT Essay score dimension and students' first-semester EWGPA. All of the SAT Essay score dimensions show a positive relationship with first-semester EWGPA. There are slight deviations from this relationship seen at the lower and upper ends of the scale on a dimension, and this is likely due to fewer students and less stable sample sizes earning those score points in the study sample.

Figure 1 shows the average EWGPA earned by students at each Reading score point. This figure shows a positive relationship between the Reading score and first-semester EWGPA. In other words, there is a general trend of increasing average EWGPA as Reading scores increase. As an example from the graph, you can see that the average EWGPA for a student with a Reading score of 3 is a 3.05, while the average EWGPA for a student with a Reading score of 7 is a 3.64.

Figure 1: Mean EWGPA by SAT Essay Reading Score

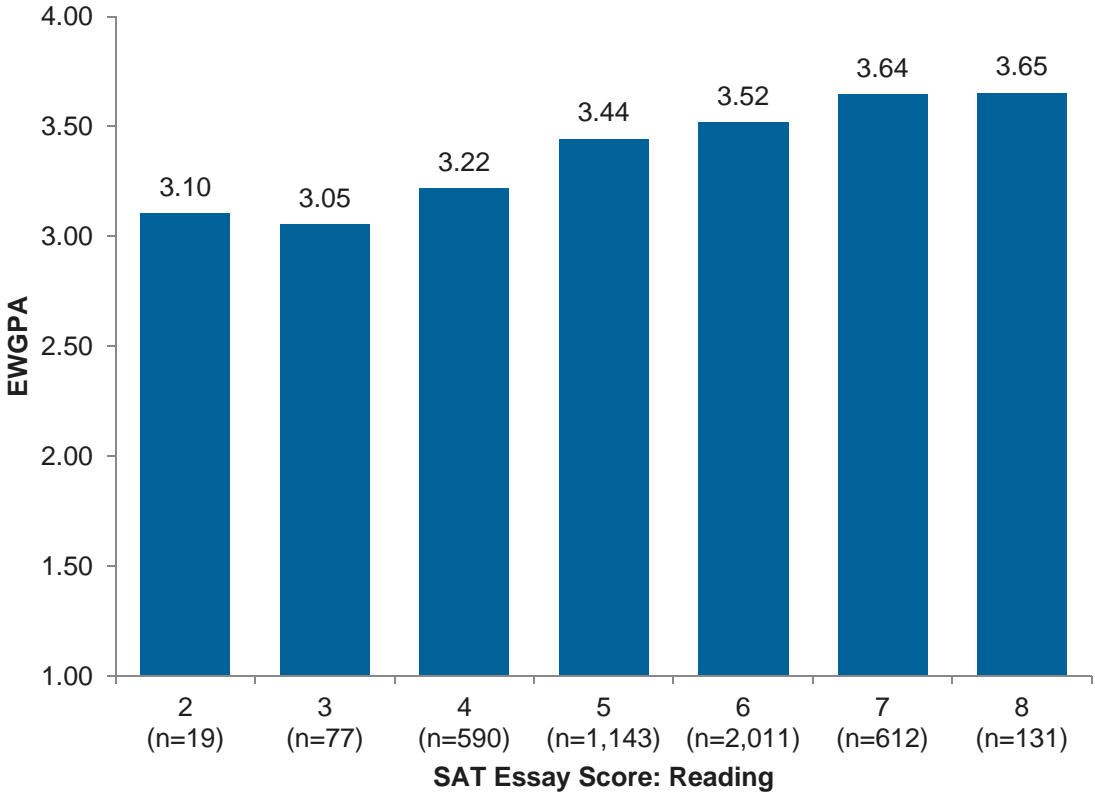


Figure 2 shows the average EWGPA earned by students at each Analysis score point. This figure shows a positive relationship between the Analysis score and first-semester EWGPA. As an example from the graph, you can see that the average EWGPA for a student with an Analysis score of 3 is a 3.30, while the average EWGPA for a student with an Analysis score of 7 is a 3.72.

Figure 2: Mean EWGPA by SAT Essay Analysis Score

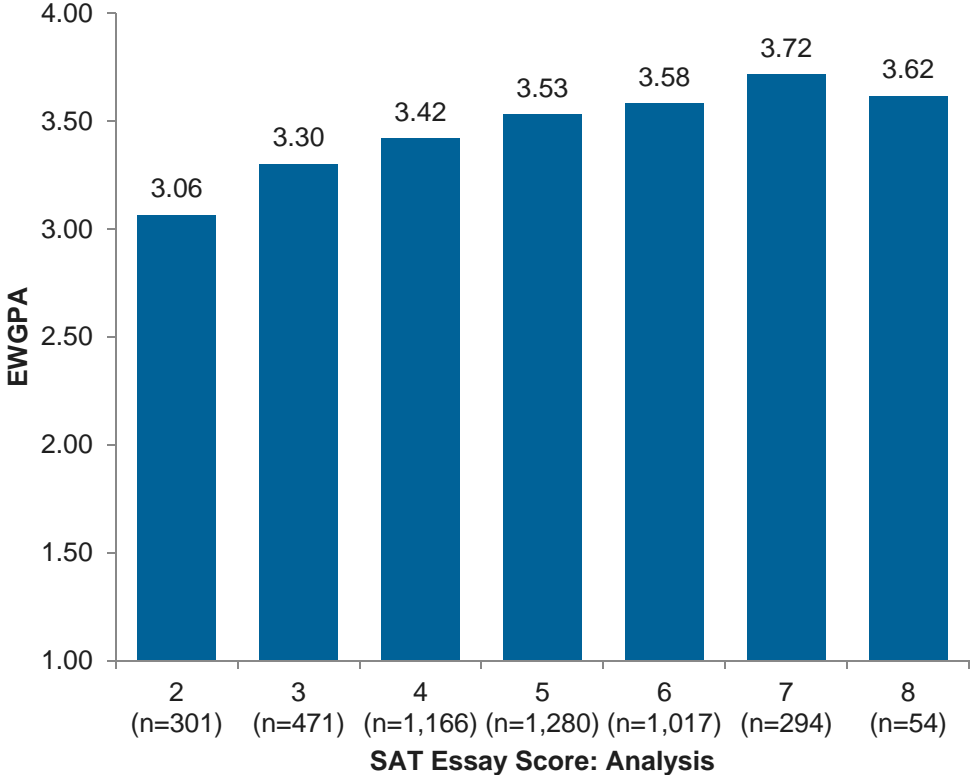
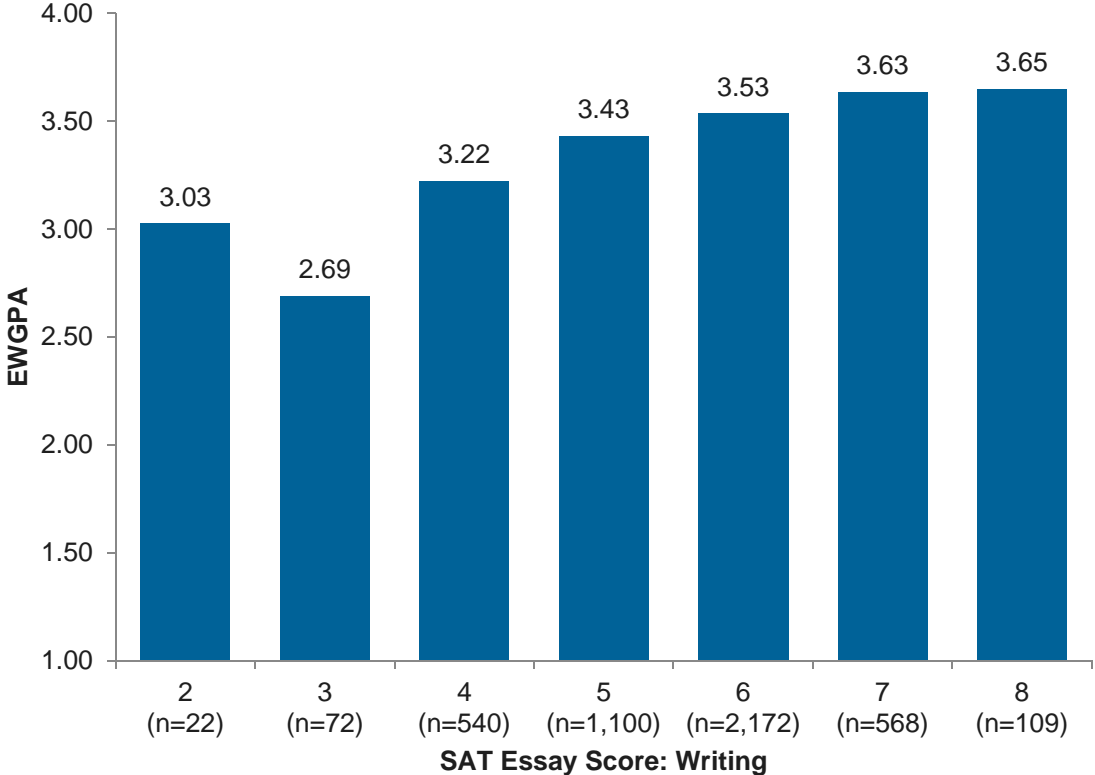


Figure 3 shows the average EWGPA earned by students at each Writing score point. This figure also shows a positive relationship between Writing scores and first-semester EWGPA. As an example from the graph, you can see that the average EWGPA for a student with a Writing score of 3 is a 2.69, while the average EWGPA for a student with a Writing score of 7 is a 3.63.

Figure 3: Mean EWGPA by SAT Essay Writing Score



First-Year Grade Point Average (FYGPA)

In addition to understanding the relationship between SAT Essay scores and EWGPA, we explored the relationship between each SAT Essay score and FYGPA (see Figures 4 through 6). Figure 4 shows the average FYGPA that students earn by Reading score point. It is evident that as a student's Reading score increases, so does the FYGPA earned in college. There is a clear positive relationship between Reading score and average FYGPA. As an example from the graph, the average FYGPA for a student with a Reading score of 3 is a 2.74, while the average FYGPA for a student with a Reading score of 7 is a 3.45. The lowest score does show a slight deviation from this pattern, but this is likely due to the smaller and therefore less stable sample of students earning the lowest score value.

Figure 4: Mean FYGPA by SAT Essay Reading Score

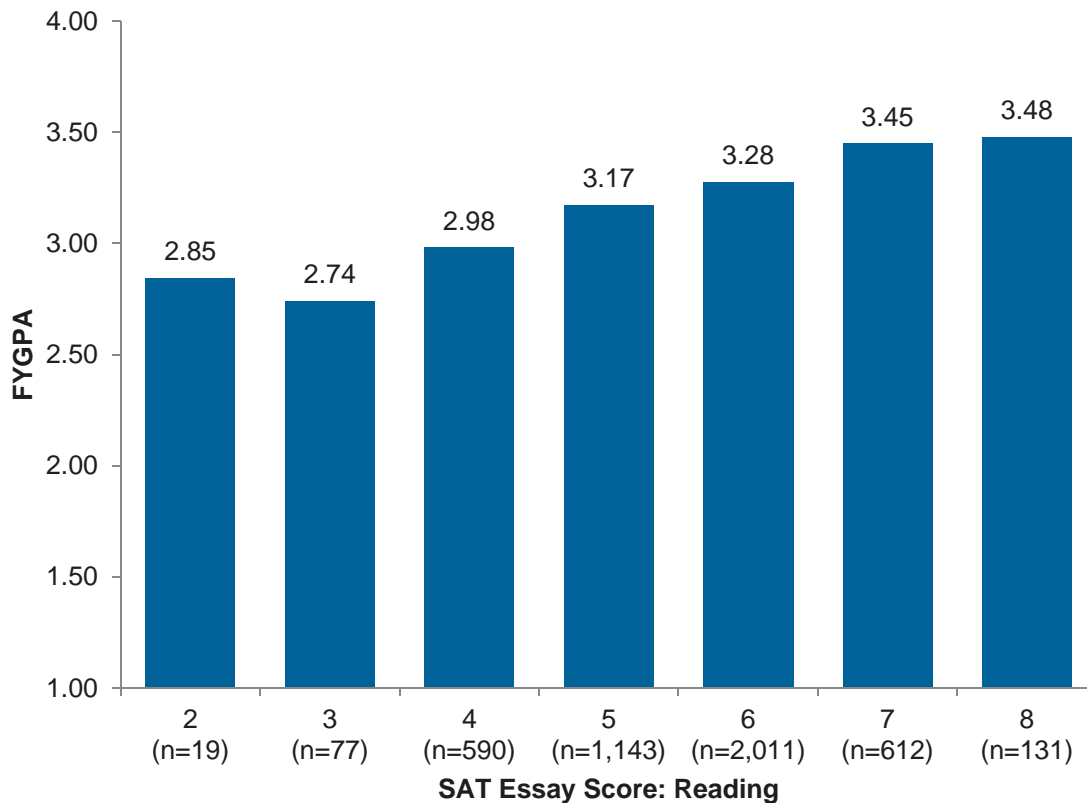


Figure 5 shows the average FYGPA that students earn by each Analysis score point. There is a rather clear positive relationship between Analysis score and average FYGPA. As an example, from the graph, the average FYGPA for a student with an Analysis score of 3 is a 2.99, while the average FYGPA for a student with an Analysis score of 7 is a 3.52. The highest score of 8 does show a slight deviation from this pattern, but this is likely due to the smaller and therefore less stable sample of students earning the highest score value.

Figure 5: Mean FYGPA by SAT Essay Analysis Score

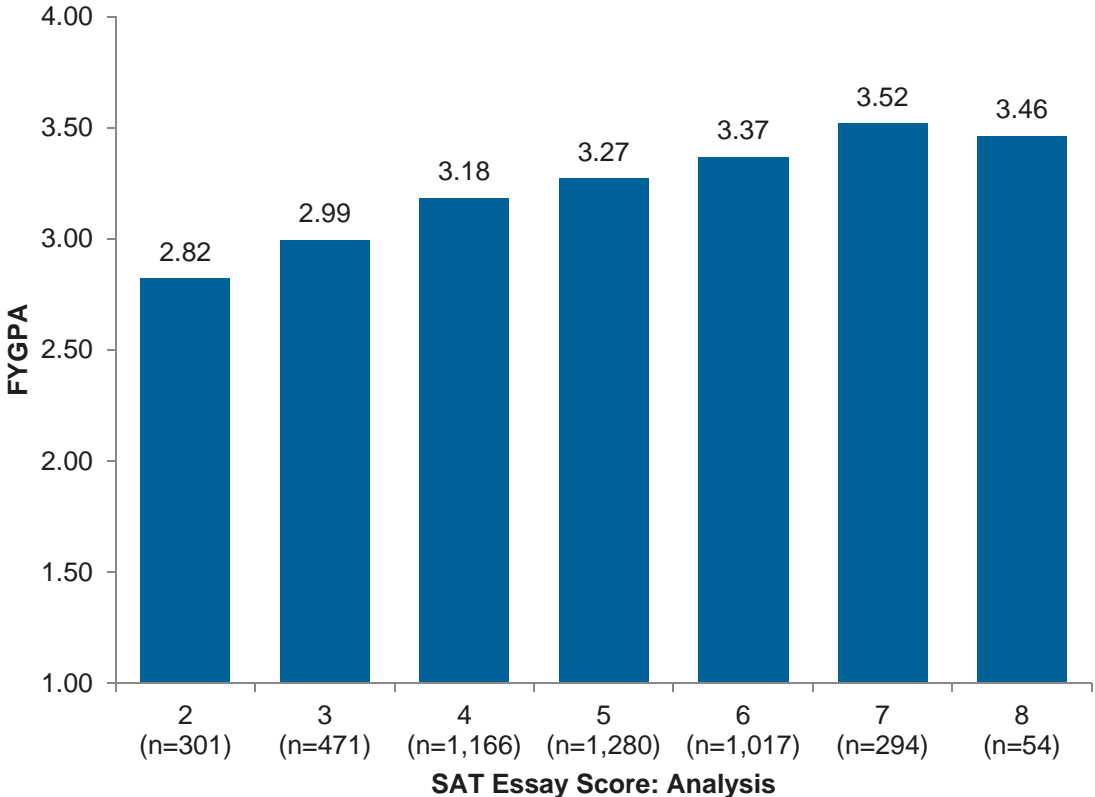
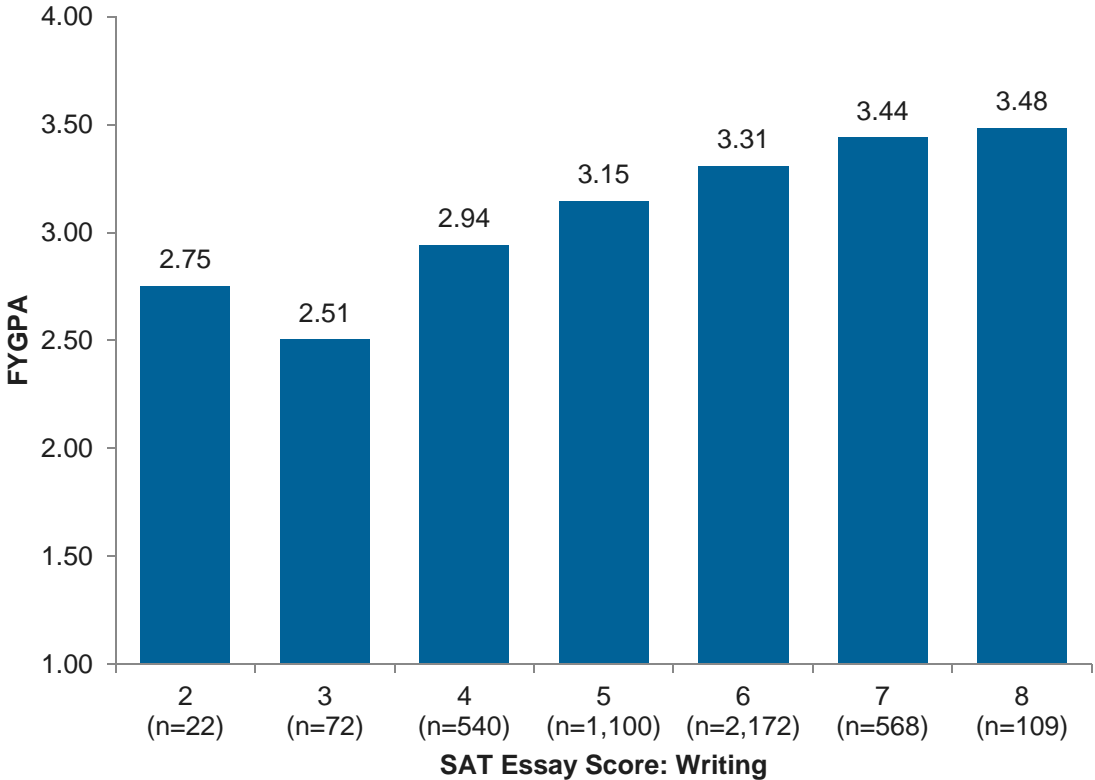


Figure 6 shows the average FYGPA that students earn by each Writing score point. There is a rather clear positive relationship between Writing score and average FYGPA. As an example, from the graph, the average FYGPA for a student with a Writing score of 3 is a 2.51, while the average FYGPA for a student with a Writing score of 7 is a 3.44. The lowest score does show a slight deviation from this pattern, but this is likely due to the smaller and therefore less stable sample of students earning the lowest score value.

Figure 6: Mean FYGPA by SAT Essay Writing Score



Discussion

The aim of this study was to examine the relationship between operational SAT Essay scores and important related college outcomes, including first-semester EWGPA and FYGPA. Across the 10 institutions in this first-look study sample, a positive relationship is evident between all three SAT Essay score dimensions and both EWGPA and FYGPA.

These findings suggest that the SAT Essay can be a useful tool in institutional admission, placement, and advisement processes that are focused on the level of writing preparedness with which a student is entering college. The findings also support the use of the SAT Essay scores to identify the kinds of writing-related instructional supports a student may need to be successful at an institution.

This study represents an initial look at operational SAT Essay score relationships with college outcomes and will be replicated on a much larger and diverse national sample when those data become available in spring 2019. Additional analyses examining relationships between SAT Essay scores and other scores on the SAT will be explored, as well as relevant institutional and student subgroup analyses. Analyses examining how the different SAT Essay score dimensions relate to different types of English or writing courses will also be examined.

Given the importance of strong writing skills for both college and career readiness and success (Graham, Harris, & Herbert, 2011), a continued focus on research related to direct (e.g., essay) and indirect (e.g., multiple choice) writing assessment seems both practical and critically necessary. What may prove even more important is a deeper understanding of how admission officers, K–12 teachers, and college faculty can best use this information about students' writing proficiency to help personalize instruction to strengthen their writing skills in both high school and college.

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About the College Board

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Appendix

Example of SAT Essay Prompt and Source Text

Prompt

As you read the passage below, consider how Paul Bogard uses

- evidence, such as facts or examples, to support claims.
- reasoning to develop ideas and to connect claims and evidence.
- stylistic or persuasive elements, such as word choice or appeals to emotion, to add power to the ideas expressed.

**Adapted from Paul Bogard, “Let There Be Dark.” ©2012 by Los Angeles Times.
Originally published December 21, 2012.**

At my family’s cabin on a Minnesota lake, I knew woods so dark that my hands disappeared before my eyes. I knew night skies in which meteors left smoky trails across sugary spreads of stars. But now, when 8 of 10 children born in the United States will never know a sky dark enough for the Milky Way, I worry we are rapidly losing night’s natural darkness before realizing its worth. This winter solstice, as we cheer the days’ gradual movement back toward light, let us also remember the irreplaceable value of darkness.

All life evolved to the steady rhythm of bright days and dark nights. Today, though, when we feel the closeness of nightfall, we reach quickly for a light switch. And too little darkness, meaning too much artificial light at night, spells trouble for all.

Already the World Health Organization classifies working the night shift as a probable human carcinogen, and the American Medical Association has voiced its unanimous support for “light pollution reduction efforts and glare reduction efforts at both the national and state levels.” Our bodies need darkness to produce the hormone melatonin, which keeps certain cancers from developing, and our bodies need darkness for sleep. Sleep disorders have been linked to diabetes, obesity, cardiovascular disease and depression, and recent research suggests one main cause of “short sleep” is “long light.” Whether we work at night or simply take our tablets, notebooks and smartphones to bed, there isn’t a place for this much artificial light in our lives.

The rest of the world depends on darkness as well, including nocturnal and crepuscular species of birds, insects, mammals, fish and reptiles. Some examples are well known—the 400 species of birds that migrate at night in North America, the sea turtles that come ashore to lay their eggs—and some are not, such as the bats that save American farmers billions in pest control and the moths that pollinate 80% of the world’s flora. Ecological light pollution is

like the bulldozer of the night, wrecking habitat and disrupting ecosystems several billion years in the making. Simply put, without darkness, Earth's ecology would collapse....

In today's crowded, louder, more fast-paced world, night's darkness can provide solitude, quiet and stillness, qualities increasingly in short supply. Every religious tradition has considered darkness invaluable for a soulful life, and the chance to witness the universe has inspired artists, philosophers and everyday stargazers since time began. In a world awash with electric light...how would Van Gogh have given the world his "Starry Night"? Who knows what this vision of the night sky might inspire in each of us, in our children or grandchildren?

Yet all over the world, our nights are growing brighter. In the United States and Western Europe, the amount of light in the sky increases an average of about 6% every year. Computer images of the United States at night, based on NASA photographs, show that what was a very dark country as recently as the 1950s is now nearly covered with a blanket of light. Much of this light is wasted energy, which means wasted dollars. Those of us over 35 are perhaps among the last generation to have known truly dark nights. Even the northern lake where I was lucky to spend my summers has seen its darkness diminish.

It doesn't have to be this way. Light pollution is readily within our ability to solve, using new lighting technologies and shielding existing lights. Already, many cities and towns across North America and Europe are changing to LED streetlights, which offer dramatic possibilities for controlling wasted light. Other communities are finding success with simply turning off portions of their public lighting after midnight. Even Paris, the famed "city of light," which already turns off its monument lighting after 1 a.m., will this summer start to require its shops, offices and public buildings to turn off lights after 2 a.m. Though primarily designed to save energy, such reductions in light will also go far in addressing light pollution. But we will never truly address the problem of light pollution until we become aware of the irreplaceable value and beauty of the darkness we are losing.

Write an essay in which you explain how Paul Bogard builds an argument to persuade his audience that natural darkness should be preserved. In your essay, analyze how Bogard uses one or more of the features in the directions that precede the passage (or features of your own choice) to strengthen the logic and persuasiveness of his argument. Be sure that your analysis focuses on the most relevant features of the passage.

Your essay should not explain whether you agree with Bogard's claims, but rather explain how Bogard builds an argument to persuade his audience.