

# Re-examining the Accuracy of Self-Reported High School Grade Point Average (HSGPA)

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## Abstract

The purpose of this study was to update our understanding of the relationship between a student’s self-reported high school grade point average (HSGPA) and their institution-provided HSGPA, presumably based on the student’s actual high school transcript. A previous study found a correlation of .74 between self-reported HSGPA and institution-provided HSGPA (Shaw & Mattern, 2009). Results show that this relationship has remained strong and stable over time.

## Introduction

Many large-scale research studies examining or including a student’s HSGPA must rely on the student’s *self-reported* HSGPA. In part, this is because different high schools utilize different HSGPA scales and because some mathematically weight students’ grades based on course rigor and some don’t (Bassiri & Schulz, 2003; Sanchez & Buddin, 2016; Shaw & Mattern, 2009). Therefore, there is no uniform metric of HSGPA for research purposes. To circumvent this issue, researchers typically use the self-reported HSGPA. To understand how well this self-reported measure is serving as a proxy for actual HSGPA, we typically evaluate the correlation between students’ self-reported HSGPAs and actual HSGPAs. Prior studies tend to find such correlations ranging from the low .70s to the mid .80s (Kuncel, Credé, & Thomas, 2005; Sanchez & Buddin, 2016; Shaw & Mattern, 2009), representing strong relationships. The current study is an updated examination of this correlation using self-reported HSGPA information from the SAT Questionnaire and actual HSPGA information from a large sample of four-year colleges and universities.

## Method

### Sample

College Board broadly recruited four-year institutions with at least 250 first-year students (at least 75 of those students had to have SAT scores) to participate in a national SAT validity study. Ultimately, 57 participating institutions provided

complete student-level information needed for the analyses in this study and had an institution-provided HSGPA on a scale comparable to the scale of the self-reported HSGPA collected when a student registers for the SAT. This resulted in a sample of 66,746 students. Table 1 and Table 2 include the characteristics of the institutions and students included in this study, respectively. In terms of institution characteristics, compared to the population, the sample had more public institutions, a similar distribution of institutions by admittance rate, and more medium, large, and very large institutions. In terms of student characteristics, the sample had more female, white, and students with higher levels of parental education than the population. These sample versus population differences are consistent with studies focused on students attending four-year postsecondary institutions (e.g., Irwin et al., 2021).

*Table 1: Institutional Characteristics of the Study Sample and Population of Four-Year Institutions*

	Institution Characteristic	Sample (k=57)	Reference Population of Institutions (K=1,230)
Control	Public	53%	34%
	Private	47%	66%
Admittance Rate	Under 25%	7%	5%
	25% to 50%	14%	17%
	51% to 75%	42%	53%
	Over 75%	37%	25%
Undergraduate Enrollment	Small	32%	62%
	Medium	23%	16%
	Large	23%	11%
	Very Large	23%	11%

Note. k = number of institutions. Percentages may not sum to 100 due to rounding. Undergraduate enrollment was categorized as follows: Small: 4,999 or less; Medium: 5,000 to 9,999; Large: 10,000 to 19,999; and Very Large: 20,000 or more.

**Table 2: Student Characteristics of the Study Sample and 2017 Graduating Seniors with SAT Scores**

	Student Characteristic	Sample n=66,746	2017 Graduating Seniors who took the SAT (N=1,715,481)
Gender	Female	57%	47%
	Male	43%	53%
Race/ Ethnicity	American Indian or Alaska Native	<1%	<1%
	Asian	10%	9%
	Black or African American	7%	13%
	Hispanic or Latino	15%	24%
	Native Hawaiian or Other Pacific Islander	<1%	<1%
	White	63%	44%
	Two or more races	4%	3%
	Not Stated	1%	5%
Highest Parental Education Level	No High School Diploma	4%	8%
	High School Diploma	20%	28%
	Associate's Degree	7%	8%
	Bachelor's Degree	37%	28%
	Graduate Degree	30%	20%
	Not Stated	2%	9%

## Measures

### **Student Self-Reported High School GPA (HSGPA).**

Students' self-reported HSGPA was obtained from the SAT Questionnaire when they registered for the SAT and is reported on a 12-point interval scale, ranging from 0.00 (F) to 4.33 (A+). Self-reported HSGPA in this study had a sample mean of 3.64 (SD=0.50).

**Institution-Provided HSGPA** Institution-provided HSGPA was uploaded by the participating colleges and universities when they submitted their data files for the study. These HSGPAs are reported on a variety of scales. For the purposes of this study, we focused on institutions reporting HSGPAs on a 0-4.00, 0-4.33, or 0-100 scale. Those means (and standard deviations) were 3.56 (0.44), 3.47 (0.42), and 93.23 (4.44), respectively.

**SAT Questionnaire Responses** Self-reported HSGPA, gender, race/ethnicity, and parental education level were obtained from the SAT Questionnaire which is completed at the time the student registers for the SAT.

## Results

We were interested in comparing descriptive statistics and correlational analyses of self-reported HSGPA and institution provided HSGPA from the 2017 entering college cohort – the first to have taken the redesigned SAT, with the results from the 2006 cohort from the previous HSGPA study (Shaw & Mattern, 2009). As in the original study, the institution-provided HSGPA had many different scales and we decided to include only those institutions where the HSGPA fell into one of the following three scales: 0.00-4.00, 0.00-4.33, or 0-100. Table 3 shows the number of institutions (*k*) in the 2017 cohort as well as the 2006 cohort with each of the scales of interest. In this study's sample, there were more institutions providing a HSGPA on a 0-4.00 scale, slightly more providing a HSGPA on a 0-4.33 scale, and fewer providing a HSGPA on a 0-100 scale than in the 2006 cohort study.

**Table 3: Institution-Provided HSGPA Scales in this Study**

Institution-Provided HSGPA Scale	2017 Cohort (k=57)	2006 Cohort (k=32)
0-4.00	43 (75%)	22 (69%)
0-4.33	12 (21%)	6 (19%)
0-100	2 (4%)	4 (13%)

The correlation between self-reported HSGPA and institution-provided HSGPA was computed within institution and then aggregated and weighted by sample size. The mixed scale institution-provided HSGPAs were used for analyses as the scale was uniform *within* an institution. For the 2017 cohort, the resulting correlation was .74, which is quite consistent with the previous findings (Shaw & Mattern, 2009), and represents a strong, positive relationship.

## Conclusion

This study revisited the relationship between student self-reported HSGPA and institution-provided HSGPA to determine whether the relationship between the two measures has changed or remained stable since a 2009 study on this topic. We found that indeed, the correlation between these two measures remains strong and consistent. This is important as self-reported HSGPA is typically used in validity research analyses because it provides a measure of high school performance on the same scale across students and because it suggests this measure is a reasonable proxy for a student's actual HSGPA for research purposes.

## References

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