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# Contents

# Abstract

Critics of educational admissions tests assert that tests measure nothing other than socioeconomic status (SES), and that their apparent validity in predicting academic performance is an artifact of SES. We examine relationships among SAT®, SES, and freshman grades in 41 colleges and universities and show that (a) SES is related to SAT scores ($r$ = 0.42 among the population of SAT takers), (b) SAT scores are predictive of freshman grades ($r$ = 0.47 corrected for school-specific range restriction), and (c) statistically controlling for SES reduces the estimated SAT-grade correlation from $r$ = 0.47 to $r$ = 0.44. Thus, the vast majority of the SAT–grade relationship is independent of SES: The SAT–grade relationship is not an artifact of common influences of SES on both test scores and grades.

# Introduction

Millions of Americans take postsecondary admissions tests (e.g., SAT, ACT, GRE, LSAT, MCAT, and GMAT) each year. Given their prominent role as a standardized national metric, these tests are of great interest to the public, and they undergo considerable scrutiny. A common assertion among test critics is that test scores used for high-stakes decisions (e.g., college admission) measure nothing more than socioeconomic status (SES). Examples of this assertion include the claim that "in the interest of truth in advertising, the SAT should simply be called a 'wealth test'" (Guiner, cited in Zwick, 2002), that "the SAT merely measures the size of students' houses" (Kohn, 2001), and that the "only thing the SAT predicts well now is socioeconomic status" (Colvin, 1997). Implicit in these criticisms is that SES has an artificial and irrelevant effect on test scores: high SES leads to higher test scores (e.g., via knowledge of test-taking techniques), but not to higher true standing on the characteristic the test is intended to measure (i.e., developed abilities relevant to academic performance). This assertion can be paired with another one, namely, that SES has a similar artificial effect on academic performance measures (e.g., grading is biased in favor of high SES students), and thus that the appearance of test validity (i.e., test–grade correlations) is also an artifact. If SES inflates both test scores and grades of high-SES students, and deflates both test scores and grades of low-SES students, then a test that is, in fact, completely invalid as a predictor of academic performance will appear valid due to the common effects of SES on both test and grade. Assertions that the appearance of test validity is an artifact of SES are also prominently placed within the psychological literature. One claim is that "…[I]t has now been documented with massive data sets from the University of California that SAT I scores lose any ability to predict freshman year grades if the regression analyses control for socioeconomic status (Crosby, Iyer, Clayton, and Downing, 2003, p. 100[1])." Similarly, "…SAT scores used for college admission do not predict freshman year grades when socioeconomic status is controlled (Biernat, 2003, p. 1023)." The most visible critic of the SAT, former president of the University of California (UC) system Richard Atkinson (2005), states that "after controlling for (SES)…the relationship between SAT I scores and UC grades virtually disappears." Moving beyond the specific issue of SES and test validity, it is noteworthy that the report of a task force commissioned by the American Psychological Association to examine SES and make recommendations for directions for psychological research and practice has recently been issued (Saegert, Adler, Bullock, Cauce, Liu, and Wyche, 2007). This task force affirms the criticality of understanding the role of SES.

We concluded that a systematic exploration of the degree to which SES accounts for test–grade relationships was in order. Our goal was to examine three relationships: (1) the correlation between scores on the SAT and SES, (2) the correlation between the SAT and indices of subsequent academic performance (e.g., grades), and (3) the correlation between SES and these indices of academic performance. With estimates of these three relationships, we can statistically control either SAT or SES to shed light on the nature of the SES–SAT–academic performance relationships.

We contrast two conceptual models of the relationships between these two variables. Model 1, implicit in the position of the critics noted above, is reflected visually in Figure 1a. SES influences test scores, and SES influences grades, but there is no causal relationship between the characteristics measured by the test and grades. Any correlation between test scores and grades is an artifact of the common influences of SES on both test scores and grades. If this model is correct, then the correlation between test scores and grades will

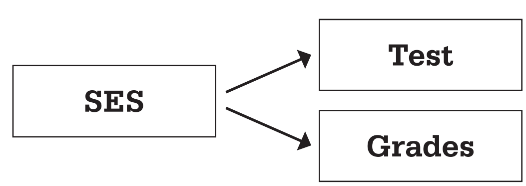


**Figure 1a.** Model 1.

1. The term "SAT I" for the purposes of this report means "SAT." The term "SAT II" may be understood to mean "SAT Subject Tests™."


**Figure 1b.** Model 2.

drop to zero when statistically controlling for SES. This model is statistically and conceptually consistent with the criticisms discussed earlier. A weaker version of this model would concede the possibility of a weak test–grade relationship after controlling for SES, but would nonetheless posit that much or most of the apparent test validity is an artifact of SES. Thus a comparison of the test–grade correlation with the test–grade–correlation controlling for SES is the crucial test of this model. A finding of a test–grade relationship that changes minimally, if at all, when controlling for SES would be strong evidence against the assertion that the test–grade correlation is an artifact of the joint association of both variables with SES.

Figure 1b offers an alternate conceptual model of the relationship between these variables. Here SES affects the characteristics measured by tests, which subsequently affect grades. A key feature of this model, though, is that SES is not posited to have a direct relationship with grades; its link to grades is a result of the mediating role of test scores. While SES has an influence on test scores, the test scores truly are predictive of academic performance. The test–grade relationship is not an artifact of the joint influence of SES on both test and grade. The crucial test of this model is a comparison of the SES–grade correlation with the SES–grade correlation after controlling for test score. A finding that the SES–grade correlation is reduced to zero or near zero after controlling for test score, paired with the finding of a substantial test–grade correlation after controlling for SES, would be evidence strongly in support of this model. If ability accounts for nearly all of the SES–grade relationship but accounting for SES has little effect on a substantial test–grade correlation we can have confidence that the ability test is capturing information about the individual that is related to subsequent success but does not appear to be related to SES. This ability test effectively treats the relationship between SES and the test as entirely the result of non-merit or unfair factors. In fact, it is certainly possible for SES to have a legitimate influence on subsequent test scores due to better education, nutrition, health care, and safe family environments. Although differences in SES among people may not be socially desired, it does not follow that an overlap between SES and ability test scores means that tests are measuring irrelevant characteristics. In our study we set aside this caveat and evaluate ability tests using a harsh test in a single large data set.

Both of the models articulated above posit SES–test relationships. Model 1 views this relationship as artifactual: Controlling for SES, the test–grade performance drops to zero or near zero. Model 2 views the relationship as reflecting a real advantage conferred by high SES: Higher SES leads to higher developed ability, which leads to higher academic performance. Were Model 1 true, continued test use would be inappropriate. Were Model 2 true, then test scores contain meaningful information predictive of academic performance, and the focus shifts to the question of the societal consequences of the fact that being higher in SES confers a meaningful advantage. This may lead some to call for interventions to alleviate the advantage conveyed by high SES. It may also lead some to question test use, but it is important to differentiate between criticizing tests on the grounds that they are not valid measures of academically relevant skills and criticizing tests on the grounds that one is not comfortable with the social consequences of using a test, despite its being a valid predictor of academic performance.

As one part of a broader investigation of the role of SES in test validity, we analyzed a large data set collected by the College Board with the help of 41 colleges and universities, which contains SAT scores (verbal and mathematics), SES measures, and freshman grades for over 150,000 students from multiple entering classes at these institutions. Because we also have SAT scores and SES measures for a nationwide population of more than 2.5 million SAT takers over a three-year period, we can examine the degree of range restriction that takes place on SAT and SES within each of the 41 schools, and perform psychometric corrections to estimate the correlation of interest in applicant samples, rather than in samples selected in part on the basis of test scores.

# Method

## Sample

The College Board collected SAT, SES, and freshman grade information from three entering cohorts (1995, 1996, and 1997) in collaboration with a group of 41 colleges and universities. These were selected to be geographically diverse, to include large and small schools, to include public and private institutions, and to cover a broad range in terms of school selectivity on SAT scores. The 41 schools included 15 private and 26 public institutions. Mean freshman class size was 1,359 (Standard Deviation [SD] = 1,234), with a range from 98 to 6,172. The mean of the mean high school GPAs among entering students across the 41 schools was 3.51 (SD = 0.27), with a range from 2.96 to 4.05 (grades above 4.0 reflect extra credit for Advanced Placement® and honors courses). The mean of the mean SAT total scores across schools was 1127 (SD = 112), with a range from 945 to 1395. (The above values are based on computing values for each school for each of the 1995, 1996, and 1997 cohorts, and averaging them; for example, a value of 6172 for freshman class size means that the school's mean entering class across these three cohorts was 6,172). Table 1 (see page 8) provides full information on class size, public versus private, mean high school GPA, and mean SAT for each school. A smaller subset of schools provided cumulative grades for at least four years; we focused on freshman grades to maximize the number of participating institutions (see Bridgeman, Pollack, and Burton, 2004, for prior research using this data set).

## Measures

SAT mathematics and SAT verbal scores were obtained from College Board records; we combined these into a unit-weighted composite. Three SES variables were obtained from questionnaires completed by students at the time they took the SAT: father's education, mother's education, and family income; the natural log of family income was used. The mean school-specific correlation between the two education variables was 0.57; father's and mother's education had mean correlations of 0.43 and 0.35, respectively, with family income. In the entire population of SAT takers, the correlation between the two education variables was 0.60; father's and mother's education correlated 0.46 and 0.41, respectively, with family income. We created an equally weighted composite of these three variables. Freshman GPA was provided by the college or university. We also obtained data on high school performance from the student questionnaires and used this information in a multivariate correction for restriction of range.

## Analyses

We initially performed separate analyses of SES–SAT, SES–grade, and SAT–grade correlations for each entering cohort for each school (1995–1997); finding no meaningful cohort differences, we pooled the data across the three cohorts for each school. All analyses were then conducted separately by school, and these school-specific correlations were combined by meta-analysis.

We sought to obtain applicant population data in order to correct correlations among test, grades, and SES for range restriction. Range restriction refers to the fact that variance in test scores is reduced when the sample available for study has been selected in part on the basis of scores on the test in question (e.g., computing SAT–grade correlations in samples where SAT scores were part of the selection process). Restricted variance on the test results in a lower test–grade correlation than would be the case if the relationship were examined in applicant samples (Sackett and Yang, 2000).

The data needed are the unrestricted means, SDs, and correlations among the variables. We obtained two separate sources of information for this purpose. The first was means, SDs, and correlations between SAT and SES among the entire population of individuals taking the SAT and completing a questionnaire reporting SES in 1995, 1996, and 1997 (more than 2.5 million students). Thus these data estimate the population for whom the test is relevant. Table 2 contains these broad population means, standard deviations, and correlations.

Our second goal was to obtain estimates of the means, SDs, and correlations in the applicant pool for each specific college or university, in order to obtain unrestricted estimates of the correlation of interest among each school's applicant population. While such data are not available, we were able to obtain data that we believe provide a reasonable proxy to the school-specific applicant pool. When students take the SAT, they indicate the schools to which they wish their scores to be sent; we used the set of students who asked that their scores be sent to a given school as our estimate of the applicant pool for that school, a strategy also used by Boldt (1986). Thus, we made multivariate range restriction corrections using both the school-specific estimates of the applicant pool and the entire SAT-taking population as the referent population (Sackett and Yang, 2000). It is important to carefully choose the population from which one draws unrestricted SD and correlation estimates. Students choose which colleges to apply to based in part on how their SAT scores and HSGPAs match colleges' standards, and therefore, SAT and HSGPA variability will be smaller within any given college's applicant pool than in the total population of college applicants. Correcting for range restriction using each college's applicant pool, SDs and correlations as unrestricted values estimate how well SAT and HSGPA could be expected to predict grades within the average college's applicant pool. Correcting using SDs and correlations drawn from the entire population of college applicants estimates how well SAT and HSGPA could be expected to predict grades if SAT and HSGPA variance was not reduced by students' self-selecting into

**Table 2**

Means, SDs, and Correlations Among SAT, HSGPA, and SES for National SAT Population

| | *HSGPA* | *SAT* | *SES* |
|---|---|---|---|
| SAT | 0.54 | | |
| SES | 0.20 | 0.42 | |
| Mean | 3.21 | 1012.77 | 0 |
| SD | 0.66 | 206.47 | 1 |

certain colleges' applicant pools. Neither correction is necessarily "correct"; both answer important questions about how well SAT and HSGPA predict college grades. Thus, we separately present both types of corrections for comparison purposes.

# Results

## Comparison of Restricted and Unrestricted Means and Standard Deviations

While Table 2 presented the SES, SAT, and HSGPA means and standard deviations for the full national test-taking population, Tables 3, 4, and 5 (see pages 9, 10, and 11) present school-specific unrestricted means and standard deviations for SES, SAT, and HSGPA, respectively. Each table also presents the ratio of restricted to unrestricted standard deviation, which serves as an indicator of the degree of range restriction on each variable for each school.

The results for SES in Table 3 indicate considerable variability from school to school in the mean SES of those in the applicant pool. SES is expressed in a metric in which the mean and standard deviation among the national population of SAT takers are zero and one, respectively. Thus a school-specific mean greater than zero indicates a school-specific value above the national mean, and a standard deviation less than one indicates a narrow range of SES for the school than for the national population. Clearly, SES is linked to the self-selection process by which students choose the schools to which they will apply. However, SES does not appear linked to the selection process used by schools, as the ratio of restricted to unrestricted SES standard deviations is generally very close to 1.0, averaging 1.09 across the 41 schools. Thus, within an applicant pool, SES is not strongly linked to the process by which a class is selected and subsequently enrolled. That the ratio of restricted to unrestricted SDs averages over 1.0 is consistent with the notion that colleges seek an entering class that is diverse in terms of SES and/or variables related to SES.

The results for SAT in Table 4 also show considerable variability from school to school in the mean SAT of those in the applicant pool, with means ranging from 940 to 1294. Thus, like SES, SAT is linked to the process by which students choose the schools to which they will apply. Unlike SES, though, SAT is also linked to the selection process used by schools, as the restricted SAT standard deviations are generally smaller than the unrestricted standard deviations, with the ratio of restricted to unrestricted SD averaging .86 across schools. This ratio does vary across schools, from .65 to 1.01; as a result, some schools are more selective on the SAT, while others (i.e., the three schools with ratios of .97, .99, and 1.01) are either nonselective or select on variables uncorrelated with the SAT.

The results for high school GPA are shown in Table 5, and indicate a pattern very similar to that of the SAT. Mean GPA in applicant pools varies from 2.96 to 4.05, signaling self-selection, and the ratio of restricted to unrestricted SD averages 0.85. The ratio does vary across schools, from 0.64 to 0.98. Interestingly, the mean and the range of the ratios are very similar for SAT and high school GPA, signaling that the two are used to a roughly comparable degree in selecting students. Across the 41 schools, the correlation between the SD ratio for SAT and the SD ratio for high school GPA is 0.65, indicating that it is not the case that schools choose to emphasize either the SAT or high school GPA (in which case a negative correlation would be expected), but rather that there is an overarching issue of school selectivity: Schools that are more selective on the SAT tend to also be the schools that are more selective on high school GPA.

Table 6 (see page 12) presents freshman GPA means and standard deviations by school. These GPAs average 2.78, with an SD of 0.68, and range from 2.15 to 3.30. Consequently, there are substantial differences in the distribution of grades by school.

## SES–Test Relationships

Answers to the question "How strongly are test scores and SES related?" vary as a result of the type of data examined. As shown in Table 7 (see page 13), the mean SES–SAT correlation among students enrolled at a given college or university is 0.22. (Correlations for each individual school are listed in the appendix.) This increases to 0.31 among applicants to a specific school. It increases further to 0.42 when one examines the relationship in the entire SAT-taking population. The difference between the correlation of 0.42 in the entire test-taking population and 0.31 in the population of applicants to a given school reflects self-selection on either or both variables: Both SES and knowledge of typical SAT scores of admitted students may affect student application decisions. The difference between the correlation of 0.31 in the school-specific applicant pool and 0.21 among enrolled students reflects a combination of these self-selection factors and the school's use of the SAT scores as a factor in admissions decisions. Thus, samples of enrolled students underestimate SES–test relationships in the college-bound population, leading to the conclusion that the population of interest must be specified when one estimates the correlation between SES and test scores.

## SES–Grade Relationships

As Table 7 shows, the mean within-school SES–grade correlation was 0.12. (Correlations for each individual school are listed in the appendix.) After correcting for range restriction, a mean correlation of 0.19 for applicants to a specific school, and a mean correlation of 0.22 for the full population of SAT takers was found. As a result, institutional or self-selection on SES or on correlates of SES (e.g., test scores) reduces the SES–grade correlation in enrolled student samples. In short, SES is correlated with grades, though the correlation is relatively low, and lower than its correlation with test performance.

## Test–Grade Relationships

As Table 7 shows, the mean within-school SAT–grade correlation was 0.35. (Correlations for each individual school are listed in the appendix). After correcting for range restriction, mean correlations of 0.47 for applicants to a specific school, and 0.53 for the full population of SAT takers, were found. Institutional or self-selection on the SAT or on correlates of the SAT (e.g., SES) reduces the test–grade correlation in enrolled student samples. Thus, the SAT–grade relationship varies as a result of decisions about whether or how to correct for range restriction. We posit that correcting for school-specific applicant pools gives the best estimate of the relationship of operational interest, namely, how well the SAT predicts grades given the set of applicants who present themselves for consideration at a given school. We note that school-specific applicant pool information is often not available, and it is not uncommon to use the SAT-taking population as the reference group in making range restriction corrections. This answers a hypothetical question (i.e., what would the validity of the SAT be if the applicant pool for a given school were a random sample of the SAT-taking population?), rather than the operational question of the validity of the SAT for existing applicant pools. An argument for using broader applicant pools as the basis for correction is that some students decide not to apply to a given school based on knowledge of their own test scores and of the typical scores of students enrolling at a given school. Thus, test score variance at a given school is restricted due to both the school's selection processes and individual students' self-selection processes. Consequently, while both estimates are of interest, we focus on current operational validity (i.e., how well the test predicts among those currently applying), while acknowledging that test scores can also play a role in student self-selection. The findings demonstrate that using the SAT-taking population as the reference group results in a larger estimate of operational validity (0.53) than is obtained using a school-specific applicant pool (0.47).

## Test–Grade Correlations Controlling for SES

To test the proposition that the test–grade relationship was an artifact of the relationship between SES and both test score and grades, the test–grade correlation partialling out SES was computed to determine the degree to which controlling for SES reduced the test–grade relationship. Contrary to the assertion of test critics, observed test–grade correlations are at most nominally affected when controlling for SES: the mean SAT–grade correlation of 0.35 drops to 0.33 when controlling for SES. We argued earlier that the test–grade correlation corrected for school-specific range restriction ($r = 0.47$) was the best estimate of operational test validity for predicting grades. This value drops to 0.44 when controlling for SES. Therefore, contrary to the claim that the relationship drops to near zero when controlling SES, our conclusion is that tests retain virtually all of their predictive power when SES is controlled, and that test validity is not an artifact of SES.

The appendix presents these partial correlations for each individual school. We examined these school-specific correlations to determine whether there are some schools for which partialling SES does substantially reduce the SAT–grade correlation. For 29 of the 41 schools, the SAT–grade correlation changes by 0.01 or less; for 6 schools the correlation changes by 0.02; for the remaining 6 schools, the correlation changes by 0.03–0.06. Thus, there are no schools for which the posited reduction of the SAT–grade correlation to near zero is observed.

## SES–Grade Correlations Controlling for Test Score

To test the Model 2 proposition that the observed correlation between SES and grades was mediated by test performance (i.e., that SES did not influence grades other than via its relationship with test performance), test performance was partialled from the SES–grade relationship. Consistent with this proposition, SES–grade correlations did drop substantially when controlling for grade. The SES–grade correlation of 0.22 in the entire SAT-taking population drops to −0.01 when controlling for SAT score. As a result, the relationship between SES and grades is mediated by test score.

## Parallel Analyses of the Role of SES in High School GPA–College GPA Correlations

The primary role of high school grade data in this report is to act as a variable in the multivariate range restriction correction process because the report focuses on the role of SES in SAT–grade relationships. However, we report a parallel set of analyses investigating the role of SES in high school GPA–college GPA relationships. The above analyses show that SAT–college grade relationships are not an artifact of SES. Table 8 (see page 13) shows that the same is true for high school GPA–college GPA relationships. The mean HSGPA–college GPA correlation across the 41 schools is 0.40; it remains 0.40 when SES is controlled. The mean high school GPA (HSGPA)–college GPA correlation correcting for school-specific range restriction is 0.51, which drops to 0.50 after controlling for SES. The mean HSGPA–college GPA correlation correcting for range restriction at the national population level is 0.58, which drops to 0.56 after controlling for SES.

Table 8 also shows that, correcting for school-specific range restriction, the SES–HSGPA relationship (0.12) is weaker than the SES–SAT relationship (0.31). The table also shows that the SES–college GPA correlation decreases from 0.19 to 0.16 when controlling for HSGPA. In contrast, the SES–college GPA correlation drops substantially when controlling for SAT. Thus, the SES–college GPA relationship is largely mediated by SAT, and only mediated to a modest degree by HSGPA.

# Discussion

Our analyses produce several findings. First, SES is indeed related to test scores. In broad unrestricted populations, this correlation is quite substantial (i.e., $r = 0.42$ among the population of SAT takers). Second, test scores are indeed predictive of academic performance, as indexed by grades. Observed correlations in samples of admitted students average $r = 0.35$; applying range restriction corrections to estimate the validity for school-specific applicant pools results in an estimate of 0.47 as the operational validity. Third, the test–grade relationship is not an artifact of common influences of SES on both test scores and grades. Partialling SES from the above estimate of the operational validity of tests ($r = 0.47$) reduces the estimated validity to 0.44. Fourth, the SES–grade relationship is largely explainable via a mediating mechanism in which SES influences test scores, which are subsequently predictive of grades. SES has a near-zero relationship with grades other than via this SES–test–grade chain of relationships.

The results presented here are at odds with the critics' claims presented earlier that large-scale University of California data show that the predictive power of the SAT drops to zero when SES is controlled. This contrast warrants some specific discussion. While such a claim is made by Geiser and Studley (2002) in their analysis of the University of California data, their work does not, in fact, actually provide data supporting those conclusions, as has been pointed out by other scholars who have reanalyzed their data (Johnson, 2004; Zwick, Brown, and Sklar, 2003). Such a conclusion would require regression analyses showing that the SAT's predictive power disappears when SES is added to the model. However, Geiser and Studley's main focus was a comparison of SAT I and the newer SAT II tests. They estimated a regression model with both SAT I and SAT II, high school grades, and SES as predictors of GPA. Thus, they are asking questions about the incremental contribution of one test over another, which is very different from asking whether the SAT I remains predictive of grades when SES is controlled. Because SAT I and SAT II are highly correlated, the incremental contribution of either one over the other will be quite small, even if both are predictive of grades. In fact, the reanalyses reveal that the SAT II–GPA correlation changes from 0.38 to 0.35 when partialling out SES, a finding fully consistent with the data we present here (Johnson, 2004; Zwick et al., 2003).

## Limitations

In terms of limitations, we note that we rely on self-reports of SES, as these measures are obtained from questionnaires completed by students. It is possible that these self-reports may be in error for some students. We believe students are generally in a good position to report parents' occupation and educational attainment. Looker (1989) reviews studies of agreement between student and parent reports; focusing on twelfth-grade samples, we find a mean student–parent correlation of 0.82 for father's occupation, 0.86 for father's education, and 0.85 for mother's education. Error in reports of parental income may be more likely. We note, though, that SES–test and SES–grade correlations are highly similar regardless of the SES indicator used, and also note that we used a composite across multiple SES indicators throughout the study.

We also note that we have focused on the influence of SES on SAT–freshman grade relationships. Although it is clear that these types of tests predict a range of important outcomes (Kuncel and Hezlett, 2007; Kuncel, Hezlett, and Ones, 2004) and grades are related to important life outcomes (Roth, BeVier, Switzer, and Schippmann, 1996; Roth and Clark, 1998), it would be valuable to further extend these analyses to other outcome and performance measures.

# Conclusion

Although our work does not address the mechanisms underlying the SES–SAT relationship, which may include issues such as access to higher-quality education, access to out-of-school educational experiences, parental role models and support for academic achievement, and genetic factors, it is simply not the case that the SAT is merely a proxy for family income and parental education. The original purpose of the SAT was to obtain information about basic academic skills and talent that was as free of class-based opportunity as possible. As such, most standardized tests are not tightly linked to a given curricula. Instead, these measures evaluate basic language skills and mathematical reasoning based on fundamental instead of advanced mathematics. It appears that this goal has not been entirely missed.

In conclusion, our work focuses on the predictive power of admissions tests and shows that this power is not an artifact of SES. There is a substantial SES–test relationship, though it is important to note that test scores reflect far more than SES. About a quarter of the variance in test scores is shared with SES, and thus there is large variability in test scores at any given level of SES. Thus, claims that tests are merely proxies for SES are unfounded.

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**Table 1**

Overview of Characteristics of the 41 Schools

| *School* | *Entering Class N* | *Public (0)/Private (1)* | *HSGPA Mean* | *SAT Mean* | *SES Mean* |
|---|---|---|---|---|---|
| 1 | 1,911 | 0 | 3.32 | 1082.97 | 0.06 |
| 2 | 1,271 | 0 | 3.21 | 951.11 | -0.16 |
| 3 | 3,821** | 1 | 3.52 | 1134.71 | 0.33 |
| 4 | 2,333 | 0 | 3.41 | 1090.71 | -0.06 |
| 5 | 1,160 | 1 | 3.75 | 1250.85 | 0.61 |
| 6 | 1,007** | 1 | 3.98 | 1294.22 | 0.81 |
| 7 | 5,54 | 1 | 3.64 | 1101.17 | 0.51 |
| 8 | 829 | 1 | 3.25 | 1084.56 | -0.02 |
| 9 | 763* | 0 | 3.03 | 939.54 | -0.26 |
| 10 | 961 | 0 | 3.17 | 960.61 | -0.18 |
| 11 | 372** | 1 | 3.38 | 967.98 | -0.07 |
| 12 | 297 | 1 | 3.64 | 1058.05 | 0.07 |
| 13 | 2,007 | 0 | 3.81 | 1124.35 | 0.47 |
| 14 | 371 | 1 | 3.67 | 1204.14 | 0.75 |
| 15 | 1,296 | 0 | 2.96 | 948.77 | -0.23 |
| 16 | 395 | 0 | 3.58 | 1154.45 | 0.58 |
| 17 | 334 | 1 | 3.78 | 1263.91 | 0.73 |
| 18 | 1,029 | 0 | 3.29 | 1024.77 | -0.14 |
| 19 | 3,444 | 0 | 3.75 | 1190.93 | 0.74 |
| 20 | 1,011 | 0 | 3.32 | 974.27 | -0.18 |
| 21 | 1,624** | 0 | 3.51 | 1031.4 | 0.09 |
| 22 | 453 | 0 | 3.63 | 1044.3 | 0.26 |
| 23 | 652 | 1 | 4.05 | 1220.57 | 0.77 |
| 24 | 1,467 | 0 | 3.36 | 971.05 | 0.00 |
| 25 | 1,146 | 0 | 3.21 | 976.36 | -0.17 |
| 26 | 1,210 | 0 | 3.07 | 941.07 | -0.34 |
| 27 | 421** | 1 | 3.33 | 1044.39 | 0.17 |
| 28 | 365* | 1 | 3.57 | 1070.87 | 0.44 |
| 29 | 195 | 1 | 3.55 | 994.79 | -0.10 |
| 30 | 1,604** | 0 | 3.73 | 1151.05 | 0.19 |
| 31 | 5,544** | 0 | 3.82 | 1060.95 | 0.32 |
| 32 | 2,836* | 0 | 3.49 | 1004.11 | 0.18 |
| 33 | 1,152* | 1 | 3.71 | 1190.98 | 0.57 |
| 34 | 2,031 | 0 | 3.35 | 984.17 | 0.01 |
| 35 | 3,498* | 0 | 3.81 | 1084.44 | 0.06 |
| 36 | 3,215 | 0 | 3.94 | 1107.6 | 0.46 |
| 37 | 1,898 | 0 | 3.42 | 1074.22 | 0.33 |
| 38 | 6,172 | 0 | 3.74 | 1084.36 | 0.41 |
| 39 | 1,507 | 1 | 3.57 | 1114.71 | 0.51 |
| 40 | 3,529 | 0 | 3.73 | 1097.51 | 0.28 |
| 41 | 1,136** | 0 | 3.16 | 944.2 | -0.10 |

Note: Single asterisk indicates the school provided data for the 1995 cohort only; double asterisk indicates the school provided data for the 1995 and 1996 cohorts; no asterisk indicates the school provided data for the 1995, 1996, and 1997 cohorts.

**Table 3**

Unrestricted and Restricted Means and Standard Deviations for SES by School

| *School* | *Unrestricted Mean* | *Unrestricted SD* | *Restricted Mean* | *Restricted SD* | *Ratio of Restricted to Unrestricted SD* |
|---|---|---|---|---|---|
| 1 | 0.28 | 0.90 | 0.06 | 1.01 | 1.12 |
| 2 | -0.10 | 0.78 | -0.16 | 0.82 | 1.05 |
| 3 | 0.46 | 0.87 | 0.33 | 0.95 | 1.09 |
| 4 | 0.24 | 0.90 | -0.06 | 1.03 | 1.14 |
| 5 | 0.61 | 0.83 | 0.61 | 0.86 | 1.04 |
| 6 | 0.86 | 0.78 | 0.81 | 0.87 | 1.12 |
| 7 | 0.45 | 0.87 | 0.51 | 0.89 | 1.02 |
| 8 | 0.10 | 0.80 | -0.02 | 0.87 | 1.09 |
| 9 | -0.07 | 0.77 | -0.26 | 0.82 | 1.06 |
| 10 | 0.03 | 0.81 | -0.18 | 0.92 | 1.14 |
| 11 | 0.00 | 0.80 | -0.07 | 0.90 | 1.13 |
| 12 | 0.18 | 0.73 | 0.07 | 0.75 | 1.03 |
| 13 | 0.34 | 0.84 | 0.47 | 0.81 | .96 |
| 14 | 0.79 | 0.77 | 0.75 | 0.81 | 1.05 |
| 15 | -0.09 | 0.76 | -0.23 | 0.81 | 1.07 |
| 16 | 0.64 | 0.81 | 0.58 | 0.84 | 1.04 |
| 17 | 0.88 | 0.75 | 0.73 | 0.82 | 1.09 |
| 18 | 0.10 | 0.81 | -0.14 | 0.83 | 1.02 |
| 19 | 0.69 | 0.84 | 0.74 | 0.84 | 1.00 |
| 20 | -0.06 | 0.77 | -0.18 | 0.85 | 1.10 |
| 21 | 0.22 | 0.80 | 0.09 | 0.89 | 1.11 |
| 22 | 0.27 | 0.81 | 0.26 | 0.84 | 1.04 |
| 23 | 0.54 | 0.86 | 0.77 | 0.85 | .99 |
| 24 | 0.13 | 0.79 | 0.00 | 0.87 | 1.10 |
| 25 | -0.06 | 0.78 | -0.17 | 0.83 | 1.06 |
| 26 | -0.21 | 0.73 | -0.34 | 0.80 | 1.10 |
| 27 | 0.44 | 0.80 | 0.17 | 1.01 | 1.26 |
| 28 | 0.47 | 0.83 | 0.44 | 0.78 | .94 |
| 29 | 0.02 | 0.85 | -0.10 | 1.05 | 1.24 |
| 30 | 0.40 | 0.90 | 0.19 | 1.11 | 1.23 |
| 31 | 0.28 | 0.82 | 0.32 | 0.87 | 1.06 |
| 32 | 0.22 | 0.82 | 0.18 | 0.88 | 1.07 |
| 33 | 0.70 | 0.81 | 0.57 | 0.90 | 1.11 |
| 34 | 0.07 | 0.81 | 0.01 | 0.86 | 1.06 |
| 35 | 0.31 | 0.88 | 0.06 | 1.23 | 1.40 |
| 36 | 0.43 | 0.86 | 0.46 | 0.88 | 1.02 |
| 37 | 0.41 | 0.83 | 0.33 | 0.90 | 1.08 |
| 38 | 0.34 | 0.86 | 0.41 | 0.93 | 1.08 |
| 39 | 0.50 | 0.84 | 0.51 | 0.82 | .98 |
| 40 | 0.41 | 0.82 | 0.28 | 0.93 | 1.13 |
| 41 | -0.03 | 0.80 | -0.10 | 0.85 | 1.06 |
| **Mean** | **.297** | **.817** | **.212** | **.887** | **1.09** |

## Table 4

Unrestricted and Restricted Means and Standard Deviations for SAT Verbal and Mathematics Scores by School

| *School* | *Unrestricted Mean* | *Unrestricted SD* | *Restricted Mean* | *Restricted SD* | *Ratio of Restricted to Unrestricted SD* |
|---|---|---|---|---|---|
| 1 | 1082.97 | 162.70 | 1112.45 | 128.48 | 0.79 |
| 2 | 951.11 | 122.59 | 1002.27 | 121.74 | 0.99 |
| 3 | 1134.71 | 169.87 | 1180.80 | 140.01 | 0.82 |
| 4 | 1090.71 | 169.78 | 1101.45 | 142.38 | 0.84 |
| 5 | 1250.85 | 155.85 | 1309.76 | 135.78 | 0.87 |
| 6 | 1294.22 | 141.35 | 1395.23 | 113.90 | 0.81 |
| 7 | 1101.17 | 164.93 | 1157.91 | 144.67 | 0.88 |
| 8 | 1084.56 | 164.71 | 1072.07 | 152.73 | 0.93 |
| 9 | 939.54 | 143.24 | 955.86 | 126.00 | 0.88 |
| 10 | 960.61 | 162.16 | 999.95 | 145.76 | 0.90 |
| 11 | 967.98 | 160.15 | 1036.83 | 146.11 | 0.91 |
| 12 | 1058.05 | 163.75 | 1097.62 | 166.17 | 1.01 |
| 13 | 1124.35 | 188.46 | 1264.14 | 122.41 | 0.65 |
| 14 | 1204.14 | 161.18 | 1223.75 | 141.68 | 0.88 |
| 15 | 948.77 | 143.58 | 957.86 | 131.85 | 0.92 |
| 16 | 1154.45 | 150.80 | 1193.22 | 139.45 | 0.92 |
| 17 | 1263.91 | 147.16 | 1286.82 | 127.24 | 0.86 |
| 18 | 1024.77 | 163.12 | 1081.69 | 140.54 | 0.86 |
| 19 | 1190.93 | 179.65 | 1228.74 | 139.27 | 0.78 |
| 20 | 974.27 | 148.55 | 1040.52 | 135.84 | 0.91 |
| 21 | 1031.40 | 163.36 | 1070.45 | 159.06 | 0.97 |
| 22 | 1044.30 | 160.79 | 1120.24 | 143.49 | 0.89 |
| 23 | 1220.57 | 187.73 | 1393.44 | 139.93 | 0.75 |
| 24 | 971.05 | 144.13 | 983.75 | 142.43 | 0.99 |
| 25 | 976.36 | 143.19 | 1022.29 | 127.44 | 0.89 |
| 26 | 941.07 | 144.39 | 944.86 | 141.98 | 0.98 |
| 27 | 1044.39 | 163.81 | 1053.60 | 138.99 | 0.85 |
| 28 | 1070.87 | 151.72 | 1095.76 | 129.29 | 0.85 |
| 29 | 994.79 | 172.49 | 1094.32 | 155.76 | 0.90 |
| 30 | 1151.05 | 163.03 | 1182.56 | 141.54 | 0.87 |
| 31 | 1060.95 | 164.79 | 1161.98 | 144.03 | 0.87 |
| 32 | 1004.11 | 160.34 | 1036.53 | 147.13 | 0.92 |
| 33 | 1190.98 | 154.44 | 1251.14 | 129.76 | 0.84 |
| 34 | 984.17 | 163.11 | 1081.00 | 129.27 | 0.79 |
| 35 | 1084.44 | 200.02 | 1201.63 | 138.66 | 0.69 |
| 36 | 1107.60 | 184.19 | 1196.20 | 147.00 | 0.80 |
| 37 | 1074.22 | 161.46 | 1103.09 | 149.43 | 0.93 |
| 38 | 1084.36 | 182.15 | 1196.08 | 146.33 | 0.80 |
| 39 | 1114.71 | 160.90 | 1166.32 | 122.61 | 0.76 |
| 40 | 1097.51 | 170.49 | 1144.63 | 154.01 | 0.90 |
| 41 | 944.20 | 160.66 | 1006.26 | 129.02 | 0.80 |
| **Mean** | **1073.05** | **161.48** | **1126.95** | **139.00** | **0.86** |

**Table 5**

Unrestricted and Restricted Means and Standard Deviations for High School GPA by School

| *School* | *Unrestricted Mean* | *Unrestricted SD* | *Restricted Mean* | *Restricted SD* | *Ratio of Restricted to Unrestricted SD* |
|---|---|---|---|---|---|
| 1 | 3.28 | 0.54 | 3.32 | 0.44 | 0.81 |
| 2 | 3.10 | 0.57 | 3.21 | 0.53 | 0.93 |
| 3 | 3.45 | 0.55 | 3.52 | 0.50 | 0.91 |
| 4 | 3.37 | 0.55 | 3.41 | 0.46 | 0.84 |
| 5 | 3.69 | 0.50 | 3.75 | 0.45 | 0.90 |
| 6 | 3.81 | 0.42 | 3.98 | 0.31 | 0.74 |
| 7 | 3.47 | 0.59 | 3.64 | 0.47 | 0.80 |
| 8 | 3.35 | 0.62 | 3.25 | 0.59 | 0.95 |
| 9 | 3.00 | 0.58 | 3.03 | 0.52 | 0.90 |
| 10 | 3.07 | 0.62 | 3.17 | 0.56 | 0.90 |
| 11 | 3.17 | 0.62 | 3.38 | 0.61 | 0.98 |
| 12 | 3.54 | 0.57 | 3.64 | 0.49 | 0.86 |
| 13 | 3.52 | 0.59 | 3.81 | 0.40 | 0.68 |
| 14 | 3.62 | 0.54 | 3.67 | 0.46 | 0.85 |
| 15 | 2.97 | 0.57 | 2.96 | 0.53 | 0.93 |
| 16 | 3.51 | 0.54 | 3.58 | 0.50 | 0.92 |
| 17 | 3.64 | 0.48 | 3.78 | 0.40 | 0.84 |
| 18 | 3.11 | 0.57 | 3.29 | 0.47 | 0.83 |
| 19 | 3.60 | 0.54 | 3.75 | 0.40 | 0.74 |
| 20 | 3.12 | 0.58 | 3.32 | 0.48 | 0.83 |
| 21 | 3.34 | 0.60 | 3.51 | 0.51 | 0.86 |
| 22 | 3.41 | 0.57 | 3.63 | 0.48 | 0.84 |
| 23 | 3.81 | 0.47 | 4.05 | 0.32 | 0.69 |
| 24 | 3.30 | 0.56 | 3.36 | 0.52 | 0.92 |
| 25 | 3.09 | 0.58 | 3.21 | 0.53 | 0.91 |
| 26 | 3.07 | 0.62 | 3.07 | 0.59 | 0.95 |
| 27 | 3.37 | 0.58 | 3.33 | 0.53 | 0.92 |
| 28 | 3.47 | 0.57 | 3.57 | 0.47 | 0.82 |
| 29 | 3.41 | 0.58 | 3.55 | 0.55 | 0.95 |
| 30 | 3.54 | 0.50 | 3.73 | 0.37 | 0.73 |
| 31 | 3.55 | 0.54 | 3.82 | 0.41 | 0.76 |
| 32 | 3.43 | 0.56 | 3.49 | 0.52 | 0.92 |
| 33 | 3.59 | 0.54 | 3.71 | 0.49 | 0.90 |
| 34 | 3.19 | 0.62 | 3.35 | 0.55 | 0.88 |
| 35 | 3.50 | 0.57 | 3.81 | 0.41 | 0.71 |
| 36 | 3.57 | 0.57 | 3.94 | 0.36 | 0.64 |
| 37 | 3.35 | 0.57 | 3.42 | 0.51 | 0.90 |
| 38 | 3.54 | 0.54 | 3.74 | 0.45 | 0.83 |
| 39 | 3.48 | 0.53 | 3.57 | 0.44 | 0.82 |
| 40 | 3.50 | 0.55 | 3.73 | 0.41 | 0.75 |
| 41 | 3.03 | 0.57 | 3.16 | 0.50 | 0.88 |
| **Mean** | **3.39** | **0.56** | **3.52** | **0.48** | **0.85** |

**Table 6**

Means and Standard Deviations for Freshman GPA by School

| *School* | *Mean Freshman GPA* | *SD of Freshman GPA* |
|---|---|---|
| 1 | 2.67 | 0.77 |
| 2 | 2.45 | 0.75 |
| 3 | 2.87 | 0.62 |
| 4 | 2.69 | 0.73 |
| 5 | 3.01 | 0.71 |
| 6 | 3.22 | 0.42 |
| 7 | 2.88 | 0.57 |
| 8 | 2.60 | 0.88 |
| 9 | 2.35 | 0.83 |
| 10 | 2.35 | 0.91 |
| 11 | 2.62 | 0.78 |
| 12 | 3.08 | 0.62 |
| 13 | 2.69 | 0.77 |
| 14 | 3.12 | 0.59 |
| 15 | 2.15 | 0.89 |
| 16 | 3.00 | 0.57 |
| 17 | 3.27 | 0.44 |
| 18 | 2.45 | 0.79 |
| 19 | 3.08 | 0.57 |
| 20 | 2.67 | 0.68 |
| 21 | 2.77 | 0.69 |
| 22 | 3.08 | 0.59 |
| 23 | 3.30 | 0.51 |
| 24 | 2.28 | 0.88 |
| 25 | 2.52 | 0.73 |
| 26 | 2.48 | 0.82 |
| 27 | 2.81 | 0.57 |
| 28 | 3.05 | 0.50 |
| 29 | 2.83 | 0.72 |
| 30 | 2.99 | 0.57 |
| 31 | 2.74 | 0.71 |
| 32 | 2.58 | 0.89 |
| 33 | 2.92 | 0.62 |
| 34 | 2.53 | 0.91 |
| 35 | 3.04 | 0.51 |
| 36 | 2.90 | 0.63 |
| 37 | 2.84 | 0.64 |
| 38 | 2.89 | 0.79 |
| 39 | 2.97 | 0.56 |
| 40 | 3.07 | 0.52 |
| 41 | 2.50 | 0.74 |
| **Mean** | **2.79** | **0.68** |

**Table 7**

Summary of Mean SES–Test, SES–Grade, and Test–Grade Correlations Across Schools

| | $r_{SES–Test}$ | $r_{SES–Grades}$ | $r_{Test–Grades}$ | $r_{Test–Grades}$ Controlling for SES | $r_{SES–Grades}$ Controlling for Test |
|---|---|---|---|---|---|
| Uncorrected | 0.22 | 0.12 | 0.35 | 0.33 | 0.04 |
| Corrected for School-Specific Range Restriction | 0.31 | 0.19 | 0.47 | 0.44 | 0.05 |
| Corrected for National Population Range Restriction | 0.42 | 0.22 | 0.53 | 0.50 | -0.01 |

**Table 8**

Summary of Mean SES–High School GPA, SES–College Grade, and High School GPA–College Grade Correlations Across Schools

| | $r_{SES-HSGPA}$ | $r_{SES-College\ Grades}$ | $r_{HSGPA-\ College\ Grades}$ | $r_{HSGPA-College\ Grade}$ Controlling for SES | $r_{SES-College\ Grade}$ Controlling for HSGPA |
|---|---|---|---|---|---|
| Uncorrected | -0.01 | 0.12 | 0.40 | 0.40 | 0.14 |
| Corrected for School-Specific Range Restriction | 0.11 | 0.19 | 0.51 | 0.50 | 0.16 |
| Corrected for National Population Range Restriction | 0.19 | 0.22 | 0.58 | 0.56 | 0.13 |

# Appendix

Correlations and Partial Correlations Among SAT, College GPA, HSGPA, and SES by School

| School | SAT–Grade | SES–Grade | SES–SAT | HSGPA–SAT | HSGPA–Grade | SES–HSGPA | SAT–Grade.SES | SES–Grade.SAT | HSGPA–Grade.SES |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 0.20 | 0.05 | 0.26 | 0.28 | 0.35 | 0.03 | 0.19 | 0.00 | 0.35 |
| 2 | 0.28 | 0.04 | 0.14 | 0.30 | 0.42 | -0.09 | 0.28 | 0.00 | 0.43 |
| 3 | 0.44 | 0.05 | 0.14 | 0.40 | 0.44 | -0.06 | 0.44 | -0.01 | 0.45 |
| 4 | 0.24 | 0.08 | 0.27 | 0.32 | 0.35 | 0.06 | 0.23 | 0.02 | 0.35 |
| 5 | 0.23 | 0.10 | 0.20 | 0.32 | 0.30 | -0.07 | 0.22 | 0.06 | 0.31 |
| 6 | 0.35 | 0.21 | 0.34 | 0.18 | 0.30 | 0.01 | 0.30 | 0.10 | 0.31 |
| 7 | 0.49 | 0.16 | 0.21 | 0.43 | 0.54 | 0.03 | 0.47 | 0.07 | 0.54 |
| 8 | 0.26 | 0.09 | 0.09 | 0.34 | 0.41 | -0.03 | 0.25 | 0.07 | 0.42 |
| 9 | 0.27 | 0.06 | 0.17 | 0.30 | 0.42 | -0.02 | 0.26 | 0.02 | 0.42 |
| 10 | 0.26 | 0.07 | 0.22 | 0.24 | 0.41 | -0.04 | 0.25 | 0.01 | 0.41 |
| 11 | 0.48 | 0.05 | 0.05 | 0.42 | 0.58 | -0.04 | 0.48 | 0.03 | 0.58 |
| 12 | 0.47 | 0.18 | 0.18 | 0.47 | 0.61 | 0.08 | 0.45 | 0.11 | 0.61 |
| 13 | 0.32 | 0.13 | 0.16 | 0.23 | 0.40 | -0.02 | 0.31 | 0.08 | 0.40 |
| 14 | 0.41 | 0.07 | 0.20 | 0.36 | 0.49 | -0.03 | 0.41 | -0.01 | 0.50 |
| 15 | 0.30 | 0.09 | 0.16 | 0.32 | 0.44 | -0.02 | 0.29 | 0.05 | 0.45 |
| 16 | 0.40 | 0.04 | 0.13 | 0.37 | 0.41 | -0.14 | 0.40 | -0.01 | 0.42 |
| 17 | 0.30 | 0.09 | 0.14 | 0.28 | 0.36 | -0.08 | 0.29 | 0.05 | 0.37 |
| 18 | 0.31 | 0.08 | 0.11 | 0.34 | 0.42 | -0.01 | 0.30 | 0.05 | 0.42 |
| 19 | 0.34 | 0.20 | 0.27 | 0.30 | 0.31 | 0.05 | 0.30 | 0.12 | 0.31 |
| 20 | 0.38 | 0.13 | 0.20 | 0.30 | 0.45 | 0.01 | 0.36 | 0.06 | 0.45 |
| 21 | 0.42 | 0.12 | 0.22 | 0.39 | 0.46 | 0.04 | 0.41 | 0.03 | 0.46 |
| 22 | 0.37 | 0.08 | 0.11 | 0.42 | 0.48 | -0.04 | 0.37 | 0.04 | 0.49 |
| 23 | 0.46 | 0.26 | 0.34 | 0.41 | 0.35 | 0.01 | 0.41 | 0.12 | 0.36 |
| 24 | 0.30 | 0.10 | 0.17 | 0.23 | 0.41 | -0.07 | 0.29 | 0.05 | 0.42 |
| 25 | 0.30 | 0.08 | 0.18 | 0.32 | 0.47 | -0.05 | 0.29 | 0.03 | 0.48 |
| 26 | 0.31 | 0.10 | 0.14 | 0.42 | 0.46 | 0.03 | 0.30 | 0.06 | 0.46 |
| 27 | 0.46 | 0.06 | 0.18 | 0.37 | 0.50 | -0.02 | 0.46 | -0.03 | 0.50 |
| 28 | 0.47 | 0.02 | 0.05 | 0.38 | 0.51 | 0.01 | 0.47 | -0.00 | 0.51 |
| 29 | 0.41 | 0.07 | 0.20 | 0.38 | 0.45 | -0.03 | 0.41 | -0.01 | 0.45 |
| 30 | 0.34 | 0.13 | 0.42 | 0.36 | 0.33 | 0.16 | 0.32 | -0.01 | 0.32 |
| 31 | 0.41 | 0.17 | 0.21 | 0.29 | 0.41 | 0.00 | 0.39 | 0.09 | 0.41 |
| 32 | 0.38 | 0.12 | 0.18 | 0.36 | 0.46 | -0.03 | 0.37 | 0.06 | 0.47 |
| 33 | 0.37 | 0.06 | 0.08 | 0.32 | 0.43 | -0.09 | 0.37 | 0.03 | 0.44 |
| 34 | 0.20 | 0.07 | 0.10 | 0.26 | 0.39 | -0.02 | 0.20 | 0.05 | 0.39 |
| 35 | 0.41 | 0.25 | 0.42 | 0.33 | 0.38 | 0.10 | 0.35 | 0.09 | 0.37 |
| 36 | 0.46 | 0.26 | 0.35 | 0.24 | 0.35 | -0.03 | 0.41 | 0.12 | 0.37 |
| 37 | 0.36 | 0.09 | 0.19 | 0.30 | 0.44 | -0.03 | 0.35 | 0.02 | 0.45 |
| 38 | 0.40 | 0.14 | 0.27 | 0.26 | 0.40 | -0.01 | 0.38 | 0.04 | 0.41 |
| 39 | 0.42 | 0.03 | 0.12 | 0.33 | 0.46 | -0.06 | 0.42 | -0.02 | 0.46 |
| 40 | 0.39 | 0.16 | 0.29 | 0.31 | 0.39 | 0.04 | 0.37 | 0.05 | 0.39 |
| 41 | 0.31 | 0.08 | 0.19 | 0.32 | 0.40 | -0.03 | 0.30 | 0.02 | 0.41 |

Note: Tabled values are correlations. Values with labels of the form “SAT–Grade.SES” are partial correlations, i.e., the correlation between SAT and grades controlling for SES.

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