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THE ACCURACY OF SELF-REPORT INFORMATION COLLECTED ON THE ACT TEST BATTERY: HIGH SCHOOL GRADES AND ITEMS OF NONACADEMIC ACHIEVEMENT

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ABSTRACT

This paper reports the accuracy with which students report their high school grades and nonacademic achievements when they write the ACT Test Battery. A sample of 5,775 student records from 134 high schools was studied. The correlations between self-reported and school-reported grades were found to range from .81 to .86. The correlations were examined separately for "overreporters," "underreporters," and "accurate reporters" in terms of a number of student characteristics: ability, race, sex, class rank, parents' income level, student's level of aspiration, and class size.

The accuracy with which the self-reported information was collected was stable over income levels, sex, race, and size of class. Students who aspire for less than a bachelor's degree tend to overreport their grades more than students who aspire to at least a bachelor's degree.

Students also tend to accurately report their nonacademic achievements. The accuracy of self-report on these items is comparable to that of high school grades, in that accuracy did not seem to vary with student background characteristics.

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When taking the ACT Test Battery, high school juniors and seniors are routinely asked to report their most recent grades in the areas of English, mathematics, social studies, and natural sciences. They are also asked to indicate their high school nonacademic achievements in athletics, work experience, practical skills, leadership, music, speech, art, writing, and science.

Since this information may be used in prediction, planning, and decision making by colleges, it is important to consider the accuracy with which it is reported. Therefore, the purpose of this study was to assess the accuracy with which students reported high school grades and nonacademic achievement, and to attempt to describe discrepant reporters.

Walsh (1967, 1968, & 1969) has extensively studied the validity of self-report data. In his comprehensive review of the literature (1967), he cited studies from 1915 through 1964, and observed that the results of these studies indicate that information collected by personal interview, questionnaire, and personal data blank do not yield consistent results. Walsh compared the accuracy of the three methods of data collection, but not the characteristics of accurate and discrepant reporters. In each of his studies Walsh concluded that student information can be validly obtained using all three methods, even under varied experimental conditions.

There have been a few studies concerned explicitly with the accuracy with which students report grades. A limited number of these studies attempted to describe discrepant reporters on the basis of some relevant variables. Richards and Lutz (1967) reported a correlation of .84 for men and .87 for women between college-reported and student-reported college grades. Perry (1940) determined that college students generally report grades accurately but have a tendency to overestimate. Dunnette (1952) asked college seniors to indicate their undergraduate grade point averages. The correlation between actual and reported grade point average was .94, and students with actual averages below "C" tended as a group to report a higher grade average than they actually earned.

The tendency for the poorer student to report better marks was further substantiated in an interesting study by Black (1962). Senior college students in education were given an opportunity to falsify marks on a mid-term examination, and again poorer students were found to distort more frequently than did the better students. Black found no significant differences on the variables of sex, age, frequency of class attendance, or program groups represented within the class; and religious

students were as likely to falsify marks as nonreligious students. Hanna, Bligh, and Lenke (1970) noted that sixth- and eighth-grade pupils also have a slight tendency to overrepresent their past grades. In another study Lenke, Hanna, and Bligh (1970) compared the junior high students who reported distorted grades with accurate reporters and found no significant differences among the groups with respect to sex, age, level of aspiration, or scores on work-sample items in algebra. However, they did find that "students who underrepresented their grades by more than 1 grade point had significantly higher grades as reported by the schools than those who overrepresented their grades," and that ". . . students showing a tendency to overrepresent past grades tend also to be poor students." Thus, the tendency of poorer students to overrepresent their past grades seems present over various grade levels.

In a series of studies to assess the predictive validity of the Orleans-Hanna Algebra Prognosis Test, Hanna and Bligh (1968) compared student-reported grades and school-reported grades as predictors of success in first-year algebra. They concluded that "student-reported grades can be substituted for actual past grades with very little loss in predictive validity when the grades are used without prognosis test items and with virtually no loss of predictive validity when the grades are used in combination with the test section of the Algebra Prognosis Test." This conclusion further substantiated the results found by Bligh, Farren, and Von Maluski (1966, 1967) who studied student-reported grades as predictors of language grades.

Bligh (1968) indicated that the student-reported grades were stable over a 2-week, test-retest period ($\gamma = .96$) but did not compare student-reported grades with school records. In a much-cited study, Davidsen (1963) compared student-reported grades and school-reported grades for a large sample of college-bound high school students and found correlations which ranged from .91 to .93. A reanalysis of Davidsen's data by Richards, Holland, and Lutz (1966) resulted in a correlation of .92 between student-reported and school-reported grades.

Presently, the evidence suggests that students over various grade levels generally report accurate grades, and poor students have a slight tendency to overrepresent past grades, but this distortion is not serious enough to interfere with the use of student-reported grades as predictor variables. However, very little is known about the various characteristics of students who distort grades other than their tendency to be poor students.

Kirk and Sereda (1969) attempted to describe the differences among accurate reporters, positively discrepant reporters, and nonreporters on several variables. Kirk and Sereda's sample, however, was limited to male architectural students at Berkeley. Nonreporters had actual grade averages below the mean, and again, poorer students tended to report higher grades. Discrepant reporting was found to increase near the boundaries of letter grade cutoff points, and discrepant reporters were less able quantitatively than were nonreporters as measured by the School and College Aptitude Test. They also found that discrepant reporters scored higher on thinking orientation, complexity, and autonomy, and lower on social extroversion and masculinity than did nonreporters, as measured by the Omnibus Personality Inventory. It is not known if these qualities characterize discrepant and nonreporting high school students.

In the Student Profile Section of the ACT Test Battery[1] 62 items were included to assess nonacademic achievement. The reliabilities of these nonacademic accomplishment scales have been investigated in an earlier version of the Student Profile Section and were found to be very reliable.[2] However, no attempt was made to assess the accuracy of these items by comparing the student's report with school records. Richards, Holland, and Lutz (1966) did find that the information from these items could be used to predict nonacademic college achievement with moderate success. They also found nonacademic and academic achievement to be independent of one another. Nonacademic achievement refers to out-of-class activities in art, music, leadership, and other areas; and academic achievement refers to test scores, high school grades, and college grades. It is important to know whether or not the low correlation between academic and nonacademic achievement is due to the self-report nature of the nonacademic achievements. If the nonacademic

[1]The 1969-70 edition of the *Student Profile Section* was used in this study.

[2]See *ACT Technical Report* (1965).

achievements are reported accurately, we could indeed consider them as dimensions of talent which may be related to significant later-life achievement in a way that Hoyt (1968) found academic talent was not related.

There is a good deal of indirect evidence that students who write the ACT Test Battery are generally reporting accurately. The direct information Davidsen collected in 1963 has already been noted, and we could add this further evidence that students are generally reporting their high school grades accurately.

1. Self-reported high school grades predict college grades quite accurately at hundreds of college campuses, for various subgroups of students, and in many different subject-matter areas. For example, Hoyt and Munday (1968) reported the median multiple correlation using the four ACT self-reported high school grades versus first-year overall college grades at 437 colleges and universities (272,995 students) to be .541. Each year more than 600 colleges and universities nationwide participate in ACT predictive Research Services and have the opportunity to check on the validity of the ACT self-reported high school grades for students on their own campuses.

2. Self-reported high school grades predict college grades as well as does the traditional predictor of college academic success—high school rank. The *ACT Technical Report* (1965) shows an average within-college correlation of .54 for high school rank and .53 for the multiple of the four self-reported high school grades for the prediction of first-year overall college grades at 37 colleges and universities (11,546 students).

3. Self-reported high school grades are highly correlated with high school rank. Munday (1968) reported a median correlation of .77 between high school rank and the average of the four self-reported high school grades, based on within-college correlation studies at 28 different institutions involving 16,023 student records.

The evidence that students are accurately reporting their nonacademic achievements is more subtle and though compelling less complete. Richards, Holland, and Lutz (1966) presented correlations between nonacademic achievements in high school and college which showed that a certain kind of high school achievement (art, for example) tends to be predictive of comparable achievement during the freshman and sophomore years of college. But one kind of nonacademic achievement in high school does not lead to another kind of nonacademic achievement in college; for example, high school art achievement is related to college art achievement but not to college leadership achievement. A point the authors stress is their recurring finding that academic (test scores, high school grades, and college grades) and nonacademic (art, music, leadership, and other activities) achievement are independent of one another. Correlations between high school and college nonacademic achievements obtained by Richards, Holland, and Lutz (1966) are reported in Table 1. Though the nonacademic achievements are self-reported at both the high school and college levels, over a 2- or 3-year interval the consistent correlations of like achievements with each other imply students are reporting accurately both times. Richards and Lutz (1967) reported essentially the same findings again using a larger and more diverse sample.

Method

In this study we investigated the accuracy of student-reported grades and nonacademic achievement in high school, and considered the characteristics of discrepant reporters. The following questions were asked:

1. To what extent do high school students accurately report their latest semester grades in English, mathematics, social studies, and natural sciences?
2. To what extent do high school students accurately report their nonacademic achievements as measured by selected items from the Student Profile Section of the ACT Test Battery?
3. Are there any differences among over-reporters, underreporters, and accurate reporters in terms of ability, race, sex, class rank, parents' income level, student's level of aspiration, and class size?

To answer these questions, the research procedures described below were followed.

TABLE 1

Correlations for Men and Women between Six Kinds of Nonacademic Achievement in High School and Later Nonacademic Achievement during the Freshman and Sophomore Years of College[a]

High School Nonacademic Achievement in:	Science		Leadership		Drama		Art		Literary		Music	
	Fr.	Soph.	Fr.	Soph.	Fr.	Soph.	Fr.	Soph.	Fr.	Soph.	Fr.	Soph.
Correlations for Men (503 freshmen and 1,373 sophomores) College Nonacademic Achievement in:												
Science	.31	.40	.13	.14	.03	.07	.17	.09	.05	.13	.13	.08
Leadership	.01	.11	.29	.28	.17	.12	.05	.12	.11	.14	.03	.08
Drama	−.04	.15	.24	.26	.34	.33	.13	.19	.26	.24	.08	.21
Art	.03	.09	.04	.06	.02	.12	.41	.44	.07	.21	.04	.08
Literary	−.02	.19	.21	.22	.17	.22	.18	.20	.43	.45	.01	.09
Music	.02	.05	.10	.12	.09	.10	.07	.11	.10	.08	.41	.49
Correlations for Women (592 freshmen and 1,419 sophomores) College Nonacademic Achievement in:												
Science	.22	.24	.11	.13	.05	.04	.13	.12	.08	.15	.08	.09
Leadership	.10	.03	.25	.35	.08	.14	.17	.09	.14	.18	.05	.10
Drama	.06	.05	.24	.24	.44	.39	.12	.21	.27	.24	.16	.20
Art	.07	.05	.04	.09	−.02	.12	.49	.51	.13	.16	.01	.09
Literary	.07	.03	.05	.25	.06	.21	.13	.12	.44	.46	.05	.12
Music	.02	.04	.14	.14	.15	.09	.10	.07	.02	.08	.35	.39

[a]Taken from James M. Richards, Jr., John L. Holland, and Sandra W. Lutz, "The Prediction of Student Accomplishment in College," *ACT Research Report No. 13* (Iowa City, Iowa: The American College Testing Program, 1966). Correlations between each kind of achievement in high school and comparable achievement later in college are underlined.

The Procedure

During the spring of 1970 a random sample of high schools represented in the ACT testing program was selected for inclusion in the study. Care was taken to select schools so that adequate representation would exist by geographic region, size of school, and urban-rural characteristics. There were 143 schools selected. Data were received from 134 of these schools—for a return rate of 94%. Eighteen states are represented in the sample, and 5,775 student records were compared. Table 2 shows the number of schools and students in each state included in the sample.

TABLE 2

The Sample by State

State		Number of Schools	Number of Students
Alabama		8	342
Arizona		10	587
California		17	482
Colorado		10	575
Illinois		15	739
Iowa		8	395
Kansas		5	181
Kentucky		4	113
Louisiana		7	356
Maryland		3	125
Michigan		9	352
Minnesota		7	292
Ohio		9	338
Oklahoma		1	59
Pennsylvania		5	199
Tennessee		8	327
Utah		7	291
Virginia		1	22
Total	18	134	5,775

A questionnaire was developed requesting information from the school on the student's grades in English, mathematics, social studies, and natural sciences; class rank; and participation in selected nonacademic activities insofar as they could be reported from school records or by school personnel. Arrangements were made with local school officials to furnish data which were valid at the end of the junior year. In some schools guidance counselors coordinated the data collection, and in other schools the principal assumed the responsibility. A copy of the questionnaire is included in Appendix B. The data were collected during the early months of 1970.

Results

In this section the agreement on grades, the agreement on nonacademic achievement, and characteristics of discrepant reporters are presented. The results are given in terms of correlations, percentages, and proportions. Where appropriate, tests of significance were conducted to detect sources of bias in self-reported information.

Grades

Table 3 shows the percentage agreement between student-reported and school-reported high school grades. Only about 2% of the students misrepresented their grades by more than one letter grade, whereas 22% misrepresented their grades by some degree.

In order to learn the nature of discrepant reporting, we visited four schools represented in the sample. We were able to personally review student records in order to analyze the possible reasons for discrepancies. It was noted that in some cases where two courses were taken simultaneously within the same academic area, the school reported the grade for a different course than that reported by the student. For example, if a student took American Problems I and U.S. History I simultaneously, the student reported his grade in American Problems I, and the school reported his grade in U.S. History I. If the two final grades were different, then a discrepancy appeared. We also noted a tendency for students to misrepresent a grade if the course for which they were reporting was taken more than two semesters earlier than when reported. Another reason for inaccurate reporting was that some students reported an honors grade while the school reported a regular grade for those students enrolled in honors courses. Finally, it appeared that some students reported 9-week grades or final examination grades rather than final course grades.

TABLE 3

Percentage Agreement and Correlations between Student-Reported Grades and School-Reported Grades

	English	Mathematics	Social Studies	Natural Sciences	Average
	N = 5604	*N = 5141*	*N = 5377*	*N = 4853*	
Report accurately within one grade	98.8	97.6	98.1	96.8	97.8
Exactly accurate	81.4	77.2	78.8	74.7	78.0
Overrepresent by one or more grades	13.4	16.7	15.7	18.5	16.1
Underrepresent by one or more grades	5.3	6.0	5.5	6.7	5.9
Correlations					
r	.86	.86	.85	.81	

The correlations between student-reported and school-reported grades are also shown in Table 3. The correlations shown seem to be systematically lower than those reported by Davidsen (1963) and by Richards, Holland, and Lutz (1966). It should be noted, however, that these correlations are still very high when compared with reliability figures obtained for other measures of ability.

Further analyses of the correlations were done considering income level, sex, race, educational plans, and size of graduating class. Tables A through E in Appendix A present the results of these analyses. The correlations generally fall in the mid .80s, ranging from a low of .57 to a high of .96. The extreme correlations (i.e., .57 and .96) are not highly reliable as they are generally based on a very small number of students. These results suggest that the relationship between student-reported and school-reported grades is stable over income levels, sex, race, and school size; and that the accuracy of reporting is not influenced by students' plans for additional schooling.

Table F, found in Appendix A, shows the correlations between self-reported and school-reported grades for various ability levels as measured by the ACT Test Battery. The tendency is for the correlations to increase as ability increases. The correlations tend to be in the mid .80s except for students with ACT scores below 16. These students have correlations in the middle to low .70s. To see if some of these student characteristics could be related to patterns of discrepant reporting, we focused more directly on the backgrounds of students who were overreporters, accurate reporters, and underreporters.

TABLE 4

Comparisons of Accurate Reporters, Underreporters, and Overreporters by Academic Achievement as Measured by ACT Composite Scores

		Proportion of Accurate Reporters	Proportion of Under-reporters	Proportion of Over-reporters	Proportion of Accurate Compared with Under-reporters	Proportion of Under-Compared with Over-reporters	Proportion of Accurate Compared with Over-reporters
		N = 3971	*N = 308*	*N = 862*	*z Values*	*z Values*	*z Values*
ACT	1-15	.12	.15	.18	−1.38	−1.46	−4.93*
Composite	16-20	.29	.32	.32	−1.17	−0.06	−1.89*
Score	21-25	.35	.33	.34	.80	−0.40	.53
	26-36	.24	.20	.15	1.41	2.07*	5.39*

*Statistically significant at the .05 level.

Characteristics of Accurate and Discrepant Reporters

Accurate reporters and discrepant reporters were grouped on the basis of whether or not they had reported their latest semester grade in English accurately.[3] The groups were then further divided and analyzed according to achievement, race, sex, class rank, income level, level of aspiration, and class size.

Achievement comparisons. An analysis was done to determine if the groups differed from each other in terms of academic achievement as measured by their ACT Composite Score. The proportion of each group to fall within each of four categories on the composite score was computed. The differences between the proportion of accurate reporters, over-reporters, and underreporters in each of the four categories were tested using normal distribution theory. Table 4 shows the proportion of each group within each category, and the z values that resulted from the comparisons.

Underreporters do not seem to differ systematically from accurate reporters in terms of the school achievement measured by the ACT Test Battery. A higher proportion of accurate reporters than under-reporters was found in the highest achievement group.

Overreporters, as defined by latest semester self-reported English grades, seem to possess less academic achievement in the areas measured by the ACT Test Battery than do accurate reporters. Those students who underreport their grades do not seem to differ in any systematic way in achievement when compared to those who report their grades accurately.

Racial comparisons. The groups were divided according to their answers to the racial/ethnic item on the Student Profile Section.[4] The proportion of accurate reporters, underreporters, and over-reporters was computed for each racial or ethnic group. Table G in Appendix A presents the results of this breakdown.

Since the number of students in these cells is quite small, it is difficult to generalize the results

[3]Similar results were obtained when the mathematics grade was used to determine whether a student belonged to the accurate or discrepant reporter group. The reason that social studies and natural sciences grades were not used to determine group membership is because those are the areas in which more than one grade could most easily be earned by a student. Thus, if a student reports a grade in American Problems I, and the school reports a grade in U.S. History I, the student could have been erroneously classified more easily than if he reported a grade in Algebra IV.

[4]See *Student Profile Section,* Item 7, of the ACT Test Battery.

reported here. However, it would seem that race is not an important variable in determining the accuracy of student-reported grades. Foreign students may tend to report slightly more accurately than other groups, but this may be an apparent and not a real difference.

Comparison by sex. Accurate- and discrepant-reporting groups were further divided on the basis of sex, and the proportion of each reporter group by sex was computed. Table H (Appendix A) presents the results of this computation, and the values which resulted when the differences between the proportions were tested.

Females seem to have a greater tendency to report their English grades accurately. Males seem to have a greater tendency than females both to overreport and to underreport their grades.

When the proportions were again computed based on the accuracy of self-reported mathematics grades, the same results were obtained; although the tendency for males to underreport mathematics grades was not as pronounced as their tendency to underreport English grades.

Comparisons by class rank. The report groups were subdivided on the basis of the student's high school rank at the end of the junior year. The rank was converted to a percentile rank so that a comparison could be made regardless of school size. The proportion of accurate reporters, underreporters, and overreporters within three broad categories of class rank (0-30, 30-70, and 70-100) was computed, and the differences among these proportions were tested using the z statistic. These results are given in Table I (Appendix A).

From the table it can be seen that the higher the class rank, the greater is the tendency to report grades accurately. Also, overreporters tend to have a lower class rank than do accurate reporters. However, underreporters are as likely to be from the higher class ranks as they are to be from the lower class ranks. The proportion of underreporters at each of the three class-rank levels appears to be the same. These results support our earlier findings when accuracy of self-report was compared with achievement as measured by the ACT Composite Score.

Comparisons by income level. The reporter groups were then further subdivided on the basis of parents' annual income as indicated by the student. The proportion of accurate reporters, underreporters, and overreporters within three income levels was computed, and the differences among these proportions were tested for significance.

The information contained in Table J (Appendix A) indicates that the resulting z values were quite small. This implies that parents' income level is not a relevant variable in determining accuracy of student-reported grades. Hence, students from all income levels could be expected to report their grades with equivalent accuracy.

Comparisons by level of aspiration. The reporter groups were again divided on the basis of their educational aspiration at the time they took the ACT Test Battery. The proportion of accurate reporters, underreporters, and overreporters within three condensed levels of aspiration was computed, and the differences among these proportions were tested using the z statistic.

As indicated in Table K (Appendix A), there is a distinct difference in accuracy of reporting between those who plan to complete their formal education with less than a bachelor's degree and those who plan to complete the bachelor's degree or beyond. Although the great majority report their grades accurately, those who plan less than 4 years of formal education beyond high school tend to overreport their high school grades more than do those who plan a bachelor's degree or beyond. These results are consistent with the comparisons by achievement levels and class rank in that those with lower educational aspirations tend to be the poorer students in the class, and poorer students, in terms of both achievement and class rank, have a greater tendency to overreport their grades. There were no differences in accuracy of reporting between those who aspire to a bachelor's degree and those who plan beyond a bachelor's degree. There were no differences among any of the three levels of aspiration in terms of tendency to underreport grades.

Comparisons by class size. The reporter groups were subdivided on the basis of high school class size. The proportion of accurate reporters, underreporters, and overreporters within three levels of class size was computed, and the differences among these proportions were tested using the z statistic.

Table L (Appendix A) shows that the influence of class size on accuracy of grade reporting is not clear. Students from the largest classes seem to report slightly more accurately than do students

from medium-sized classes. Students from the smallest classes seem to have a greater tendency to overreport than do students from medium-sized or large classes.

However, this tendency to overreport did not hold up in a second analysis when the reporter groups were identified on the basis of accuracy of student-reported mathematics grades. This second analysis did yield a greater tendency for students from medium-sized classes (Group 2) to underreport their grades compared with students from the largest class (Group 3). Thus, there does seem to be consistency for students from the larger classes to report their grades more accurately than do students from medium-sized classes, but all other comparisons were either not significant or not consistent over both analyses.

Agreement on Nonacademic Achievements

In selecting items from the nonacademic achievement scales in the Student Profile Section to be included in this study, care was taken to include only those items which could likely be validated from school records or school personnel. However, because of differences in school recording systems, it is possible that the information requested by the questionnaire would be reported more reliably by some schools than by others.

Table 5 presents the percentage agreement between the students' reports and the schools' records on nonacademic achievement. The agreement seems particularly high on the items where schools could be expected to keep accurate records. This would include recognition for athletic achievement, science or art achievement, and leadership achievement in school offices. Several items, however, reflect activities in areas where the school may not keep detailed records. For example, a student having actively campaigned to elect another student and/or played a musical instrument may not have come to the attention of teachers, even though the student may have achieved in these areas.

Generally, the agreement shown in Table 5 is high, indicating that students' nonacademic activities are reliably reported. There is a slightly greater tendency for students to indicate participation in an activity when the school indicates no participation than for the student to deny activities when the school records indicate student participation. However, this is probably due to school officials' lack of complete knowledge of student achievement.

Since girls tend to participate in nonacademic activities in ways which are less recognized than boys, it is understandable why in Table M (Appendix A) a smaller percentage of girls than boys agreed with school officials in reporting achievements. On the other hand, girls reported more consistently their accomplishments in athletics and science activities than did boys.

The results in Table N (Appendix A) suggest that students from all income levels report their nonacademic accomplishments in the same way. Only 64% of the students from the upper-income level agreed with school personnel on "Actively campaigned to elect another student," but this may be true because students from upper-income levels tend to be more active in all activities. Perhaps a greater number are involved in ways unknown to the school faculty.

Comparisons made by class rank again revealed stability in the percentage of students who agree with school-reported achievements. Table O (Appendix A) shows a consistent pattern over all nonacademic achievements. Those students above the 70th percentile showed slightly less accuracy in reporting leadership activities than those students below the 70th percentile. Again, this may be true because better students tend to be more active in school social and political activities, and a large number may be involved in ways unknown to school personnel.

Discussion

It is widely known that high school grades are highly predictive of college grades. There is a good deal of evidence that the ACT student-reported high school grades are predictive of college grades (The American College Testing Program, 1971). Further, the combination of ACT Test Battery scores and high school grades is more predictive of college grades than either test scores or grades used alone. This paper provides current documentation that high school grades are generally accurately reported by students, and enables us to remain

TABLE 5

Percentage Agreement and Distortion between Student-Reported and School-Reported Nonacademic Achievement Items

Item	N	Percentage Agreement	Student "Yes" School "No"	Student "No" School "Yes"
1. Earned a varsity letter	5,428	91.8	4.8	3.3
2. Captain of a varsity team	5,318	95.1	2.6	2.2
3. Set athletic record at a state meet	5,305	96.0	2.0	1.8
4. Named to an all-state team	5,301	98.6	.5	.8
5. Appointed to a student office	5,357	76.7	16.3	6.9
6. Actively campaigned to elect another student	5,286	68.9	22.3	8.7
7. Organized a school political group or campaign	5,260	89.5	5.4	5.0
8. Tried to change institutional rules, procedures, policies	5,259	73.1	18.8	8.0
9. Elected to student office(s)	5,330	80.1	11.5	8.3
10. Received award or recognition for leadership	5,339	74.5	13.5	11.9
11. Played in school musical organization	5,302	84.2	10.0	5.7
12. Gave a public recital (music)	5,209	76.4	16.6	6.9
13. Played a musical instrument	5,274	72.1	24.9	2.9
14. "Superior" rating in state music contest	5,232	92.3	3.7	3.8
15. Participated in a state music contest	5,264	89.9	5.1	4.8
16. Placed first, second, or third in regional or state speech	5,308	96.4	1.7	1.8
17. Entered a school speech or debate contest	5,284	90.9	5.5	3.4
18. Gave a recital in speech	5,272	86.1	9.3	4.5
19. Had leads in school or church play	5,174	84.0	9.3	6.5
20. Read for a part in a high school play	5,191	84.3	8.3	7.2
21. Exhibited a work of art at school	5,278	85.7	10.3	3.9
22. Won prize or award in art at high school	5,294	96.2	1.6	2.0
23. Edited a school paper or yearbook	5,317	93.5	3.4	2.9
24. Had poems, stories, etc., published in school paper	5,270	83.1	2.1	14.6
25. Wrote independent scientific paper	5,294	94.6	4.1	1.2
26. Participated in NSF summer program	5,293	98.8	.5	.6
27. First, second, or third in regional or state science contest	5,293	98.2	1.0	.6
28. First, second, or third in school science contest	5,288	92.1	6.6	1.2

confident that self-report information can be validly collected. Further, we determined that when there is a discrepancy between student-reported and school-reported grades, it is not clear-cut which is accurate or indeed if both are accurate. We learned that on the average, 78.0% of all students report their grades accurately, and 97.8% agree within one letter grade of what is reported by school officials. (See Table 3.) Davidsen (1963) found the agreement between student-reported and school-reported grades to range between .91 and .93, but we found the correlations range between .81 and .86. Some explanations for the drop in correlations seem plausible. In the last 7 years more widespread use of honors courses is included in high school curriculums. This introduces a dual grading system, and it is possible that some confusion results when students report grades earned in honors courses. Secondly, multiple courses in the various subject-matter fields are now offered, and consequently it is difficult for the student to determine what course grade should be reported. For example, many students report psychology as a science

course, but others do not. This may lead to some confusion when school officials report a science grade as some may interpret psychology as a nonscience course when the student has interpreted it as a science course. Thirdly, when students are asked to report the last grade earned in a course, they may interpret this as the final examination grade or 9-week grade rather than the semester grade. Other explanations which are unique to local school situations may provide an even fuller explanation for accidental discrepancy between student-reported and school-reported grades.

The accuracy with which grades are reported is stable over various income levels. The information in Table A as well as Table J in Appendix A suggests that regardless of family income, about 80% of the students accurately reported their grades. This suggests there is no socioeconomic bias in self-reported information.

Girls tend to report their grades a little more accurately than boys. English grades were reported accurately by 84% of the girls and 79% of the boys, but the correlations were in the range of .79 to .86 for all grades. (See Tables B and H, Appendix A.) It is clear that the correlation between student-reported and school-reported grades does not contain a strong sex bias even though girls report a little more accurately.

Although the sample sizes are too small to be very conclusive, the information in Tables C and G of Appendix A suggests that the same proportion of accurate reporters exists in each race, and the correlations on self-reported grades are about the same as those for sex and income level. We found no evidence to suggest that a bias exists in reporting achievements for a particular racial/ethnic group.

It would seem that those who aspire for more education would want to report higher grades than those who aspire for less education. We found, however, that a greater proportion of students who desire less than a bachelor's degree overreport English grades than do those who desire more than a bachelor's degree. (See Table K, Appendix A.)

We found that the size of the high school graduating class had little effect on the accuracy with which grades were reported. The correlations tended to be in the mid .80s for all class sizes with a very slight tendency for overreporters to come from very small schools. (See Table L, Appendix A.)

This study on the self-report of information, especially high school grades, is all the more impressive when one considers two important factors. College-bound students are already self-selected on high school grades and tend to be the students with higher grades. When one obtains high reliabilities (correlations of student-reported with school-reported grades) on this restricted range of students, one might expect extremely high reliabilities if one were to generalize to the full range of high school students.[5] Secondly, students applying for college admissions may have a motivation to put themselves in a favorable light, and this motivation would not apply to many self-reported situations. ACT sends a score report back to the high school which contains student-reported high school grades and this practice may encourage students to report their grades with care. The fact that students in the admissions situation are reporting grades accurately gives strong support to the validity of self-report information.

The evidence that the nonacademic achievements are being accurately reported by students identifies these achievements as true measures of talent which are independent of academic talent traditionally defined by test scores and high school and college grades. This finding makes future research which relates these nonacademic achievements to later-life achievements for college graduates highly provocative particularly in view of Hoyt's (1968) well-known conclusion that student academic talent is not related to later-life success.

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[5] That this might not be the case is suggested in an unpublished paper by Birnbaum (1971). In his study of high school students representing the full range of school achievement, he found students with low achievement were much more likely to be discrepant reporters than high achievement students (and the latter are more like those we have thought of traditionally as the college-bound).

APPENDIX A

TABLE A

Correlations between School-Reported Grades and Student-Reported Grades by Income Levels

Income	Less than $3,000		$3,000 to $4,999		$5,000 to $7,499		$7,500 to $9,999		$10,000 to $14,999		$15,000 to $19,999		$20,000 to $24,999		$25,000 and Over		Confidential	
	r	*N*	*r*	*N*	*r*	*N*	*r*	*N*	*r*	*N*	*r*	*N*	*r*	*N*	*r*	*N*	*r*	*N*
English	.81	202	.86	641	.86	770	.86	1179	.85	489	.84	231	.84	198	.87	284	.87	1491
Mathematics	.85	180	.84	601	.85	718	.87	1103	.79	442	.88	210	.77	181	.90	257	.87	1344
Social Studies	.84	188	.87	619	.85	727	.85	1149	.81	469	.81	223	.80	194	.85	271	.86	1426
Natural Sciences	.81	174	.80	561	.79	689	.81	1036	.80	418	.80	202	.81	170	.86	237	.82	1270

TABLE B

Correlations between School-Reported Grades and Student-Reported Grades by Sex

	Male		Female	
	r	*N*	*r*	*N*
English	.84	2506	.86	3098
Mathematics	.84	2355	.87	2786
Social Studies	.84	2406	.86	2971
Natural Sciences	.79	2210	.82	2643

TABLE C

Correlations between School-Reported and Student-Reported Grades by Race

	Afro-American		American Indian		Oriental American		Spanish American		Foreign Student		Other	
	r	*N*	*r*	*N*	*r*	*N*	*r*	*N*	*r*	*N*	*r*	*N*
English	.84	138	.83	29	.87	48	.85	67	.93	31	.86	5109
Mathematics	.81	122	.82	22	.90	46	.78	63	.96	30	.86	4685
Social Studies	.81	115	.81	25	.89	47	.83	67	.76	29	.85	4918
Natural Sciences	.74	120	.76	22	.82	40	.57	61	.69	25	.81	4432

TABLE D

Correlations between School-Reported Grades and Student-Reported Grades by Plans for Additional Schooling

	Yes, First Year		Yes, Not First Year		Probably Not	
	r	*N*	*r*	*N*	*r*	*N*
English	.86	2625	.87	600	.84	2352
Mathematics	.87	2466	.84	555	.84	2095
Social Studies	.85	2522	.86	577	.83	2254
Natural Sciences	.81	2343	.80	504	.79	1980

TABLE E

Correlations between School-Reported Grades and Student-Reported Grades by High School Size According to Size of Graduating Class

	Less than 25		25 to 99		100 to 399		Over 400	
	r	*N*	*r*	*N*	*r*	*N*	*r*	*N*
English	.96	11	.86	348	.85	2288	.87	2935
Mathematics	.83	11	.86	327	.85	2094	.86	2689
Social Studies	.90	10	.81	319	.83	2191	.87	2837
Natural Sciences	.76	8	.84	321	.80	1964	.82	2541

TABLE F

Correlations between Self-Reported and School-Reported Grades by Ability Levels

Ability Level	Grades									
	English Grade		*Mathematics Grade*		*Social Studies Grade*		*Natural Sciences Grade*		*Average Grade*	
	r	N	r	N	r	N	r	N	r	N
English Score										
0-15	.82	837	.76	738	.76	793	.69	687	.81	825
16-20	.84	2132	.81	1917	.83	2023	.79	1789	.86	2116
21-25	.84	2151	.88	2018	.85	2087	.81	1921	.89	2168
26-36	.80	484	.89	468	.83	474	.80	456	.90	490
Mathematics Score										
0-15	.84	1018	.72	824	.78	958	.69	791	.80	1003
16-20	.84	1516	.79	1326	.82	1445	.76	1277	.85	1503
21-25	.84	1336	.86	1273	.84	1296	.81	1178	.88	1341
26-36	.87	1734	.87	1718	.87	1678	.83	1607	.92	1752
Social Studies Score										
0-15	.85	996	.78	862	.77	916	.76	793	.84	975
16-20	.83	1163	.80	1045	.80	1111	.76	976	.83	1155
21-25	.84	2041	.86	1888	.85	1973	.80	1779	.89	2049
26-36	.84	1401	.90	1343	.84	1374	.81	1303	.90	1417
Natural Sciences Score										
0-15	.83	776	.72	659	.79	731	.71	593	.81	758
16-20	.86	1536	.82	1368	.81	1462	.78	1267	.86	1533
21-25	.83	1305	.85	1208	.83	1250	.79	1127	.88	1308
26-36	.86	1984	.89	1903	.86	1931	.81	1864	.90	1997
Composite Score										
0-15	.82	720	.70	599	.72	669	.68	561	.77	698
16-20	.85	1662	.79	1465	.81	1573	.77	1367	.85	1653
21-25	.81	1956	.85	1830	.84	1894	.78	1723	.87	1968
26-36	.85	1263	.90	1244	.85	1238	.82	1200	.91	1277

TABLE G

Comparisons of Accurate Reporters, Underreporters, and Overreporters by Racial/Ethnic Response

	Afro-American	American Indian	Oriental American	Spanish American	Foreign Student	Other
	N = 138	*N = 29*	*N = 48*	*N = 67*	*N = 31*	*N = 5109*
Accurate reporters	.78	.79	.81	.75	.90	.82
Under-reporters	.04	.03	.04	.09	.03	.05
Over-reporters	.18	.17	.15	.16	.07	.13

Note.—Membership in reporter groups was determined by self-reported English grades and further divided according to responses to Item 7 of the Student Profile Section of the ACT Test Battery.

TABLE H

Comparisons of Accurate Reporters, Underreporters, and Overreporters by Sex

	Male	Female	
	N = 2617	*N = 3158*	*z Values*
Accurate reporters	.79	.84	−5.05*
Under-reporters	.06	.04	3.22*
Over-reporters	.15	.12	3.55*

Note.—Membership in the reporter groups was determined by self-reported English grades.

*Statistically significant at the .05 level.

TABLE I

Comparisons of Accurate Reporters, Underreporters, and Overreporters by Percentile Class Rank

	Group 1 Below 30th %ile *N = 561*	Group 2 30th to 70th %ile *N = 2044*	Group 3 Above 70th %ile *N = 2999*	Comparison of Group 1 with Group 2 *z Values*	Comparison of Group 2 with Group 3 *z Values*	Comparison of Group 1 with Group 3 *z Values*
Accurate reporters	.72	.78	.85	−3.22*	−8.02*	−6.69
Under-reporters	.06	.06	.05	.27	1.29	1.57
Over-reporters	.22	.16	.10	3.43*	8.43*	6.67*

Note.—Membership in the reporter groups was determined by self-reported English grades.
*Statistically significant at the .05 level.

TABLE J

Comparisons of Accurate Reporters, Underreporters, and Overreporters by Parents' Annual Income Level

	Group 1 Below $7,500 *N = 962*	Group 2 $7,500 to $14,999 *N = 1969*	Group 3 $15,000 and up *N = 918*	Comparison of Group 1 with Group 2 *z Values*	Comparison of Group 2 with Group 3 *z Values*	Comparison of Group 1 with Group 3 *z Values*
Accurate reporters	.80	.81	.81	−.77	.13	−.55
Under-reporters	.05	.05	.05	−.11	.22	.10
Over-reporters	.15	.13	.14	.96	−.29	.56

Note.—Membership in the reporter groups was determined by self-reported English grades.

TABLE K

Comparisons of Accurate Reporters, Underreporters, and Overreporters by Students' Level of Aspiration

	Group 1 Below Bachelor's Degree *N = 691*	Group 2 Bachelor's Degree *N = 2420*	Group 3 Beyond Bachelor's Degree *N = 2224*	Comparison of Group 1 with Group 2 *z Values*	Comparison of Group 2 with Group 3 *z Values*	Comparison of Group 1 with Group 3 *z Values*
Accurate reporters	.77	.81	.83	−2.86*	−1.42	−3.84*
Under-reporters	.06	.05	.05	1.01	.61	1.43
Over-reporters	.17	.13	.12	2.60*	1.23	3.46*

Note.—Membership in the reporter groups was determined by self-reported English grades.

*Statistically significant at the .05 level.

TABLE L

Comparisons of Accurate Reporters, Underreporters, and Overreporters by Class Size

	Group 1 Less than 100 *N =359*	Group 2 100 to 399 *N = 2288*	Group 3 400 and Over *N = 2935*	Comparison of Group 1 with Group 2 *z Values*	Comparison of Group 2 with Group 3 *z Values*	Comparison of Group 1 with Group 3 *z Values*
Accurate reporters	.79	.80	.83	− .62	−2.22*	−1.77
Under-reporters	.04	.05	.06	− .80	−.48	−1.03
Over-reporters	.17	.15	.12	1.13	2.86*	2.70*

Note.—Membership in the reporter groups was determined by self-reported English grades.

*Statistically significant at the .05 level.

TABLE M

Percentage Agreement between Student-Reported and School-Reported Nonacademic Achievement Items by Sex

Item	Males		Females	
	N	*Percentage Agreement*	*N*	*Percentage Agreement*
1. Earned a varsity letter	2212	88.8	2773	94.5
2. Captain of a varsity team	2273	93.7	2786	96.5
3. Set athletic record at a state meet	2278	94.2	2817	97.7
4. Named to an all-state team	2359	97.7	2869	99.5
5. Appointed to a student office	1918	79.1	2191	74.8
6. Actively campaigned to elect another student	1706	70.5	1937	67.7
7. Organized a school political group or campaign	2126	88.3	2584	90.7
8. Tried to change institutional rules, procedures, policies	1810	75.4	2038	71.4
9. Elected to student office(s)	1990	82.5	2281	78.3
10. Received award or recognition for leadership	1831	75.4	2151	74.0
11. Played in school musical organization	2052	86.0	2414	82.9
12. Gave a public recital (music)	1950	82.4	2033	71.6
13. Played a musical instrument	1763	73.8	2044	70.9
14. "Superior" rating in state music contest	2202	93.0	2630	91.9
15. Participated in a state music contest	2164	90.9	2573	89.3
16. Placed first, second, or third in regional or state speech	2343	97.1	2774	95.9
17. Entered a school speech or debate contest	2220	91.7	2587	90.5
18. Gave a recital in speech	2057	85.3	2484	86.9
19. Had leads in school or church play	2015	86.2	2336	82.4
20. Read for a part in a high school play	2063	88.1	2318	81.4
21. Exhibited a work of art at school	2076	86.2	2448	85.4
22. Won prize or award in art at high school	2316	96.4	2781	96.3
23. Edited a school paper or yearbook	2298	95.4	2678	92.1
24. Had poems, stories, etc., published in school paper	2087	86.7	2296	80.3
25. Wrote independent scientific paper	2234	93.0	2777	96.1
26. Participated in NSF summer program	2368	98.6	2862	99.0
27. First, second, or third in regional or state science contest	2343	97.6	2858	98.9
28. First, second, or third in school science contest	2182	91.0	2688	93.1

TABLE N

Percentage Agreement between Student-Reported and School-Reported Nonacademic Achievement Items by Income Levels

Item	Below $7,499 Income		$7,500–$14,999 Income		$15,000 Plus Income	
	N	*Percentage Agreement*	*N*	*Percentage Agreement*	*N*	*Percentage Agreement*
1. Earned a varsity letter	856	91.2	1731	91.3	821	91.7
2. Captain of a varsity team	866	94.7	1774	95.6	831	93.9
3. Set athletic record at a state meet	880	96.5	1771	95.5	852	96.5
4. Named to an all-state team	897	98.3	1822	98.6	867	98.3
5. Appointed to a student office	716	78.0	1430	76.5	672	75.6
6. Actively campaigned to elect another student	640	70.5	1271	68.7	563	64.2
7. Organized a school political group or campaign	817	90.2	1616	88.0	779	89.2
8. Tried to change institutional rules, procedures, policies	682	75.4	1316	71.6	611	69.8
9. Elected to student office(s)	734	80.7	1483	80.3	708	78.9
10. Received award or recognition for leadership	687	74.8	1374	73.9	667	75.4
11. Played in school musical organization	784	85.7	1578	85.8	742	84.5
12. Gave a public recital (music)	717	79.5	1406	77.5	641	75.0
13. Played a musical instrument	678	74.4	1363	74.0	609	70.0
14. "Superior" rating in state music contest	857	94.5	1666	91.3	793	92.3
15. Participated in a state music contest	832	91.5	1651	89.8	771	89.4
16. Placed first, second, or third in regional or state speech	876	95.8	1777	96.2	859	97.0
17. Entered a school speech or debate contest	836	91.7	1686	91.4	786	89.4
18. Gave a recital in speech	770	84.9	1617	87.9	731	83.4
19. Had leads in school or church play	741	82.5	1527	84.9	710	83.9
20. Read for a part in a high school play	774	86.0	1538	85.3	711	83.6
21. Exhibited a work of art at school	782	85.9	1587	86.3	747	85.5
22. Won prize or award in art at high school	878	96.1	1779	96.7	848	96.3
23. Edited a school paper or yearbook	853	93.4	1727	93.4	826	93.5
24. Had poems, stories, etc., published in school paper	764	83.8	1509	81.9	741	84.7
25. Wrote independent scientific paper	867	95.1	1735	94.3	826	93.7
26. Participated in NSF summer program	896	98.4	1825	99.1	872	98.9
27. First, second, or third in regional or state science contest	893	98.2	1811	98.3	860	97.7
28. First, second, or third in school science contest	834	91.7	1690	91.8	815	92.5

TABLE O

Percentage Agreement between Student-Reported and School-Reported Nonacademic Achievement Items by Class Rank

Item	Below 30th Percentile		30th–70th Percentile		Above 70th Percentile	
	N	*Percentage Agreement*	*N*	*Percentage Agreement*	*N*	*Percentage Agreement*
1. Earned a varsity letter	467	89.0	1720	91.8	2406	92.7
2. Captain of a varsity team	496	95.4	1740	94.9	2424	95.7
3. Set athletic record at a state meet	492	95.2	1761	96.0	2437	96.6
4. Named to an all-state team	507	98.3	1813	98.9	2485	98.6
5. Appointed to a student office	412	79.3	1457	78.5	1912	75.0
6. Actively campaigned to elect another student	363	70.3	1250	68.3	1747	69.7
7. Organized a school political group or campaign	479	93.1	1649	90.4	2189	87.9
8. Tried to change institutional rules, procedures, policies	391	76.3	1339	73.5	1805	72.3
9. Elected to student office(s)	433	84.5	1527	82.2	1979	78.2
10. Received award or recognition for leadership	429	83.2	1448	78.1	1784	70.3
11. Played in school musical organization	443	85.1	1528	82.5	2163	85.3
12. Gave a public recital (music)	411	79.7	1378	75.9	1888	76.1
13. Played a musical instrument	346	67.2	1304	71.1	1869	73.8
14. "Superior" rating in state music contest	486	94.4	1719	94.0	2275	91.2
15. Participated in a state music contest	478	91.8	1673	90.8	2231	89.1
16. Placed first, second, or third in regional or state speech	513	98.7	1810	97.9	2383	94.9
17. Entered a school speech or debate contest	484	93.8	1691	92.3	2251	89.9
18. Gave a recital in speech	459	89.2	1568	85.6	2161	86.5
19. Had leads in school or church play	414	83.0	1556	85.8	2080	84.1
20. Read for a part in a high school play	436	87.1	1536	84.5	2106	84.8
21. Exhibited a work of art at school	416	80.7	1524	83.4	2208	88.2
22. Won prize or award in art at high school	503	96.8	1768	95.9	2411	96.4
23. Edited a school paper or yearbook	504	97.3	1771	95.8	2308	91.6
24. Had poems, stories, etc., published in school paper	473	91.7	1623	88.9	1951	78.1
25. Wrote independent scientific paper	509	97.9	1765	95.6	2326	93.1
26. Participated in NSF summer program	517	99.7	1834	99.3	2456	98.3
27. First, second, or third in regional or state science contest	515	99.3	1812	98.2	2452	98.1
28. First, second, or third in school science contest	485	93.7	1720	93.1	2266	90.8

APPENDIX B

HIGH SCHOOL RECORD CHECK LIST

High School: _____

Student Name: _____
LAST FIRST MIDDLE INITIAL

Social Security Number: _____ _____ _____ Sex: _____ MALE _____ FEMALE

DIRECTIONS: Please check the appropriate answer with an "X"

Size of high school graduating class:

Fewer than 25_____ 25–99_____ 100–399_____ 400 or more_____

High school rank at end of junior year: _____ of _____

The following items deal with high school accomplishments. If the student above participated in the activity, please write a "1" in the blank. If he did not participate in the activity, place a "2" in the blank.

Earned a varsity letter in one or more sports in high school . . . . . _____

Appointed or elected captain of a varsity team in high school . . . . . _____

Set school or league record in an athletic event or placed in an athletic competition at state meet . . . . . _____

Named to all state team . . . . . _____

Appointed to a student office . . . . . _____

Actively campaigned to elect another student to a school office . . . . . _____

Organized a school political group or campaign . . . . . _____

Participated in a student movement to change institutional rules, procedures or policies . . . . . _____

Was elected to one or more student offices . . . . . _____

Received an award or special recognition for leadership (of any kind) . . . . . _____

Played in a school musical organization . . . . . _____

Gave a public recital (music) . . . . . _____

Played a musical instrument . . . . . _____

Received a rating of "superior" in a state music contest . . . _____

Participated in a state music contest . . . . . _____

Placed first, second, or third in a regional or state speech or debate contest . . . . . _____

Entered a school speech or debate contest . . . . . _____

Gave a recital in speech . . . . . _____

Had leads in high school or church sponsored plays . . . . . _____

Read for a part in a high school play . . . . . _____

Exhibited a work of art at school . . . . . _____

Won a prize or award in art competition at high school . . . _____

Edited a school paper or yearbook . . . . . _____

Had poems, stories, essays, or articles published in a school publication . . . . . _____

Wrote an independent paper on a scientific topic which received the highest possible mark in the school . . . . . _____

Participated in a National Science Foundation summer program for high school students . . . . . _____

Placed first, second, or third in a regional or state science contest . . . . . _____

Placed first, second, or third in a school science contest . . . _____

Grades from high school transcript:

Use the last grades in each subject area before the senior year.

	A	B	C	D	F	None
English	____	____	____	____	____	____
Math	____	____	____	____	____	____
Social Science	____	____	____	____	____	____
Natural Science	____	____	____	____	____	____

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