

DECEMBER 2017

Citrus College piloted multiple measures assessment with a group of students from feeder high schools in spring 2017. During the pilot phase, the multiple measures strike team discussed the possibility of scaling up the pilot study and using self-reported grade point average (GPA) to place students, as many of the peers colleges are already doing. In October 2017, Governor Brown signed Assembly Bill 705, which requires colleges to use multiple measures such as high school coursework and GPA to maximize success and throughput of transfer level math and English courses. While the official high school transcript is desirable, it is difficult to obtain, especially for out-of-district students. Given the limited availability of official high school transcripts, the college has to rely on self-reported information for assessment. Thus, it is necessary to examine the accuracy of self-reported GPA, which is essential to appropriate placement of students.

Literature Review

Three studies on the accuracy of self-reported GPA have been reviewed. A national study by Shaw and Mattern (2009) and the College Board suggested that there is a strong correlation between self-reported and school-reported high school GPA ($r=0.74$). Another study by the ACT (2013) also suggested a strong correlation ($r=0.84$) between the two. Preliminary analysis from a recent study by the Research and Planning Group for California Community Colleges (RP Group) revealed similar finding ($r=0.75$). In addition, all three studies found that students with higher GPA are more likely to report accurately. The studies, however, have contrary findings in terms of tendency of over-reporting. While the College Board study and the RP Group study both found that students tend to under-report their GPA slightly, the ACT study found a tendency of slight over-reporting.

When interpreting the results from prior research, it is important to note that the three studies utilized different methods to collect and report high school GPA. In the College Board study, self-reported GPA was obtained through the SAT questionnaire that asked the student to report the GPA range instead of the numeric value. In the ACT study, self-reported GPA was calculated from the core subject area course grades that students reported when they took the ACT test. Table 1 offers a comparison of methods and results.

Table 1

| | College Board Study | ACT Study | RP Group Study |
|---------------------|--|--|----------------|
| Sample Size | 40,301 | 1,980 | 12,048 |
| Self-reported GPA | "Self-reported HSGPAs were obtained from the SAT-Q completed by students during SAT registration. The self-reported HSGPA is on a 12-point scale ranging from A+ (97-100) to E or F (below 65)." | Calculated from student-reported core subject area course grades | n/a |
| School-reported GPA | "Students' school-reported HSGPA were based on high school transcript information in their admission records and were provided by the colleges and universities they chose to attend" | "As part of an ongoing longitudinal study, HSGPA and other data were collected from multiple school districts" | n/a |
| Correlation | 0.74 | 0.84 | 0.75 |

After reviewing the three studies, the IRPE office at Citrus conducted its own study to look at the relationship between self-reported and school-reported GPA, attempting to answer the question whether self-reported GPA is accurate for students who participated in the multiple measures pilot study.

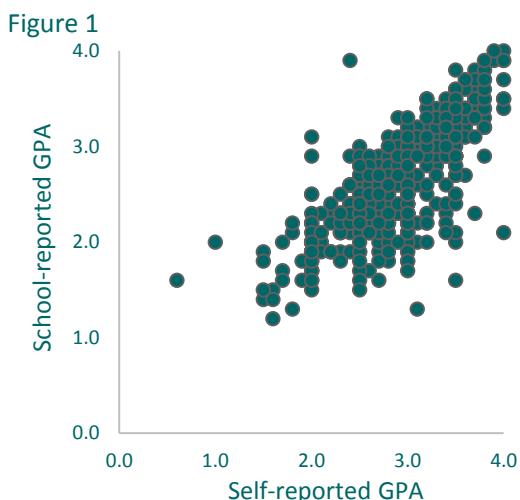
Methods

A total of 654 students participated in Early Decision and the multiple measures pilot study. Fourteen of them were excluded from the current study due to missing self-reported or school-reported GPA. Of the remaining 630 students, 466 enrolled in fall 17 and 164 did not enroll. Self-reported GPAs were obtained through the online application Open CCCApply¹. School-reported GPAs were from the official high school transcripts. The official transcripts report cumulative GPAs with as many as four decimal places and reflect portions of the 12th grade coursework. For the purpose of multiple measures, the 12th grade coursework was subtracted from the cumulative GPA and only one decimal place (without rounding) was used to place students. Therefore, the GPA used in this study reflect coursework as of completion of 11th grade.

Results

Descriptive statistics and correlations between self- and school-reported GPAs were computed and summarized in table 2. The average self-reported GPA is 2.877 and the average school-reported GPA is 2.642. The mean difference is 0.235, which indicates that students slightly over-reported their GPA. The correlation between self- and school-reported GPA is 0.747 (table 3 and figure 1).

| Table 2 | N | Min. | Max. | Mean |
|---------------------|-----|------|------|-------|
| Self-reported GPA | 630 | .6 | 4.0 | 2.877 |
| School-reported GPA | 630 | 1.2 | 4.0 | 2.642 |



| Table 3 | Self-reported GPA | School-reported GPA |
|---------------------|---------------------|---------------------|
| Self-reported GPA | Pearson Correlation | 1 |
| GPA | Sig. (2-tailed) | .747** |
| | N | 630 |
| School-reported GPA | Pearson Correlation | .000 |
| | Sig. (2-tailed) | 1 |
| | N | 630 |

**. Correlation is significant at the 0.01 level (2-tailed).

¹ The question/instruction on the application is "What was your unweighted high school GPA (grade point average)? Please enter a value between 0.00 and 4.00. If you're still in high school, enter your cumulative unweighted GPA as of the end of 11th grade." The application has a validation process to make sure students enter a value that is within the range.

Next, we examined the accuracy of self-reported GPA by range. The results show that the gap between self-reported and school-reported GPA narrows as the school-reported GPA increases (table 4). At the lowest range (0.0-1.4), the mean difference between self-reported and school-reported GPA is 0.6. At the highest range (3.5-4.0), the mean difference becomes zero. The accuracy of self-reported GPA also improves as GPA increases. Among students with a GPA of 0.0 to 1.4, 40% reported a GPA within plus or minus 0.25 of the actual GPA. This percentage increases to 79% for students with a GPA between 3.5 and 4.0. In addition, the overall mean difference of 0.235 suggests that students over-report their GPA by approximately half a grade (e.g., B- vs. B).

| | | Count | Self-reported GPA Mean | School-reported GPA Mean | Mean diff. | % within +/-0.25 |
|------------------------------|---------|-------|---------------------------|-----------------------------|------------|---------------------|
| School-reported GPA range | 0.0-1.4 | 5 | 1.9 | 1.3 | 0.6 | 40% |
| | 1.5-1.9 | 53 | 2.2 | 1.8 | 0.4 | 34% |
| | 2.0-2.4 | 180 | 2.6 | 2.2 | 0.4 | 38% |
| | 2.5-2.9 | 216 | 2.9 | 2.7 | 0.2 | 64% |
| | 3.0-3.4 | 138 | 3.3 | 3.2 | 0.1 | 74% |
| | 3.5-4.0 | 38 | 3.7 | 3.7 | 0.0 | 79% |
| Total | | 630 | 2.877 | 2.642 | 0.235 | 58% |

Discussion & Limitation

The finding is consistent with previous research that there is a strong correlation between self- and school-reported GPA for students in the multiple measures pilot group. It provides evidence to support the use of self-reported GPA in placement. Although students tend to over-report their GPA, they over-reported only by half a grade, which would not change their placement significantly.

Finally, it is important to note the limitations of this study. First, the two types of GPA in comparison may not reflect coursework in the same period. The school-reported GPA reflects the completion of 11th grade, but the self-reported GPA reflects the GPA when students submitted their applications in 12th grade. Secondly, the various types of high school GPA (e.g., academic GPA, total GPA, weighted GPA, and unweighted GPA) may cause confusion in reporting GPA. Future research should try to compare GPAs that reflect the same period of time and find ways to encourage students to report GPA even more accurately.

References with links

Shaw, E.J. & Mattern K. (2009). Examining the Accuracy of Self-Reported High School Grade Point Average. *College Board Research Report No. 2009-5* ([link](#))

Accuracy of Student-Reported High School GPA. *ACT Information Brief*, April 2013 ([link](#))

Sorey K. & Hetts J. Maximizing High School Transcript Information for MMAP. October 6th, 2017 ([link](#))