

## Center for the Study of Higher and Postsecondary Education

### How Well Do Contextualized Admissions Measures Predict College Success for Underrepresented Groups?

Contextualized measures of high school performance are strongly associated with college success for low-income students, students of color, and women, supporting their use in holistic review for these traditionally underrepresented groups..

For many, education can be a tool of economic mobility— yet severe disparities exist among demographic and socioeconomic (SES) groups in the United States. High-SES students are more likely to earn higher incomes at age 25; however, low-SES students with comparatively similar academic profiles have lower chances of earning a high income at the same age. In addition, students from low-SES backgrounds are less likely to attend schools with an array of resources, such as more experienced teachers and more Advanced Placement courses. Further, they remain underrepresented at more selective institutions with the potential to improve their socioeconomic status. This trend of underrepresentation holds true for women and students of color.

Multiple efforts have been made to increase low-SES student representation at selective institutions, ranging from the introduction of no-loan programs and institutional grants to improving financial aid information to students. However, studies have observed mixed results or little effect on low-SES student enrollment patterns. Instead, researchers have begun to focus on the role holistic review admissions practices play in increasing equity in college enrollment.

Holistic application review benefits from examining an applicant's educational and environmental context, especially as educational opportunity is tied to housing and financing practices. Years of housing discrimination against families of color have shut them out from homeownership opportunities, leading to communities living in segregated neighborhoods. In turn, this has led to segregated schools and school districts that pool low-SES and minoritized students in underresourced schools.

These disparities in housing and educational opportunities have implications for college admissions. Gaps in high school achievement exist among socioeconomic and racial groups, with high-SES, Asian, and White students exhibiting the highest GPAs and standardized test scores. Women are not as affected by differences in educational opportunities; their grades outperform their male counterparts in all subjects, and they have higher ACT verbal scores, but they have somewhat lower math ACT scores.

Overall, research has shown high school GPA as the best performance indicator of college success. However, using only raw measures of high school performance may be unreliable in predicting student college performance for women and underrepresented students without considering students' high school and family context. Our study builds upon existing research by examining whether the relationships between indicators of high school performance and college success differ for women, Pell recipients, and minoritized students of color.

#### The Study

We obtained our data from a medium-sized Midwestern state's Department of Education (DOE) database. The aggregation of our data includes three distinct sources: (1) all public high schools within the state, (2) the state's ACT test database, and (3) the state's 15 public universities. Therefore, our dataset is unique because it includes a statewide collection of college transcript, retention, and graduation data matched with an individual's high school academic achievement and the academic achievement of their high school peers over time. We chose this state because the state mandated the ACT for all high school juniors from 2010 to 2015 and because the DOE recorded high school transcript data for all public high school students. In total, our dataset comprises over 2.3 million high school students.

The final version of our dataset includes a student's courses, grades, credits, major, enrollment status, and a variety of key demographic information, including Pell recipient status (used as a proxy for socioeconomic status), sex, and race/ethnicity. The sample consisted of only high schools and students where we had the first three years of consecutive data, to reflect the GPA most admissions counselors would see when reviewing college applications. We restricted our sample to in-state public university students, which accounted for 75% of college students in the state. The remaining 25% of students did not affect the demographic makeup of the sample.

We used first-year college GPA, first-year retention rates, and four-year graduation rates to evaluate college

## HIGHLIGHTS

- Compared to other measures of high school performance (i.e., ACT scores), both raw and contextualized high school GPA had the strongest, most consistent relationship with first-year college GPA, first-year college retention, and graduation within four years. This was true for women, Pell recipients, and students of color.
- All variables of students' high school performance are more strongly associated with college persistence as students progressed through their college careers, and contextualized high school performance is more strongly associated with four-year graduation than first-year retention.
- For Pell recipients, taking a more rigorous high school curriculum is positively associated with first-year college GPA, although not as strongly as high school GPA or ACT scores.

“Raw and contextualized high school GPA have the strongest association with college success for Pell recipients, women, and minoritized students compared to other raw and contextualized measures of high school performance. These results support using holistic review to diversify institutions, particularly in a future where affirmative action may be banned nationwide.”

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success outcomes. First-year GPA is the grade point average of a student measured before they begin the fall semester of their second year, while first-year retention indicates whether a student was enrolled during the fall semester of their second year.

To measure high school performance, we used high school GPA, ACT Composite scores, and curriculum (course selection and rigor). For each of these raw performance metrics (GPA, ACT, curriculum), we created a contextualized score using a formula that accounts for how far a student's scores are from the average score of peers at their high school. Contextualized measures were also created for math, science, and English course selection measures, respectively: these measures show how far (in standard deviations) a student progressed in math, science, and English offered by their high school.

### Results

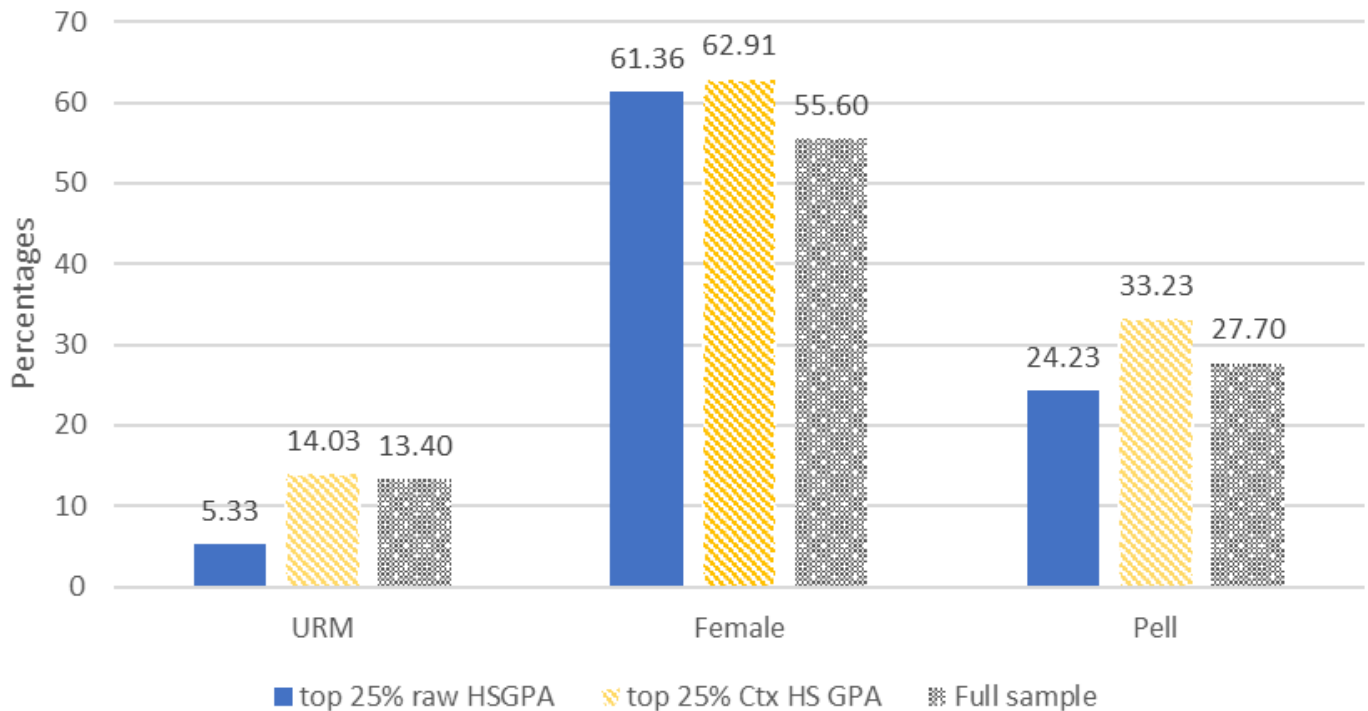
Our results show that raw and contextualized high school GPA are most associated with college success for Pell recipients, underrepresented minorities, and women.

For Pell recipients, we observed that both raw and contextualized high school GPA and ACT scores are significantly associated with first-year college GPA. We also find that whether a student graduates from college in four years has a stronger relationship with high school GPA-related variables than ACT-related variables. With each 0.1 point increase in raw high school GPA, Pell recipients were 14.7% more likely to graduate from college within four years. Students with high school GPAs that are one standard deviation above their high school's median GPA have 1.4 times higher odds of graduating within four years.

Both raw and contextualized high school GPA for underrepresented students of color consistently show a significant association with first-year college GPA across the majority of institutions in our sample. However, raw and contextualized ACT scores show more mixed results. For underrepresented students of color, curriculum rigor did not have as strong of an association with first-year college GPA as our other variables of interest. This finding runs contrary to prior research about the benefits of selecting students who push themselves to take the most academically challenging courses available in their high school context, and is worthy of further investigation.

Our findings for women mostly align with those for Pell recipients and underrepresented students of color, with measures related to high school GPA displaying the strongest relationship with college performance. Compared to ACT measures, raw and contextualized high school GPA have a stronger association with a woman's odds of graduation. On average, a 0.1-point increase in raw high school GPA is associated with a 19.4% higher odds of graduating within four years. If a woman's high school GPA is one standard deviation above her own high school's median GPA, the student's odds of four-year graduation are 2.2 times higher.

**Figure:**  
**Top Quartile of High School GPAs using Raw and Contextualized Measures by Demographic Group**



A higher percentage of URMs, women, and Pell recipients comprise the top quartile of students in our analysis when contextualized high school GPA is used, in comparison to raw high school GPA or the entire sample.

### ***Policy and Practice Implications***

This study emphasizes various strategies that individual admissions offices and the wider field can incorporate into their holistic practices to increase student diversity.

#### **Contextualized measures can help admissions officers diversify their institutions**

Our findings suggest that using contextualized measures of high school performance in admissions decisions alongside raw measures has added value for institutions seeking to admit a diverse pool of students who have the potential to succeed at their institution. These student subgroups may be disadvantaged if evaluated out of context, particularly when faced with systematic, differential access to high-quality educational opportunities. These measures can reflect important comparable information that is absent in raw measures, missing the opportunity to recruit and admit talented students.

#### **Contextualized measures can help broader-access institutions identify students with strong potential**

Although broader-access institutions are less likely to adopt holistic review, our findings suggest that contextualized measures of high school performance may be useful in selecting students with the potential to succeed despite lower-than-average raw grades or scores. These findings hold true for our subsamples of women, Pell recipients, and underrepresented students of color.

#### **Contextualized measures may be useful in the wake of affirmative action bans**

In light of the looming Supreme Court decisions on the use of affirmative action in college admissions, further utilization of contextualized measures may be valuable in helping institutions recruit and admit a diverse range of students within emerging legal frameworks. Our findings suggest that using contextualized measures of high school performance—as opposed to merely raw measures—will help admissions officers identify traditionally underrepresented students who have the academic potential to succeed in college upon admission.

## AUTHORS

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## CSHPE POLICY BRIEF NO.5

**Bo-Kyung Byun** is a doctoral student in the Center for the Study of Higher and Postsecondary Education. Her research interests revolve around issues of access and equity in college admissions, with a particular focus on holistic admissions practices—both in the U.S. and Korean context.

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