




An Analysis of KSDE and KBOR Data

# COLLEGE SUCCESS IN METRO KANSAS CITY, KANSAS

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# What Conditions Foster College Success?

- Extensive research points to secondary school academic performance as key
  - Enrolling in four year colleges appears to offer benefits as well
  - SES is also a factor, especially with respect to the cost of post-secondary education
  - Race & ethnicity are also factors, as is gender, especially with respect to certain majors
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# Data & Groupings


- Sample of KBOR students starting in 2010, linked to KSDE data, in 3 County Metro Area
  - Data linkage yielded sample of about 1700 individuals, most graduating HS in 2010
  - Revealed two groups of college-students, distinguished by presence of HS GPA in data
  - Analysis focused on those with GPA data, appears to be more “serious” group
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# KBOR/KSDE data linkage

- KBOR students starting in 2010: 6,667 (A)
  - (A) linked to KSDE student records: 1,735 "full" records (B)
  - Most in (B) graduated HS in 2010
  - (B) filtered for non-missing data for key measures: 729 (C)
  - (C) is distinguished by presence of HS GPA in data.
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graph TD; A["KBOR students starting in 2010: 6,667 (A)"] --> B["(A) linked to KSDE student records: 1,735 'full' records (B)"]; B --> C["(B) filtered for non-missing data for key measures: 729 (C)"];
```




# Sample Parameters

- 729 Individuals with linked data in final analysis, representing all districts in region
  - These are “serious” students, average 94 total quality points, not counting summers
  - Their characteristics similar to unlinked individuals in KBOR data set
  - Students without HS GPA data have 6 total quality points on average, lower ACT scores
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# Key Variables

- HS GPA—major determinant of success in lit
  - Composite GPA—most frequently used test
  - Pell Grant—how many semesters in receipt
  - Four Year College—started (or not) in 2010
  - Free and Reduced Lunch—percent of HS
  - Pupils per Teacher—average across schools
  - Black or Hispanic racial/ethnic identifier
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# Regression: Full Model

(linked Data)  $r^2 = .421$

| Variables             | Raw Coeff. | Standard Error | Beta Coeff. | t      | Significance Level |
|-----------------------|------------|----------------|-------------|--------|--------------------|
| High School GPA       | 68.321     | 5.746          | .394        | 11.891 | .000               |
| ACT Composite         | 1.729      | .711           | .085        | 2.432  | .015               |
| Average Pell Grant    | -69.522    | 18.497         | -.112       | -3.759 | .000               |
| Four Year College '10 | 92.593     | 6.460          | .407        | 14.334 | .000               |
| Pupil Teacher Ratio   | 5.303      | 1.501          | .104        | 3.533  | .000               |
| Free & Reduced Lunch  | -20.726    | 19.522         | -.039       | -1.062 | .289               |
| Black                 | -5.724     | 11.418         | -.017       | -.501  | .616               |
| Hispanic              | -28.429    | 14.604         | -.061       | -1.947 | .052               |

# Big Lessons? Study hard in HS; Start at a Four Year College!

- As in the national literature, HS GPA is a big factor in the success of students in college
- Test scores are a less potent predictor, especially when SES factors are controlled
- Starting at a 4 year college exhibits big effect, and not just because of longer study period
- Effects of other factors are muted, except for *significant negative* sign on Hispanic variable