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General Education Outcomes by Instructional Location Using the Kansas State Longitudinal Database



WICHITA STATE
UNIVERSITY

Background and Funding

- RFP from Kansas Board of Regents (KBOR) and Kansas State Department of Education (KDHE) June 2012
- All projects were to use one of two longitudinal databases: PK-12 or the Postsecondary Database
- Goals related to extending data usage as well as providing more information for policy makers
- 10 broad topic areas related educational outcomes were specified

Area of study selected for this project

- Focus: Outcomes for college-level general education courses as these might relate to “location” of instruction.
- Confined study to data available in the postsecondary data base (KSPSD).
- Data available from all public post secondary schools in the state including 7 universities and 19 community colleges

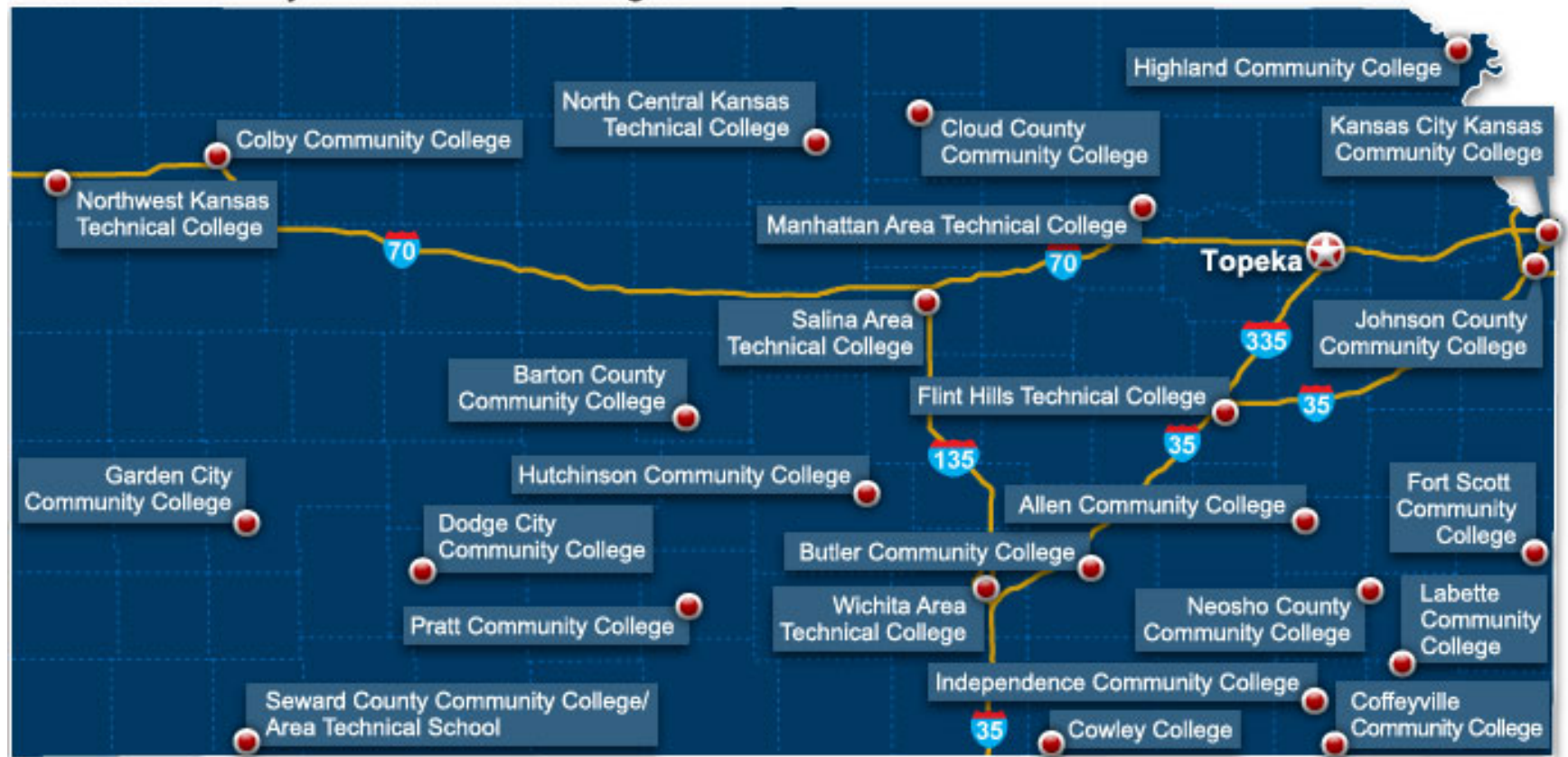
Kansas Public Universities

Public Universities



Kansas Community & Technical Colleges

Public Community and Technical Colleges



General Education Courses

- 17 general education courses have been designated for “automatic transfer” among all public postsecondary schools
- This project reports results of our review of outcomes for 2 of these courses i.e. algebra, English 101.

Kansas Postsecondary Data Base (KSPSD)

- Beginning with demographic, enrollment information, majors, and completions in 2004, information from every student enrolled during an academic year has been collected and stored centrally. .
- Detailed course information was added in 2008.
- Course outcomes are pass/not pass for 2008 to 2011.

Research questions: Part I

- Describe pass rates for algebra using available demographic, enrollment and readiness information for community colleges and universities.
- Describe pass rates for selected English 101 using available demographic, enrollment and readiness information for community colleges and universities

Methods

- Extracted individual level data from 2008 to 2012 for the 19 Kansas public community colleges and seven universities from KSPSD
- Undergraduate domestic students enrolled in 6 hours or more were included.
- Students were tracked with centrally prepared ID
- The first enrollment within the state system and the years available for this study.
- Outcome was pass versus not pass.
- Withdrawal considered as not passed.

Covariates available for Analysis of General Education Courses

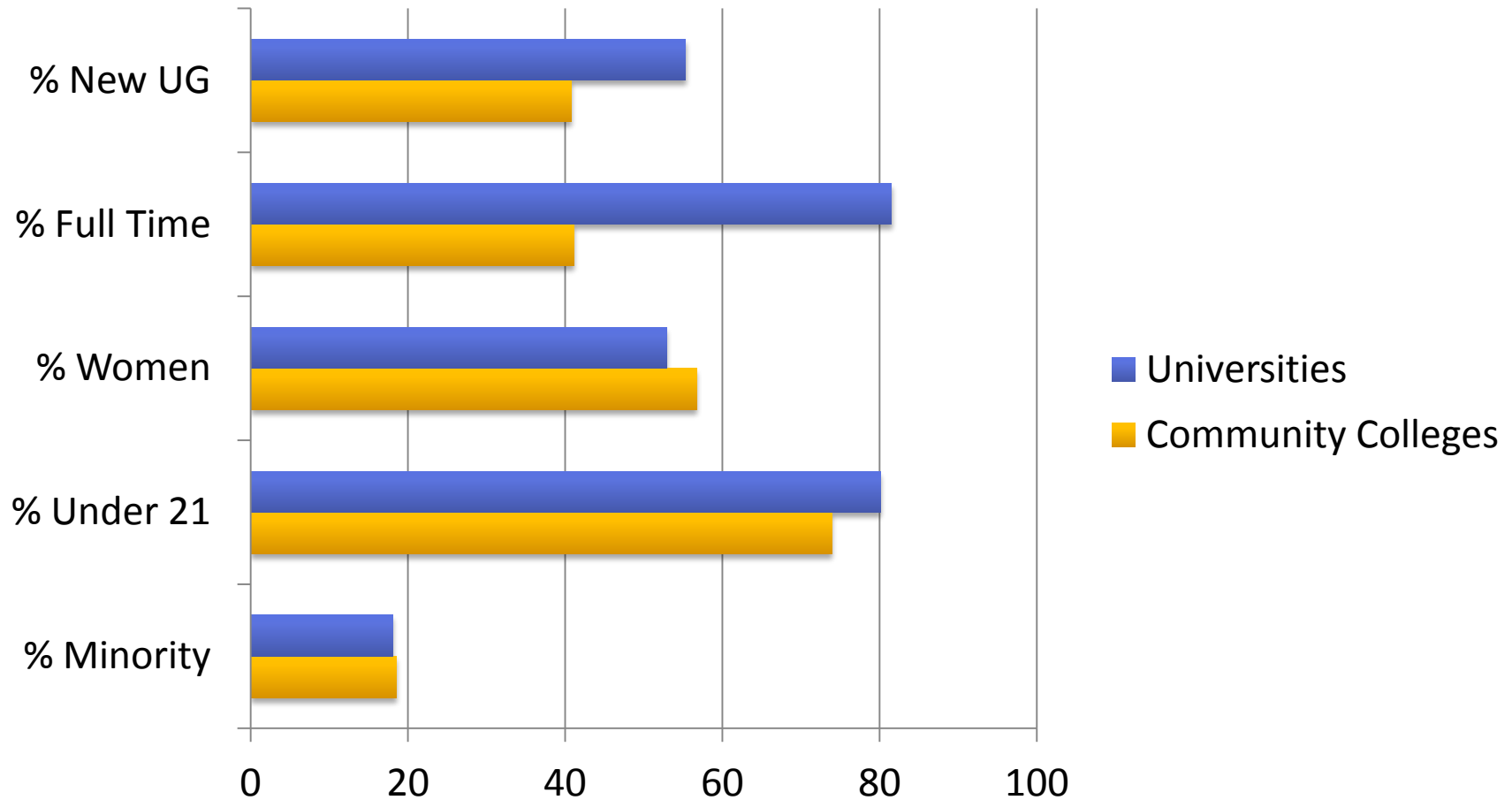
- Demographic
 - Age: Under 21 or 21 and older
 - Gender
 - Race/ethnicity: minority or “White”
- Enrollment status:
 - New undergraduates: students taking their first course as a postsecondary student
 - Full or part time enrollment (12hours = full time)
- Academic
 - ACT Composite Score: present or absent and the score
 - Evaluation for need for remediation – Algebra only

Methods

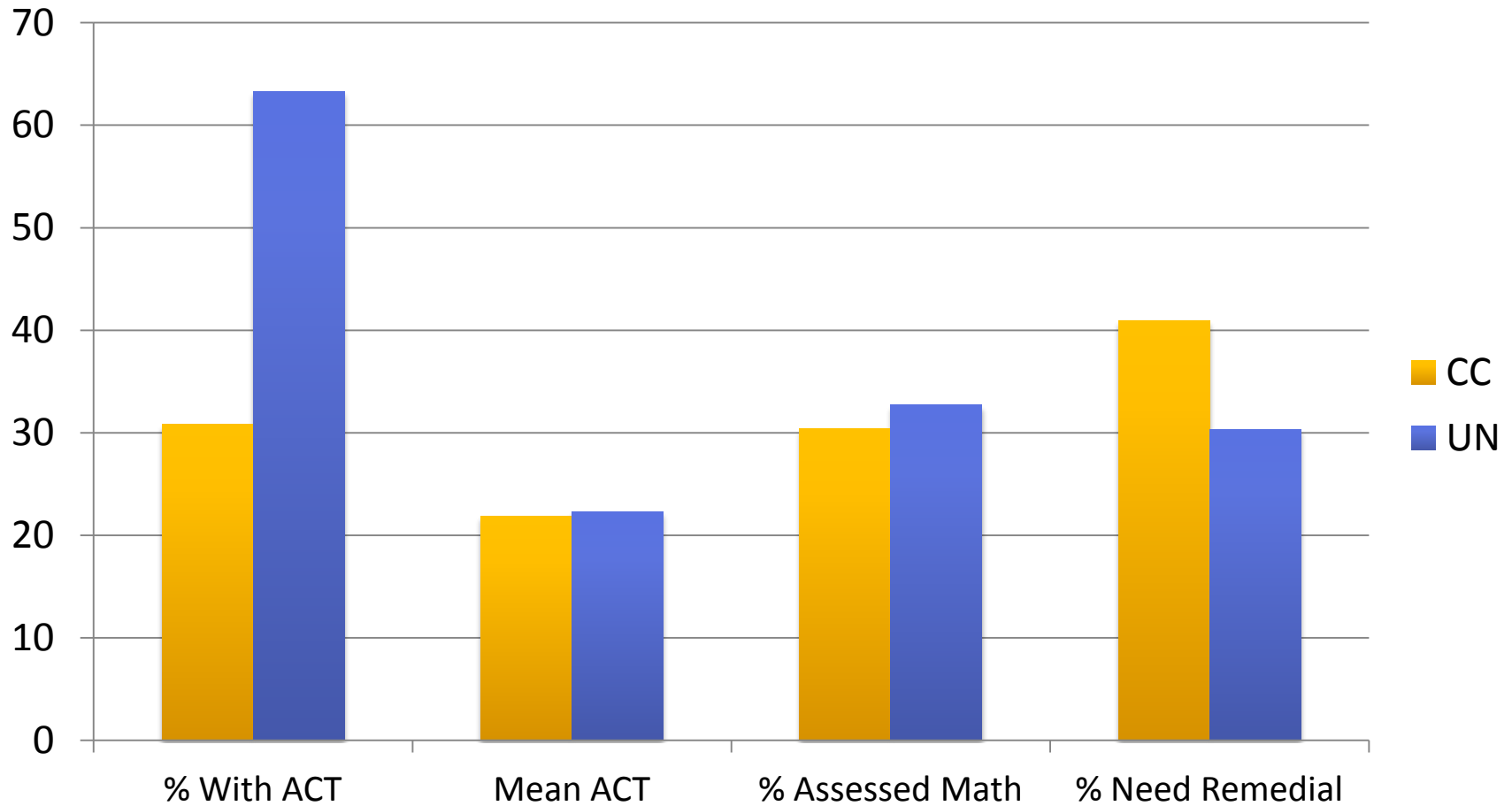
- Logistic regressions were used to estimate probabilities of passing the courses controlling for the covariates just listed.
- Stata 12 used for all analyses and data management
- Since tests were statistically significant, we reviewed probabilities of passing with discussion of important differences.
- Comparisons are made among schools within the same sector and then among individual schools.

Outcomes for Initial Algebra Course using only the first enrollment for each student

Algebra: demographic & enrollment characteristics



Algebra: academic readiness



Algebra: Passing Percentages by Demographic & Enrollment Characteristics

	Community Colleges	Universities
	Passage Percent (95% C.I.)	Passage Percent (95% C.I.)
Women	82.3 (81.9 - 82.7)	79.8 (79.2 – 80.4)
Men	78.1 (77.7 - 78.6)	72.3 (71.6 – 73.0)
Age under 21 years	83.3 (83.0 – 83.7)	78.6 (78.1 – 79.1)
Age over 21 years	72.7 (72.0 – 73.4)	66.7 (66.5 – 67.8)
Reporting as Minority	71.8 (70.0 – 72.7)	72.6 (71.4 – 73.8)
Reporting as White	82.0 (81.6 - 82.3)	77.6 (77.1 – 78.2)
New Undergraduate	81.2 (80.7 – 81.7)	75.4 (74.7 – 76.0)
Not a New Undergraduate	80.1 (79.7 – 80.5)	77.4 (76.7 – 78.0)
Full Time Enrollment	72.3 (71.8 – 72.9)	75.6 (75.1 – 76.1)
Part Time Enrollment	86.3 (85.9 – 86.6)	79.1 (78.0 – 80.1)

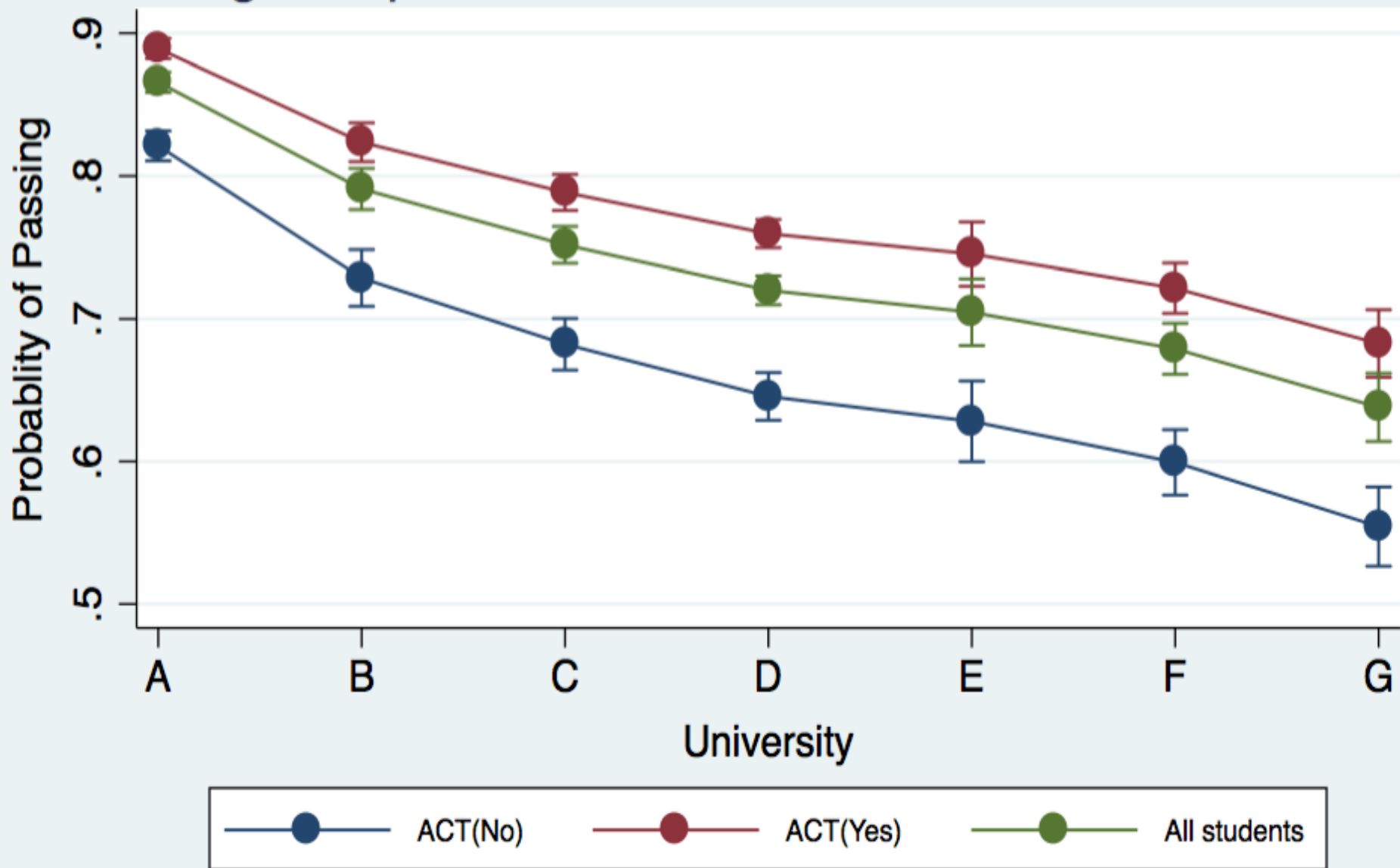
Passing Percentages by Academic Characteristics

	Community Colleges	Universities
	Passage Percent (95% C.I.) or Mean (S.D.)	Passage Percent (95% C.I.) or Mean (S.D.)
ACT Score Present*	83.9 (83.4 – 84.4)	79.1 (78.6 – 79.7)
No ACT Score	79.4 (78.7 – 79.5)	71.3 (70.4 – 72.1)
Math Skills evaluated**	79.9(79.4 – 80.5)	82.4 (81.6 – 83.2)
% needing remediation if evaluated	71.3 (70.2 – 72.4)	74.4 (72.7 – 75.4)
Math skills not evaluated**	80.9 (80.5 – 81.3)	73.8 (73.1 – 74.4)

*Only 1/3 Community College students had ACT Scores while almost 2/3 of the university students had scores.

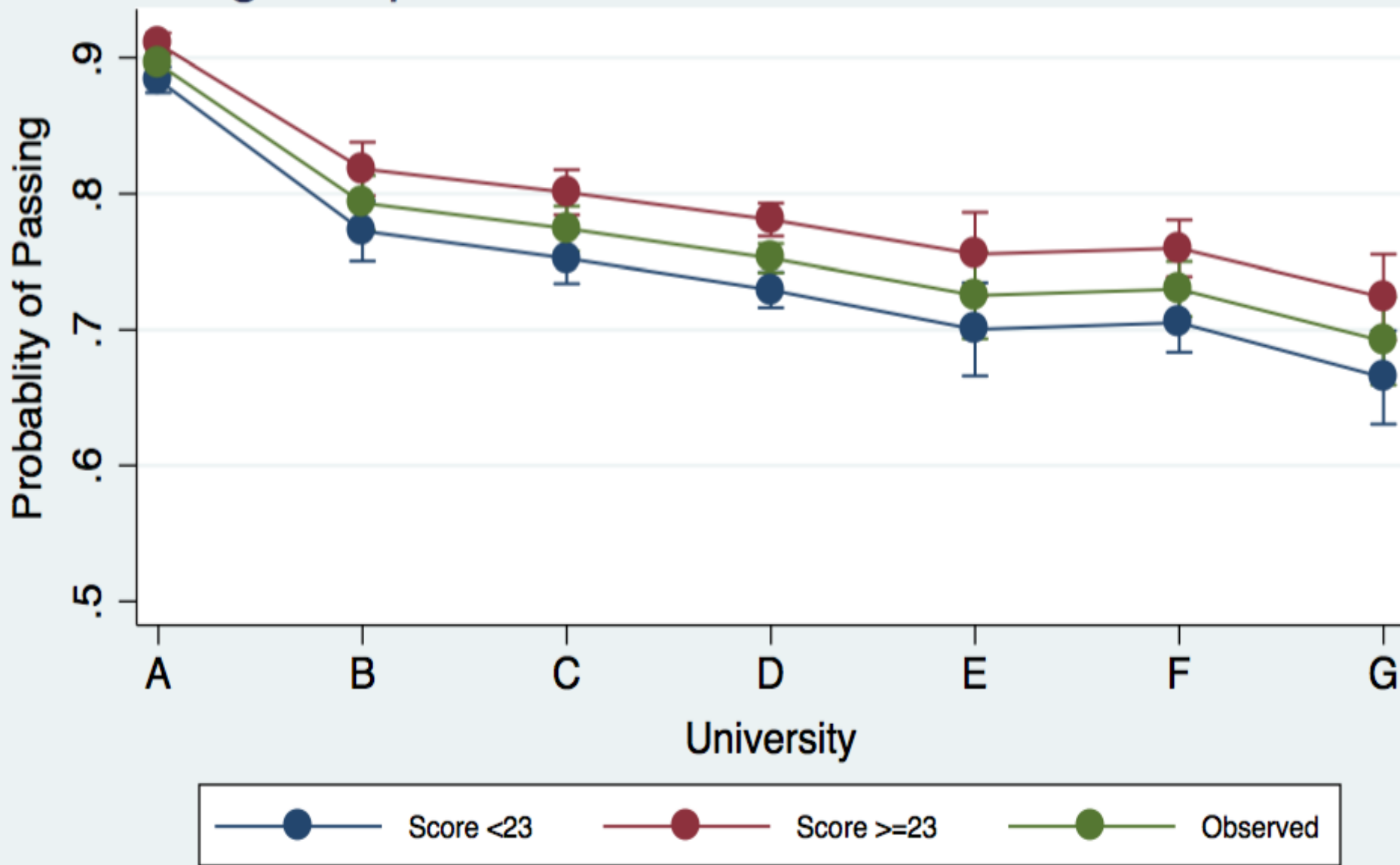
**About 1/3 of both student groups were evaluated for mathematical skills.

Algebra pass rates at Kansas universities*



*Adjusted for age, gender, minority status, enrollment, ACT participation

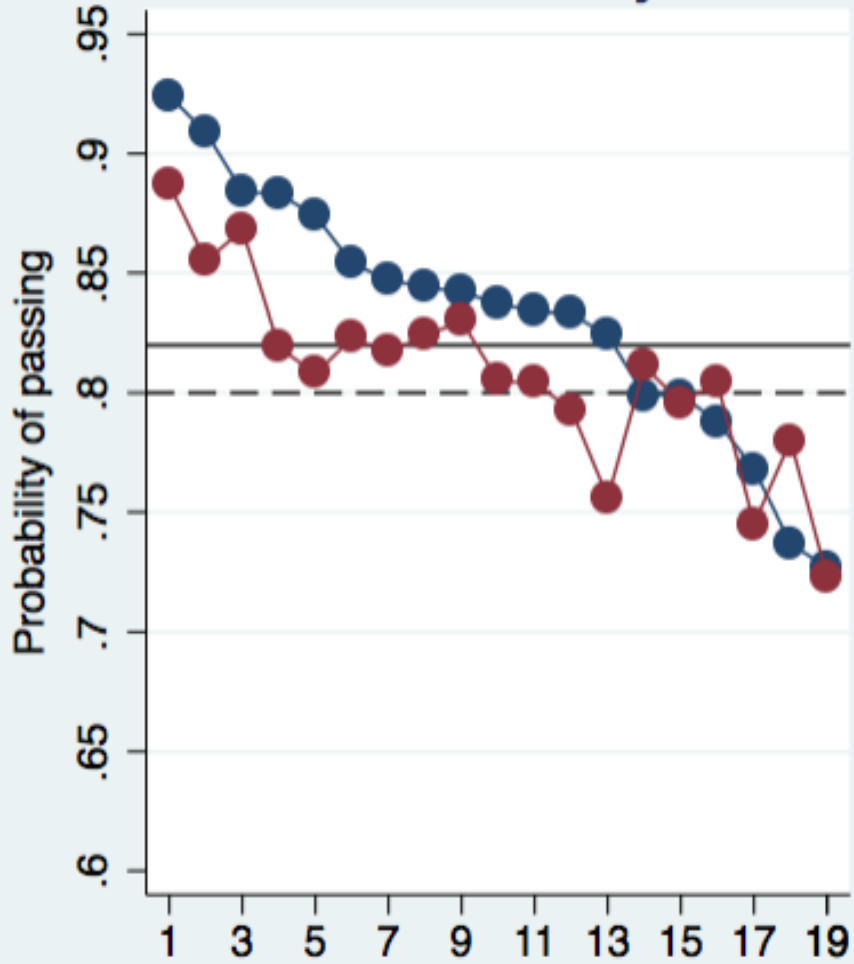
Algebra pass rates at Kansas universities*



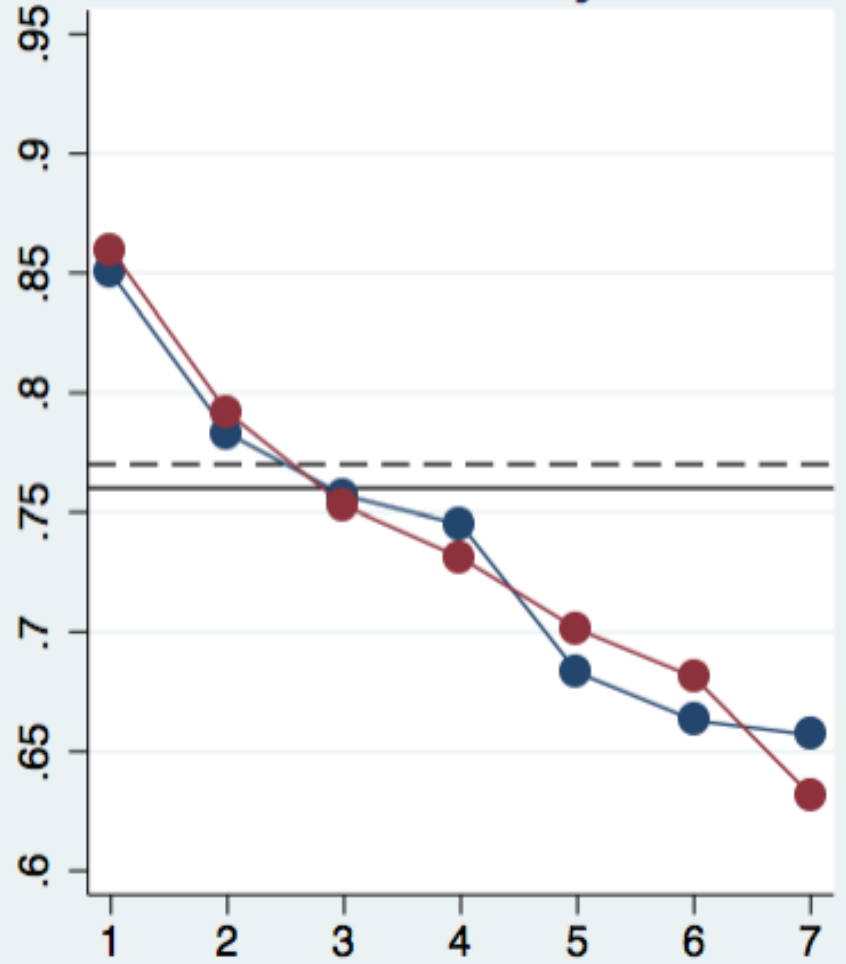
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Algebra Pass Rates

Community



University

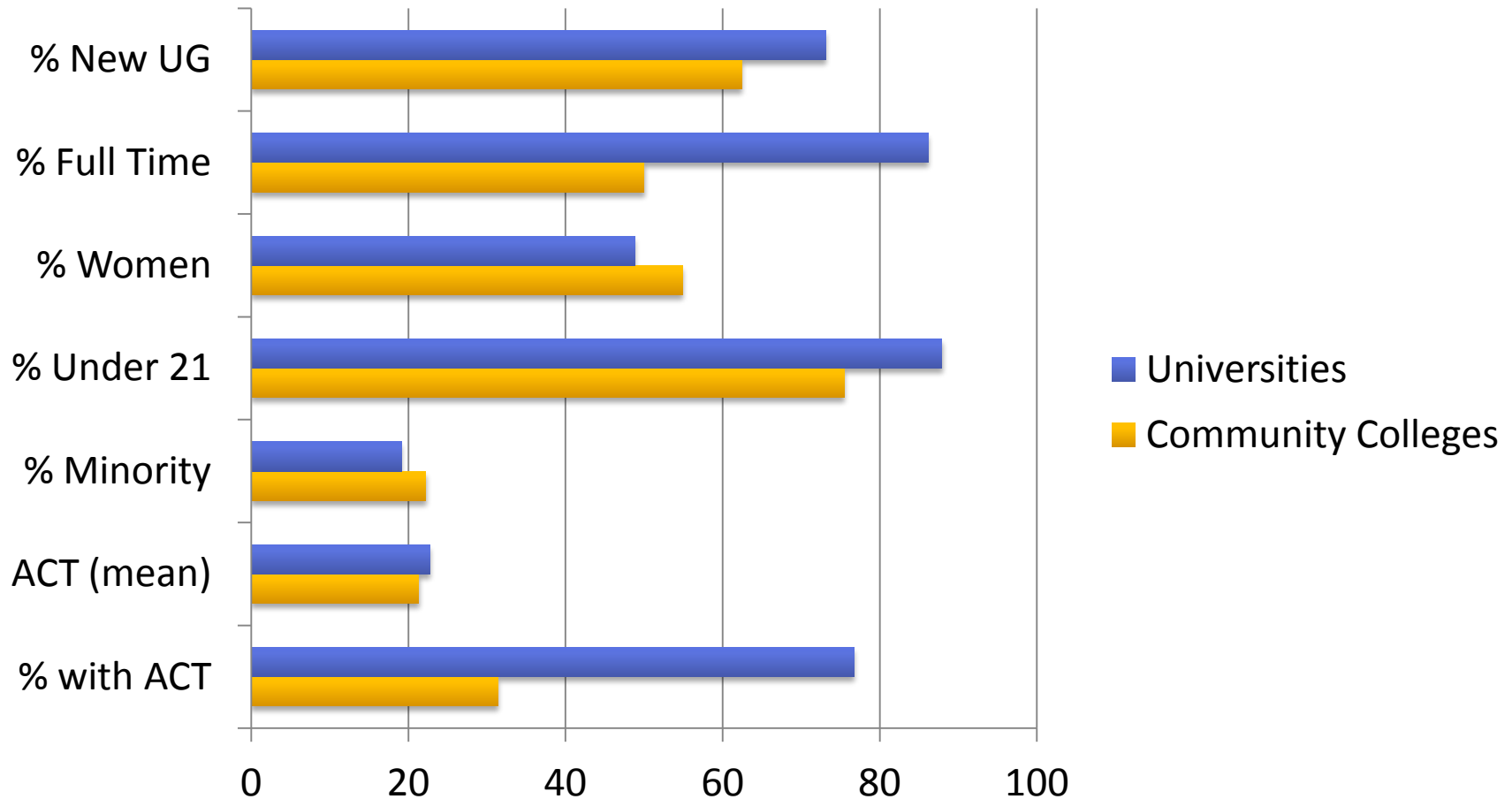


Summary for Algebra

- Among universities, the order of schools by pass rates remained consistent for all analyses
- Among the 19 community colleges, pass rates varied from 73% to 90%.
- Among seven universities, rates varied from mid sixties to 85 percent passing.
- Mean pass rates were higher for community colleges compared to universities although differences are only 4-5 percent.
- Using ACT scores, passing rates were higher for those with scores at 23 or above.

Outcomes for English Course using only the first enrollment for each student

English: demographic, enrollment & Academic characteristics



Freshmen English: Passing Percentages by Demographic & Enrollment Characteristics

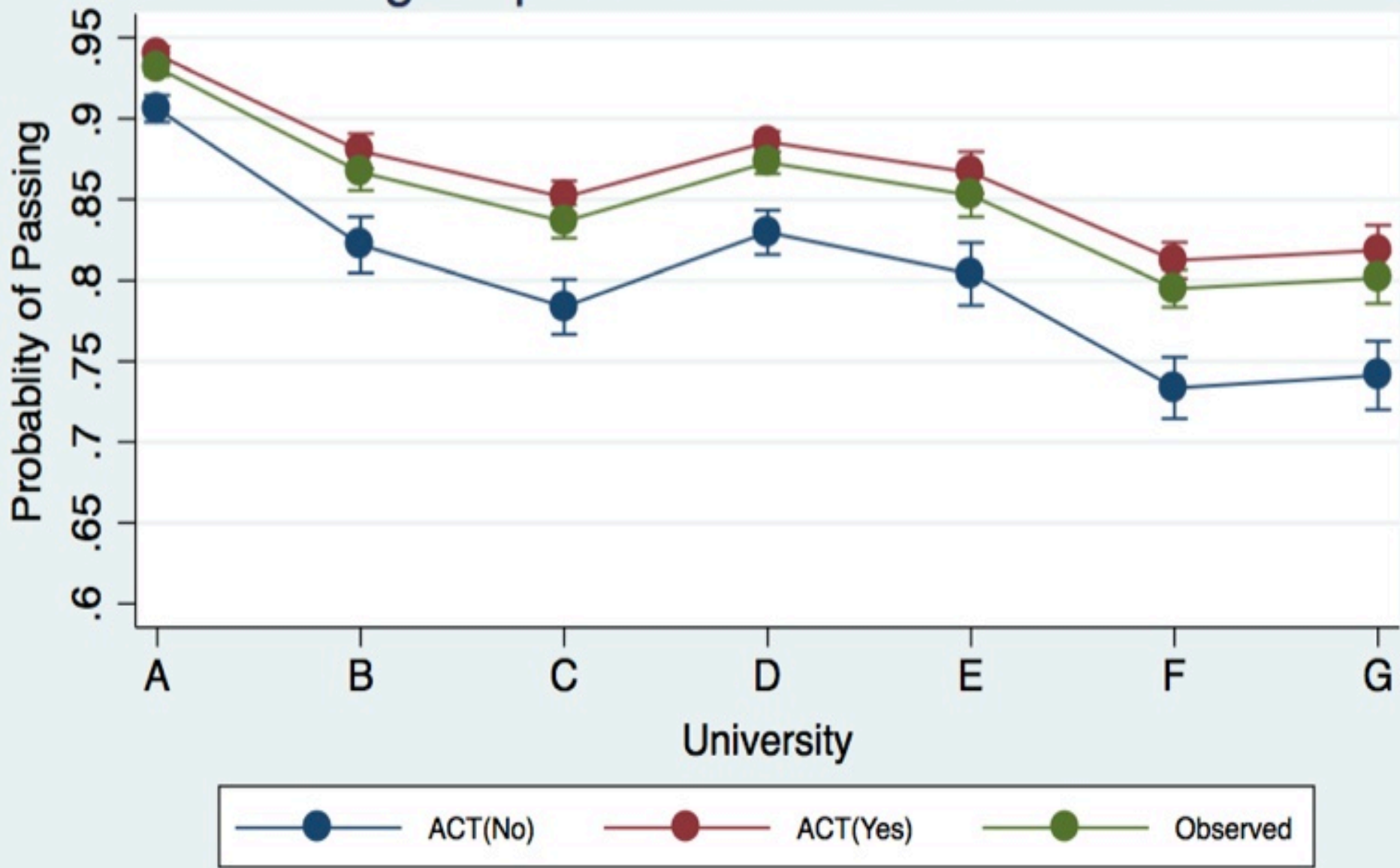
	Community Colleges	Universities
	Passage Percent (95% C.I.)	Passage Percent (95% C.I.)
Women	84.4 (84.1 – 84.7)	88.9 (88.5 – 89.4)
Men	78.1 (77.7 - 78.5)	83.5 (83.0 – 84.1)
Age under 21 years	82.8 (82.5 – 83.1)	87.7 (87.0 – 88.1)
Age over 21 years	78.0 (77.5 -78.5)	74.9 (73.6 – 79.1)
Reporting as Minority	75.1 (75.5 – 75.7)	81.9 (81.0 – 82.8)
Reporting as White	83.4 (83.1 – 83.6)	87.7 (87.4 – 88.1)
New Undergraduate	78.5 (78.2 – 78.8)	83.0 (82.5 – 83.4)
Not a New Undergraduate	86.7 86.3 – 87.0)	94.9 (94.5 – 95.3)
Full Time Enrollment	76.5 (76.1 – 76.9)	86.5 (86.2 – 86.9)
Part Time Enrollment	86.7 (86.3 – 87.0)	83.9 (83.0 – 84.9)

Freshmen English: Passing Percentages by Academic Characteristics

	Community Colleges	Universities
	Passage Percent (95% C.I.) or Mean (S.D.)	Passage Percent (95% C.I.) or Mean (S.D.)
ACT Score Present*	86.1 (85.7 – 86.5)	88.0 (87.6 – 88.4)
No ACT Score	79.5 (79.2 – 79.8)	80.2 (79.3 – 81.0)
ACT Composite Score Mean & Standard Deviation	21.3 (4.23)	22.7 (4.04)

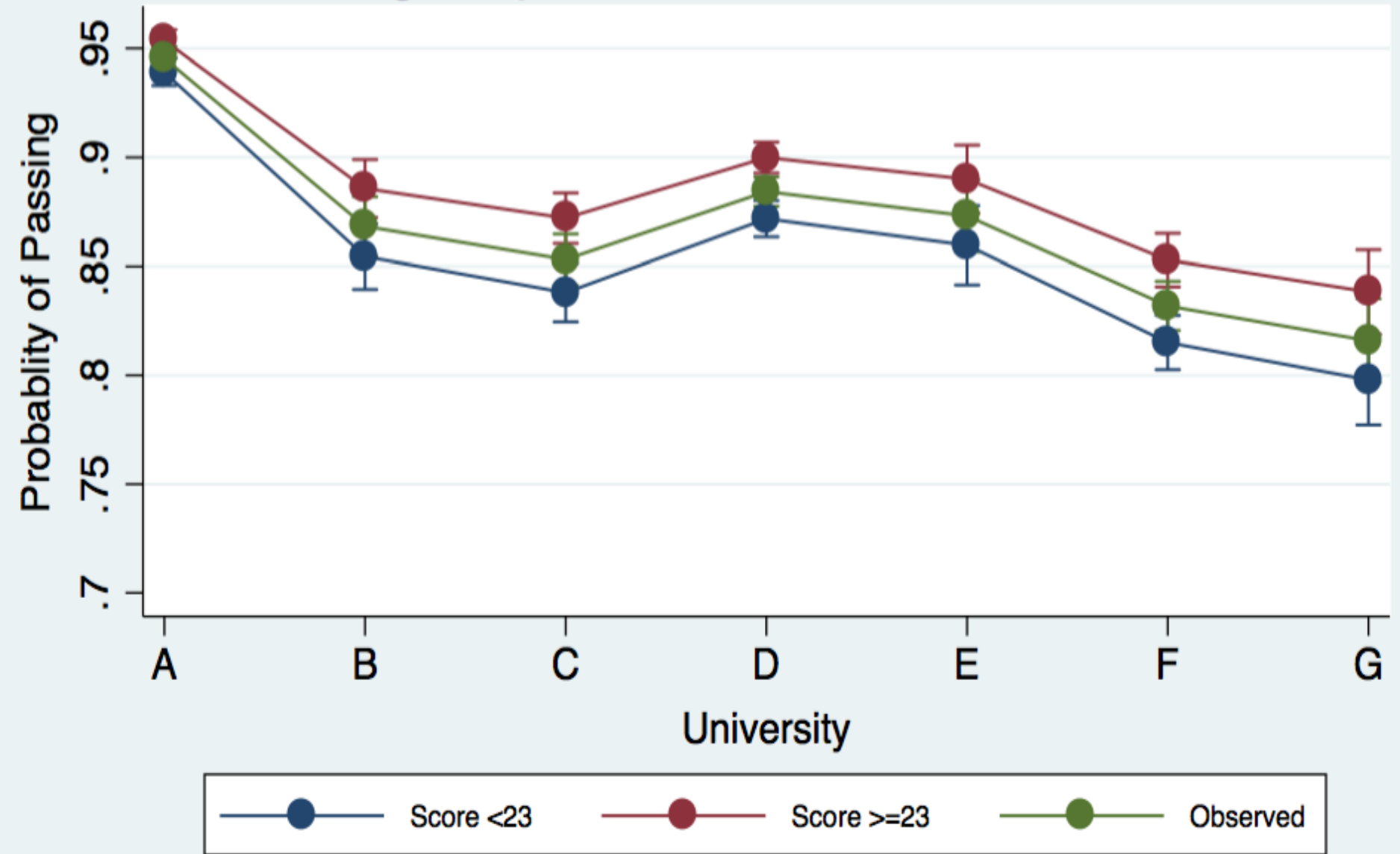
*Only 1/3 Community College students had ACT Scores while almost 3/4 of the university students had scores.

Freshmen English pass rates at Kansas universities*



Adjusted for age, gender, minority status, enrollment, ACT score

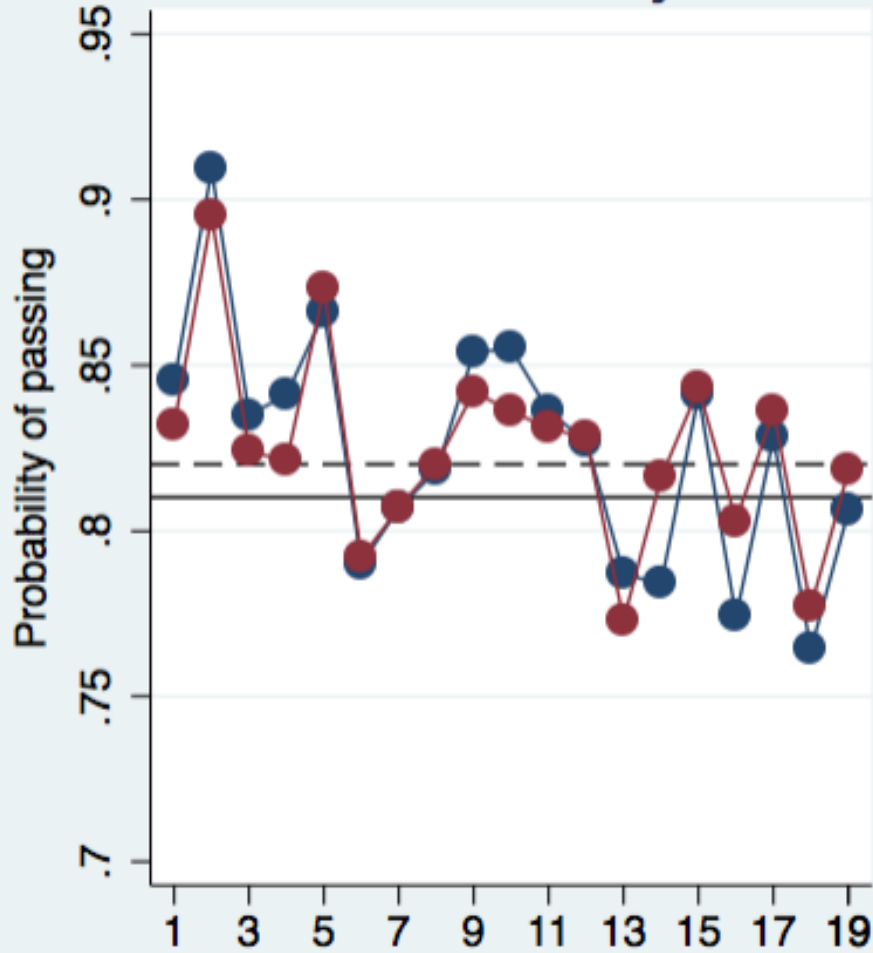
Freshmen English pass rates at Kansas universities*



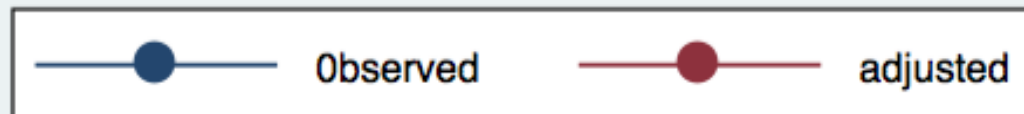
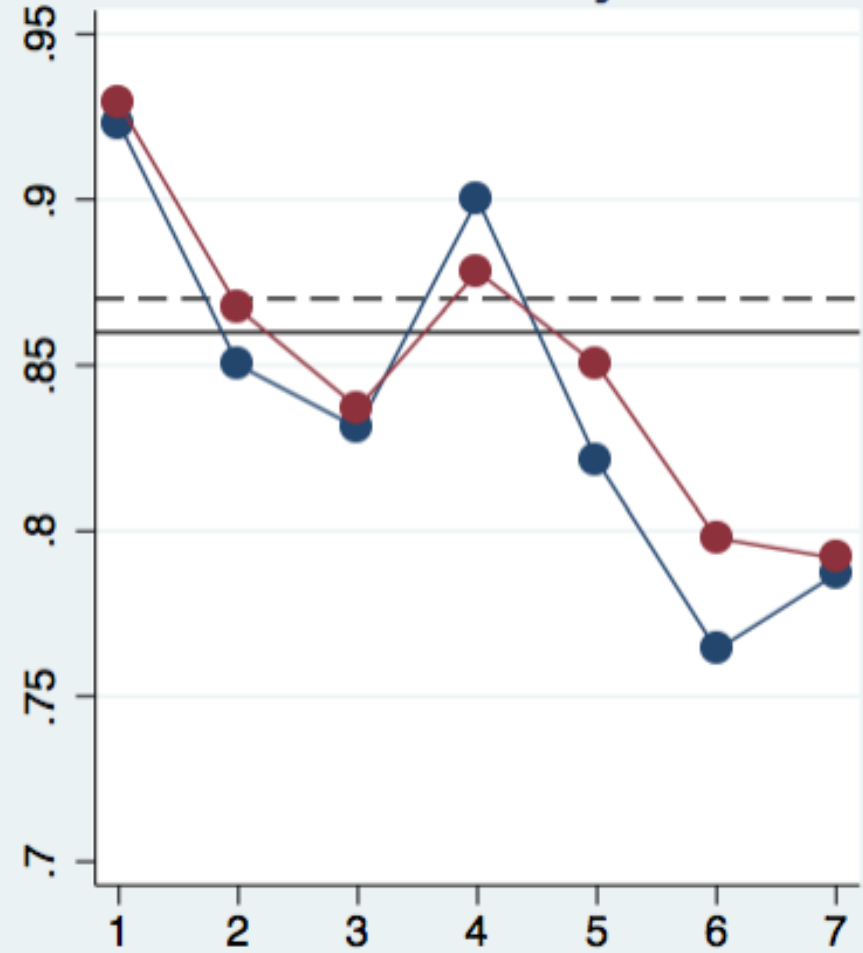
Adjusted for age, gender, minority status, enrollment, ACT score

Freshmen English Pass Rates

Community



University



Summary

- As expected, pass rates were higher for both community colleges and universities for English compared to algebra.
- Mean pass rates were higher for universities (86-87%) compared to community colleges (82-83%)
- The order of schools by pass rates were different than those identified for algebra.

Limitations

- Outcome is limited to pass and not pass.
- Unavailable covariates could affect outcomes
 - Readiness information
 - Student motivation, engagement, interest
 - Career goals
 - Financial aid
- Initial attempts of courses could have been outside time frame and system.
- Information from content to teaching methods to instructors are not part of the database.

Thank You

