

University of California Undergraduate Experience Survey (UCUES): Self-Assessed Skills/Course-Taking Patterns vs. Time-to-Degree

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TIME-TO-DEGREE

- Primary measurement of undergraduate student success
- Affects resource allocation; when overall time-to-degree matches program length the institution can accommodate more students
- Financial savings for students who graduate on time
- Completing even one fewer term saves the students \$\$
- New initiatives by universities to describe options for degree completion in fewer than 4 years
- Study of students who complete in 3 years – what clues do their course-taking patterns, attitudes, and behavior reveal about what it takes to complete in 4 or fewer years

This study examines student data for behaviors, self perceptions, and patterns that are associated with lower time-to-degree.

Results could inform campus efforts to reduce time-to-degree.



STUDY QUESTIONS

What is the relationship between self-assessed skill levels and traditional measures of academic preparation for college?

Can self-reported measures from early in a student's academic career predict time-to-degree?

How much of the variance in time-to-degree is explained by differing responses to UCUES self-assessment questions?

What are the course-taking strategies that are associated with faster time-to-degree regardless of self-reported skill levels?



UNIVERSITY OF CALIFORNIA UNDERGRADUATE EXPERIENCE SURVEY (UCUES)

"EVERY STUDENT HAS A VOICE. EVERY VOICE IS HEARD."

- UC-wide survey of over 160,000 undergraduates within the UC system's nine undergraduate campuses
- Collaborative project of faculty and institutional researchers within the University of California system
- Administered by UC Berkeley's Office of Student Research
- Product of a larger research project focused on analyzing and improving the undergraduate experience within major research universities
- UCUES documents student attitudes such as their self-perceptions of their skill levels
- <http://cshe.berkeley.edu/research/seru/ucues.htm>

UCUES

University of California Undergraduate Experience Survey

- Spring 2008, administered to all undergraduate students, UCLA's participation rate = 36%

Subset for analysis – Winter 2008 enrolled undergraduates, admitted Fall 2007

- 1,887 entering freshmen (excluding transfers)
- Cohort chosen for the following reasons:
 - Temporal nature of self-assessment questions; this group is responding to questions nearest to their admit term
 - Allows determination of TTD through Spring 2013 degrees (6 years)



Comparison – Survey Sample vs. Student Body Undergraduates Admitted 07F as Freshmen, Enrolled 08W

		Winter 2008 Headcount	2008 Survey Respondents
Female		55%	59%
Male		45%	41%
Domestic	American Indian or Alaskan Native	<1%	<1%
	Asian or Pacific Islander	43%	46%
	Black Non-Hispanic	5%	4%
	Hispanic	14%	13%
	Unstated, Unknown, Other	4%	3%
	White Non-Hispanic	35%	34%
Domestic		97%	97%
International		3%	3%
College of Letters and Science: General		<1%	<1%
College of Letters and Science: Humanities		11%	11%
College of Letters and Science: International Institute		2%	2%
College of Letters and Science: Life Sciences		26%	28%
College of Letters and Science: Physical Sciences		13%	14%
College of Letters and Science: Social Sciences		23%	21%
Henry Samueli School of Engineering and Applied Science		18%	18%
School of Nursing		1%	1%
School of the Arts and Architecture		4%	4%
School of Theater, Film, and Television		2%	1%

Statistically significant differences between population and survey respondents

- Female and Asian/Pacific Islander students were overrepresented, $p < .01$
- Social Science majors were underrepresented, $p < .05$

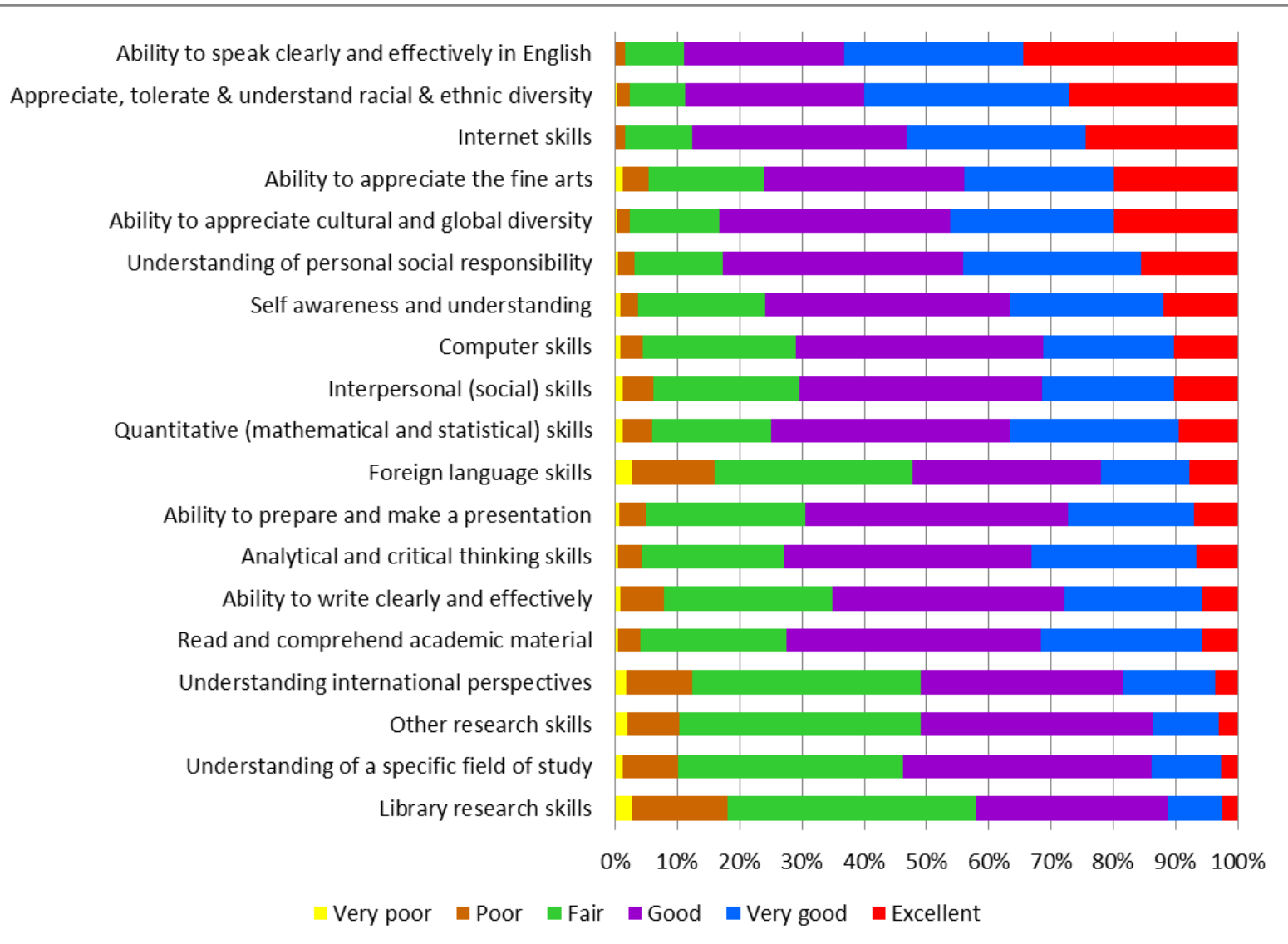
University of California Undergraduate Experience Survey

Self-Assessment Questions

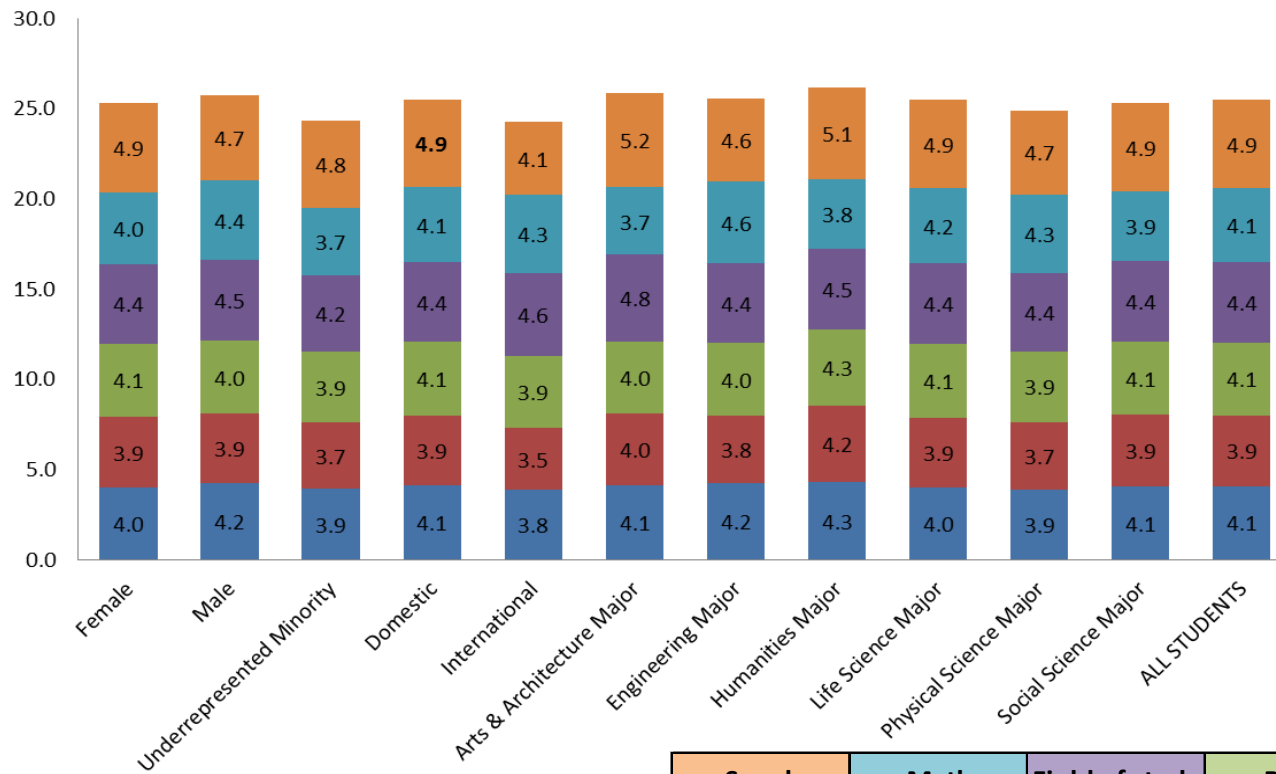
UCUES: Please rate your level of proficiency in the following areas when you started at this campus and now

Analytical and critical thinking skills	Library research skills
Ability to write clearly and effectively	Other research skills
Read and comprehend academic material	Ability to prepare and make a presentation
Foreign language skills	Interpersonal (social) skills
Understanding of a specific field of study	Ability to appreciate, tolerate and understand racial and ethnic diversity
Quantitative (mathematical and statistical) skills	Ability to appreciate the fine arts
Ability to speak clearly and effectively in English	Ability to appreciate cultural and global diversity
Understanding international perspectives	Understanding of personal social responsibility
Computer skills	Self awareness and understanding
Internet skills	

UCUES: Rate your level of proficiency when you started on this campus



UCUES Self Assessments by Gender, URM, Domestic, International Status, & Program



	Ability to speak clearly & effectively in English
	Quantitative (math & stats)
	Understanding a specific field of study
	Read & comprehend academic material
	Write clearly & effectively
	Analytical & critical thinking

Statistically different means



Speak	Math	Field of study	Read	Write	Analytical
gender	gender	gender			gender
	URM	URM	URM	URM	URM
Domestic				Domestic	
	Arts & Arch				
Engineering	Engineering			Engineering	
Humanities	Humanities		Humanities	Humanities	Humanities
Physical Sci	Physical Sci		Physical Sci		Physical Sci
	Social Sci				

UCUES: Rate your level of proficiency when you started on this campus

Questions that were highly correlated, colors indicate relationship, approximately .500 to .690

Library research skills

Other research skills

Computer skills

Internet skills

Analytical and critical thinking skills

Ability to write clearly and effectively

Read and comprehend academic material

Ability to prepare and make a presentation

Interpersonal (social) skills

Ability to appreciate, tolerate and understand racial and ethnic diversity

Ability to appreciate the fine arts

Ability to appreciate cultural and global diversity

Understanding of personal social responsibility

Self awareness and understanding

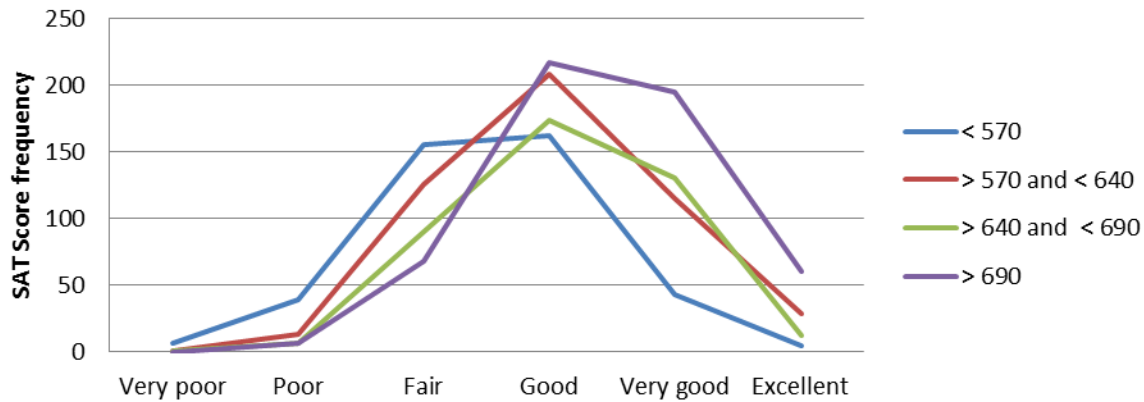
Are the responses to UCUES skill questions just substitutes for traditional measures such as high school GPA and SAT scores?



Relationship between traditional measures of academic preparation and UCUES scores

Correlation between SAT scores/ HS GPA and UCUES scores for similar skill				
	SAT Verbal/Reading	SAT Writing	SAT Mathematics	High School GPA
(UCUES) Starting Proficiency: Read and Comprehend academic material	.304**			.108**
(UCUES) Starting Proficiency: Ability to write clearly and effectively		.370**		.132**
(UCUES) Starting Proficiency: Quantitative (Mathematical and statistical) skills			.438**	.183**
(UCUES) Starting Proficiency: Analytical and critical thinking skills	.376**	.313**	.211**	.104**
Pearson Correlation. ** Correlation is significant at the 0.01 level				

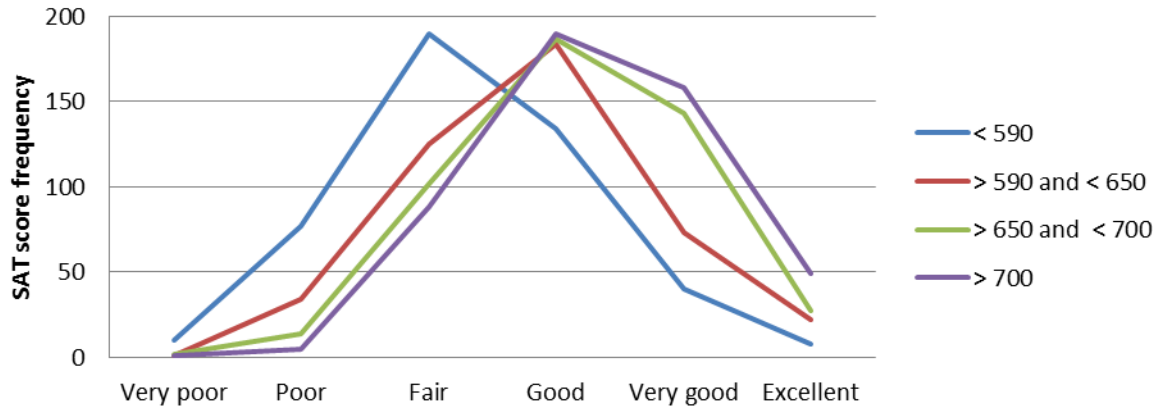
SAT Reading Scores vs UCUES 'Read and comprehend academic material' Scores



Only 47% of students scoring 690 or above on the SAT Critical Reading test rate themselves as “very good” or “excellent” on the UCUES “Read and comprehend academic material” question.

- Mean reading scores for all college bound seniors in 2007 = 502

SAT Writing Scores vs UCUES 'Ability to write clearly and effectively' Scores



Only 42% of students scoring 700 or above on the SAT Writing test rate themselves as “very good” or “excellent” on the UCUES “Ability to write clearly and effectively” question.

- Mean writing scores for all college bound seniors in 2007 = 494

“PERFECT” SAT SCORES AND UCUES RESPONSES

- **22% of students with perfect SAT Critical Reading scores (800) rate themselves as “excellent” in their proficiency to “read and comprehend academic material”.**
- **6% of students with perfect SAT Writing scores (800) rate themselves as “excellent” in their “ability to write clearly and effectively”.**

ACADEMIC AND DEMOGRAPHIC CHARACTERISTICS VS UCUES SCORE?

UCUES skills assessments are more highly correlated with high school GPA than SAT for most independent variables

Negative Correlation

Read and comprehend academic material

First Language Spoken at home is not English*
First generation college student

Ability to write clearly and effectively

First Language Spoken at home is not English*
First generation college student*

Positive Correlation

Semesters of UC Approved Honors Courses*
HS State Rank on Academic Performance Index (API)*
Total number of Years of A-G Courses
Highest Parent Education (Highest of Father or Mother)

HS State Rank on Academic Performance Index (API)*
Semesters of UC Approved Honors Courses*
Total number of years of A-G courses*
Highest Parent Education (Highest of Father or Mother)
Humanities major

*Relationship is stronger with UCUES response than high school GPA

REGRESSION – INDEPENDENT VARIABLES

Dependent Variable = time-to-degree (terms)

Independent Variables

19 UCUES Skills Assessment Questions (start of academic career)

SAT scores

High school GPA – weighted

First generation status

High school state rank on Academic Performance Index (API)

Semesters of UC approved honors courses

URM status

Domestic/International status

Gender


Program (field)

REGRESSION RESULTS

10% of variance in time-to-degree is explained by the following variables


Time-to-degree predictors

Related to decreased time-to-degree



	coefficients	standardized coefficients
High school GPA-Weighted	-0.541	-0.093
Art & Architecture Major	-0.462	-0.066
Social Sciences Major	-0.371	-0.118
Female	-0.239	-0.091
UCUES proficiency: Understanding of a specific field of study	-0.084	-0.061
High School's State Rank on Academic Performance Index (API) in	-0.039	-0.054
Semesters of UC Approved Honors Courses in high school	-0.015	-0.073
SAT Mathematics	-0.002	-0.129

Related to increased time-to-degree

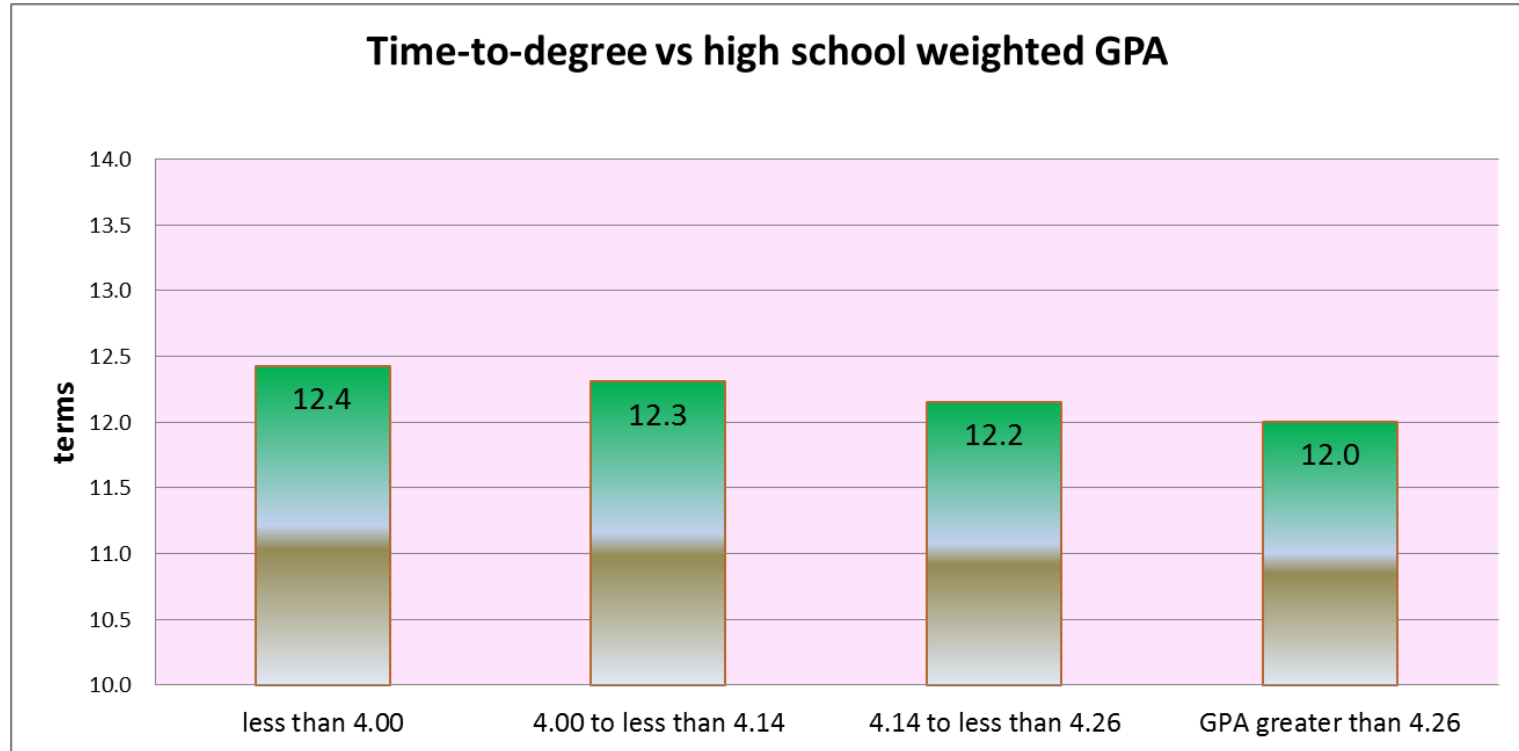


Engineering Major	0.466	0.140
Underrepresented Minority	0.417	0.085
UCUES proficiency: Quantitative (mathematical and statistical)	0.097	0.079

UCUES Cohort

High School Weighted GPA and Time-to-Degree

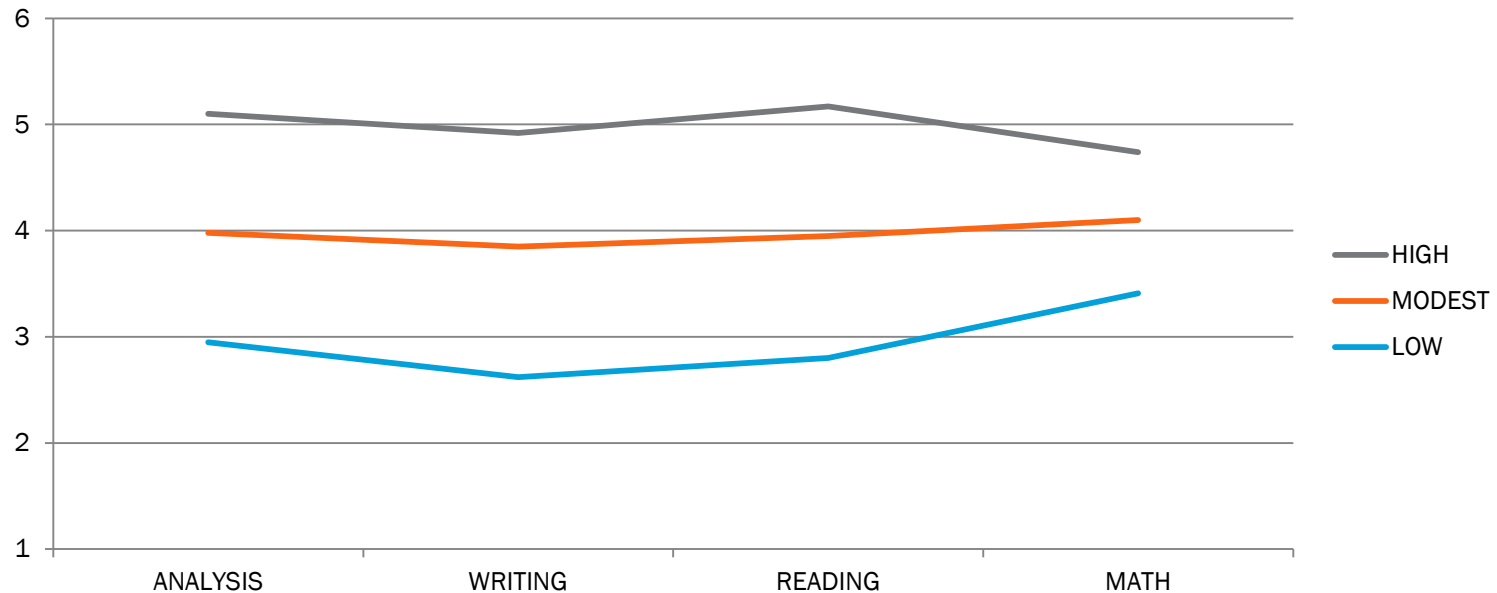
10% of variance is explained by the independent variables



UCUES cohort mean weighted high school GPA = 4.10

COURSE-TAKING BEHAVIORS

Once enrolled at UCLA, students can engage with the curriculum in such a way that they influence their time-to-degree... Do students choose their courses with their academic self-perceptions in mind, or are there strategies that cut across groups?

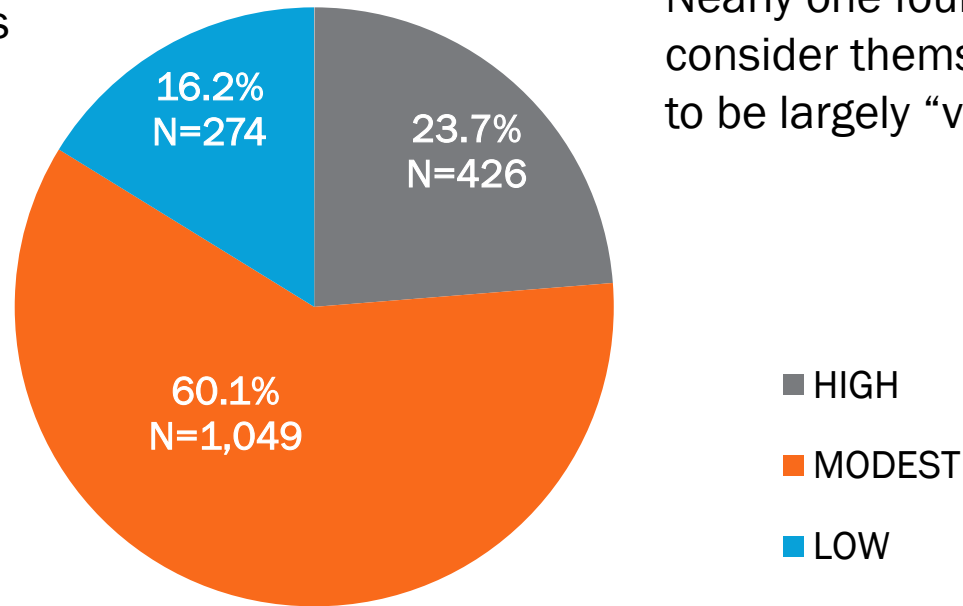


A clusters analysis identified three groups of UCUES respondents, according to their self-assessment of basic academic skills. Average self-assessments per group are graphed above.

CLUSTERS ANALYSIS GROUP SIZES

Nearly one sixth consider themselves to be largely “fair”

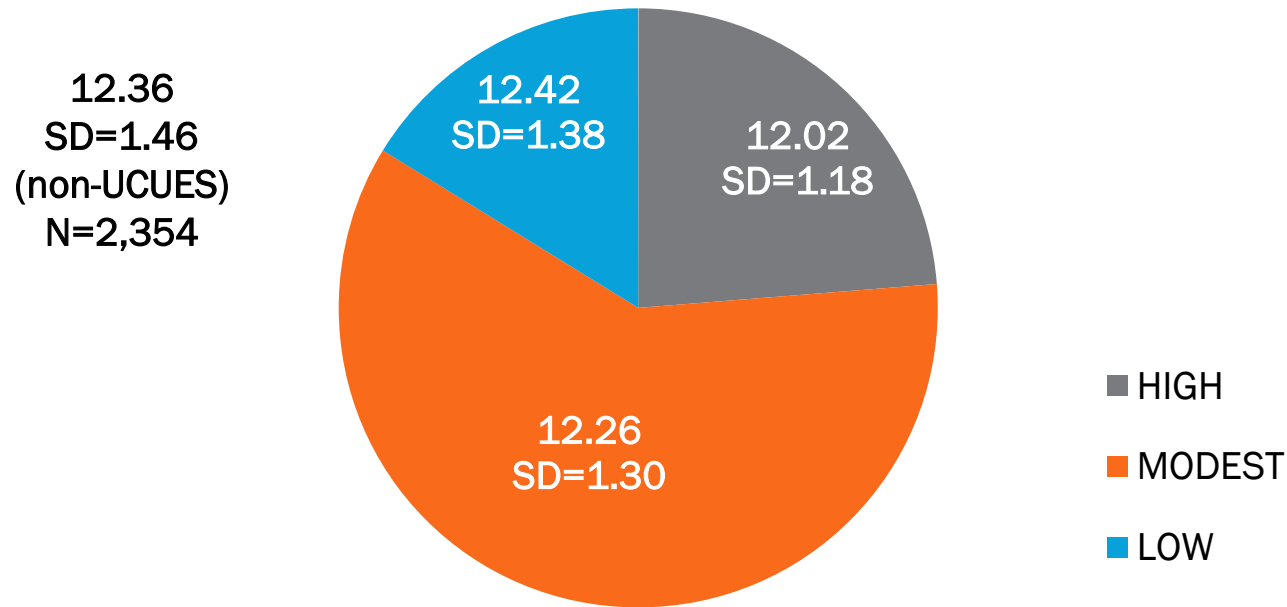
Nearly one fourth consider themselves to be largely “very good”



Three fifths consider themselves to be mostly “good”

Does the same statistical model hold up for each of these three groups? Do UCUES respondents differ from non-respondents, who aren't depicted on this pie?

AVE. TIME-TO-DEGREE VARIES AMONG GROUPS



The high self-assessment group has a faster elapsed time-to-degree than any other group; the other groups are not significantly different from each other (Dunnett T3).

COULD THIS INSTEAD BE BECAUSE OF COURSE-TAKING BEHAVIORS?

189,402 primary section enrollments from Fall 2007 through Spring 2013 were analyzed to represent the course-taking patterns of the entire frosh cohort.

Calculated course-taking measures considered the Fall 2007 term to be “Term 1,” with each subsequent term numbered sequentially.

Measures included:

earliest term student took an upper division course

count of all summer courses taken in career

count of all summer courses taken before Fall 2007

whether student took freshman composition before Fall 2007 during summer

count of summer upper division courses taken in career

earliest term student took courses of various instructional activity types, including lab, seminar, tutorial, etc.

latest term student took a course designated as fulfilling a general education requirement

earliest term student took a course enrolling fewer than 25 students in the section

count of sections the student took during each of first three years that enrolled fewer than 25 students in the sections.

average attempted units per undergraduate term

Regression modeling accounted for variance in time-to-degree, given best fit (stepwise method) of uncorrelated course-taking measures listed above.

OVERALL REGRESSION MODEL

Predictors of Time-to-Degree:

	coeff.	std. coeff.
latest term student took a course designated as fulfilling a general education requirement	.253	.449
average attempted units per undergraduate term	-.212	-.208

24.6% of the variance in time-to-degree is explained by these two measures.

The later the last GE course and the smaller the average unit load, the longer the time-to-degree.

SEPARATE MODELS PER CLUSTER GROUP

There were no differences among groups on the “Last GE” measure (on average, students finished GE in their 10th term; SD=2.84).

The three self-assessment groups differed slightly but significantly in their Average Term Units.

The Low self-assessment group seems not to differ from the Non-UCUES group in units, with both of these groups differing in the same manner from the other two.

		coeff.	std. coeff.	variance explained
Non-UCUES	Last GE	0.281	0.481	27.8%
	Ave. Term Units	-0.244	-0.22	
High	Last GE	0.198	0.393	19.1%
	Ave. Term Units	-0.142	-0.178	
Modest	Last GE	0.207	0.388	18.3%
	Ave. Term Units	-0.163	-0.176	
Low	Last GE	0.256	0.455	27.1%
	Ave. Term Units	-0.244	-0.226	

	group size	ave. term units	SD
Non-UCUES	2,701	14.64	1.34
High	442	15.09	1.46
Modest	1,119	14.85	1.40
Low	302	14.53	1.25

SUMMARY

- There is a simple correlation between the traditional measures of college academic preparation (HS GPA, SAT scores) and similar self-assessed skill levels.
- Pre-college academic characteristics have an association with time-to-degree, with high school GPA having the strongest association.
- Two of the 19 self-assessed skills have a small association with time-to-degree
 - Understanding a specific field of study
 - Quantitative (mathematical and statistical) skills
- Students' self-assessments can be used to create cluster groups describing perceived ability levels that cross basic academic skills.
- Two course-taking behaviors – taking a full load of units per term and fulfilling GE requirements earlier in one's career – are associated with faster time-to-degree for students regardless of their self-assessment profiles.

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