

Reducing Time to Undergraduate Degree: Targeted Intervention Strategies

California State University, San Bernardino

**Jacqueline McConnaughy, Graduate Research Assistant
Emily A. Shindlecker, Research Technician
& Tanner Carollo, Research Analyst**

November 19th, 2013

CSU Student Success Outcomes

- The CSU system has outlined several student success outcomes that are being addressed through initiatives such as the CSU Graduation Initiative and Access to Success Initiative
- One of the outcome goals:
 - Reduce time to degree for first-time freshmen
 - Increase the proportion of FTF graduating in four years
 - Decrease enrolled-years to degree



CSUSB Graduation Data

Cumulative Graduation Rates for FT/FTF from Fall 2004 to Fall 2006									
Fall Cohort	Cohort Size	Cumulative Graduation Rates							
		4 Year		5 Year		6 Year		7 Year	
		#	%	#	%	#	%	#	%
2004	1588	168	11%	503	32%	679	43%	770	48%
2005	1647	177	11%	505	31%	718	44%	817	50%
2006	1776	165	9%	524	30%	759	43%	847	48%
Total	5011	510	10%	1532	31%	2156	43%	2434	49%

+21%

+12%

+6%

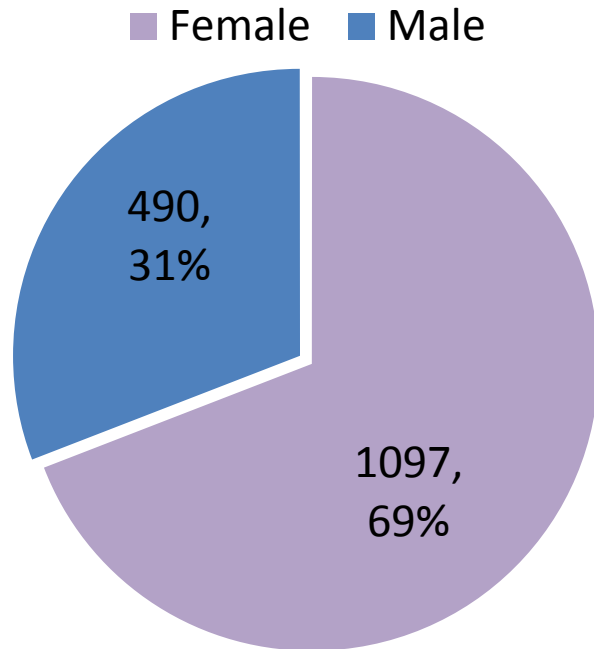
The Study

- Developed a model to identify predictors of time to undergraduate degree
- Sample: full-time, first-time freshman (ft/ftf) students in 2004 & 2005 cohorts
- Model validated utilizing ft/ftf students from 2006 cohort
- A multi-prong approach for intervention is suggested

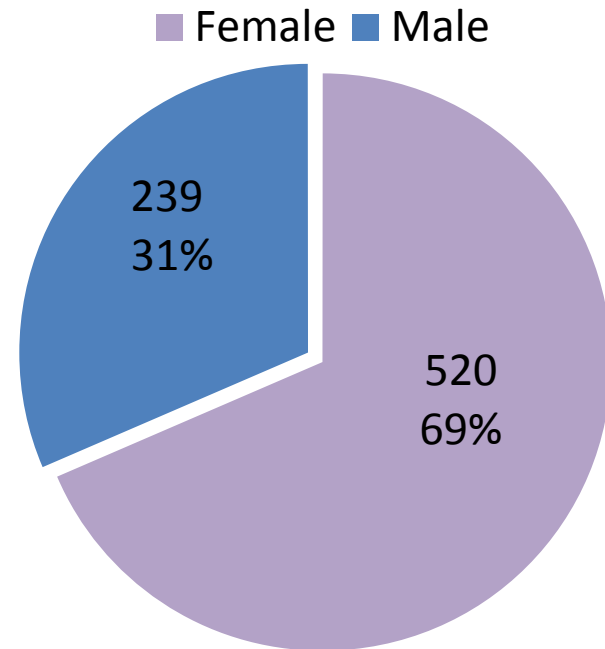


Gender

FT/FTF 2004 & 2005 Cohorts

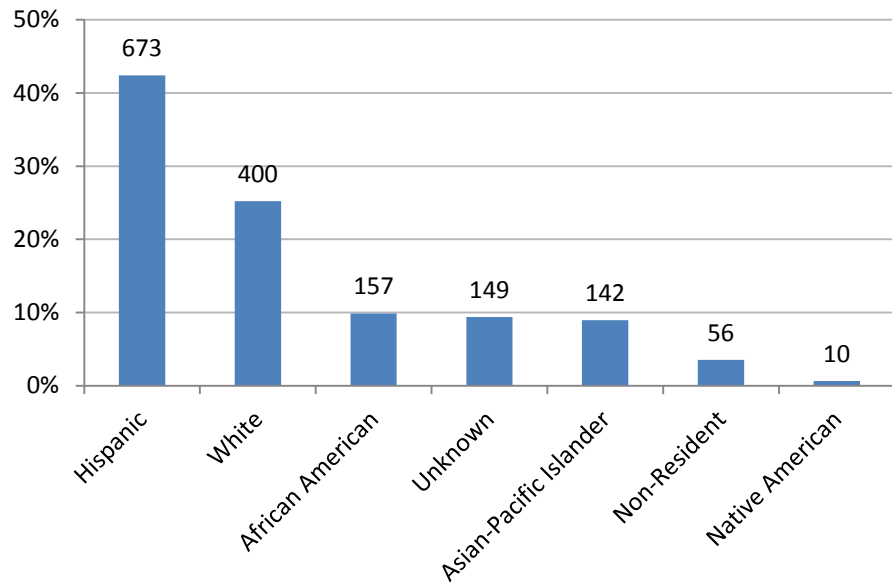


FT/FTF 2006 Cohort

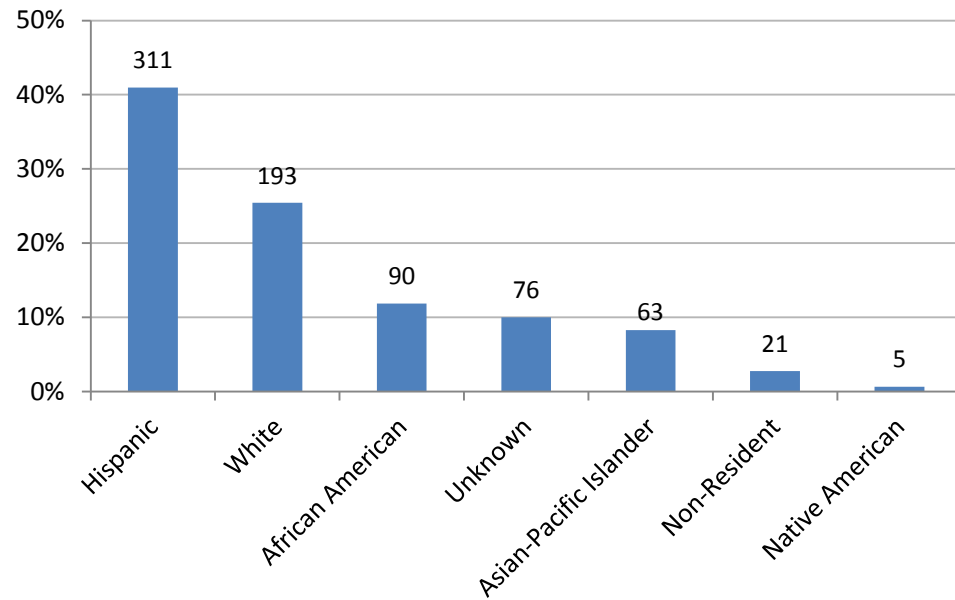


Ethnicity Breakdown

FT/FTF Fall 2004 & 2005 Cohorts



FT/FTF Fall 2006 Cohort



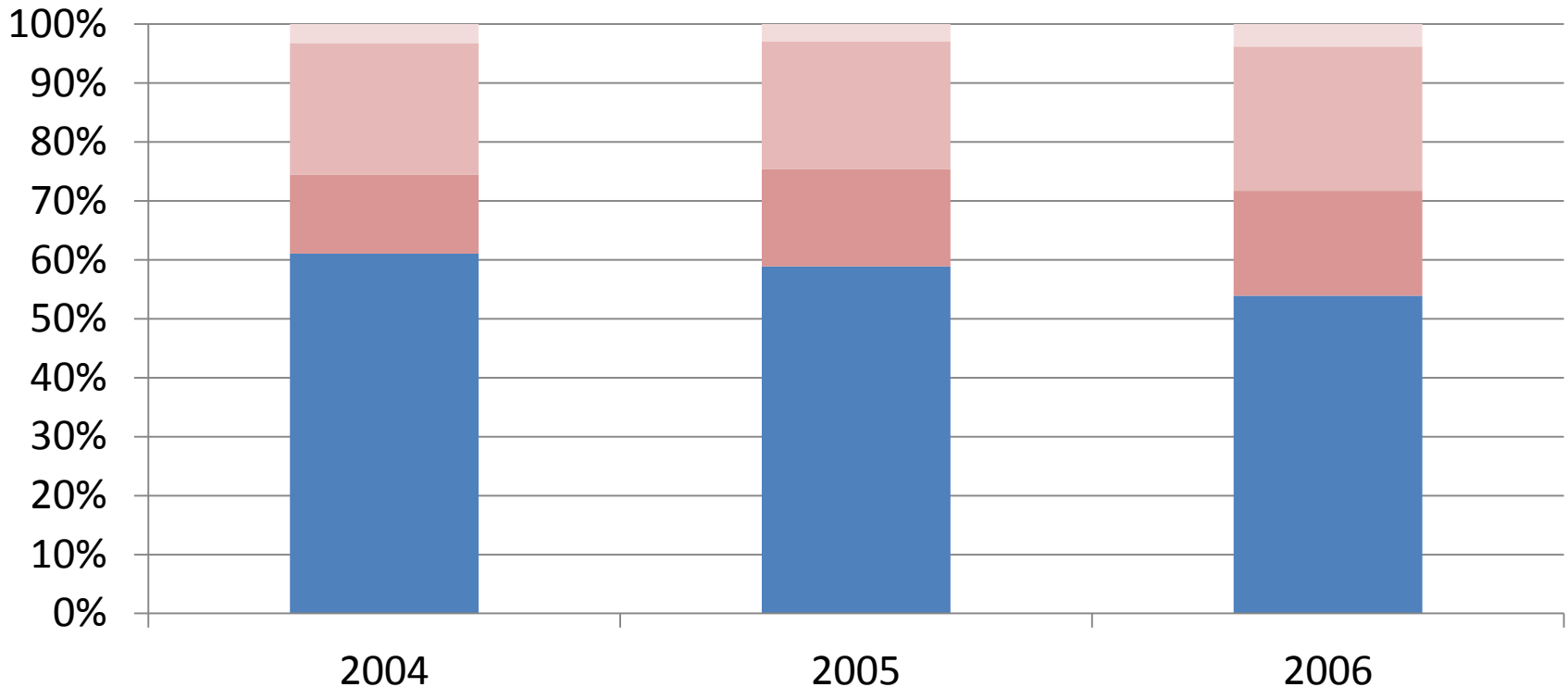
Model Variables

- Remediation
 - Required remediation: yes/no
- Quarters to Complete Lower Division, General Education Math and English
- Upper Level Writing Requirement
 - Completed writing requirement by end of 3rd year: yes/no
- Number Times Changed Major

Math Remediation Requirement

FT/FTF by Math Remediation Status for Fall Cohorts 2004-2006

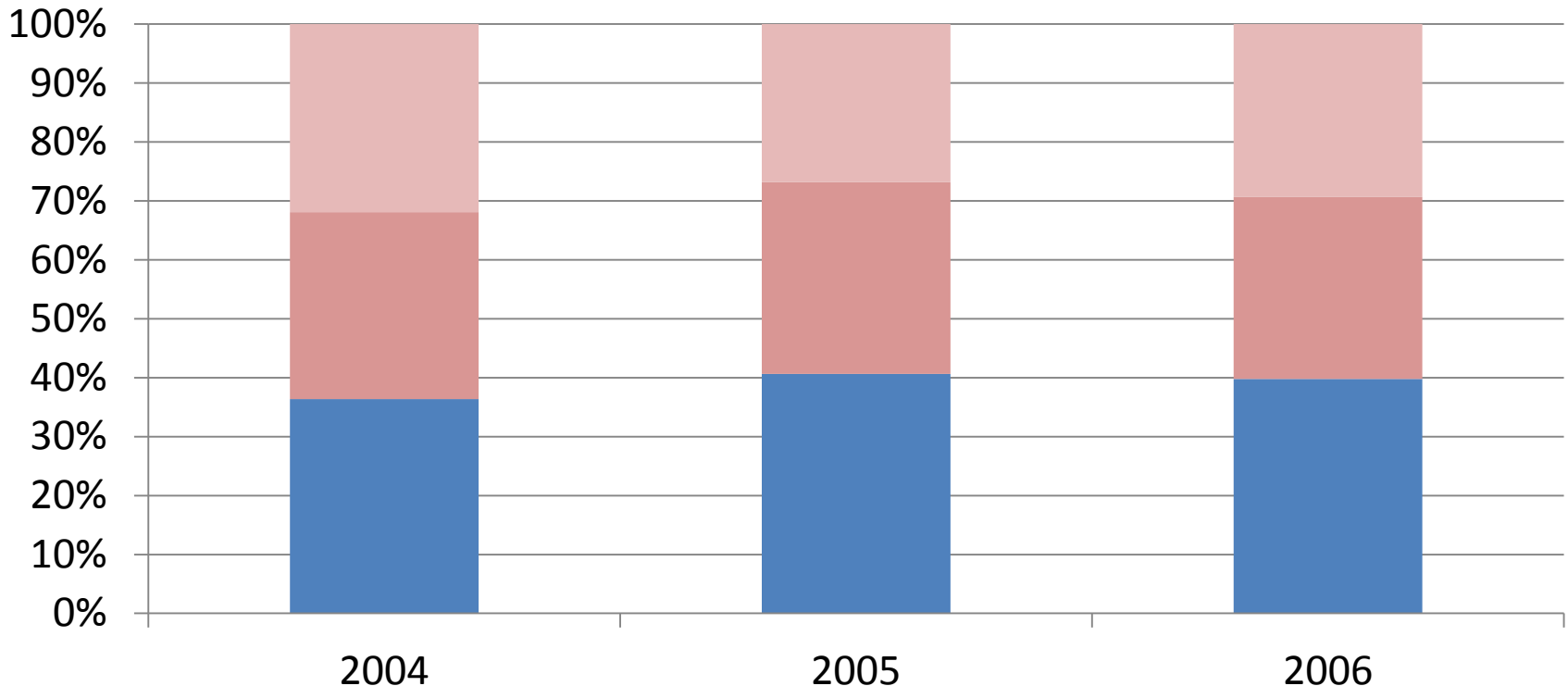
■ No remediation ■ 1 Qtr ■ 2 Qtr ■ 3 Qtr



English Remediation Requirement

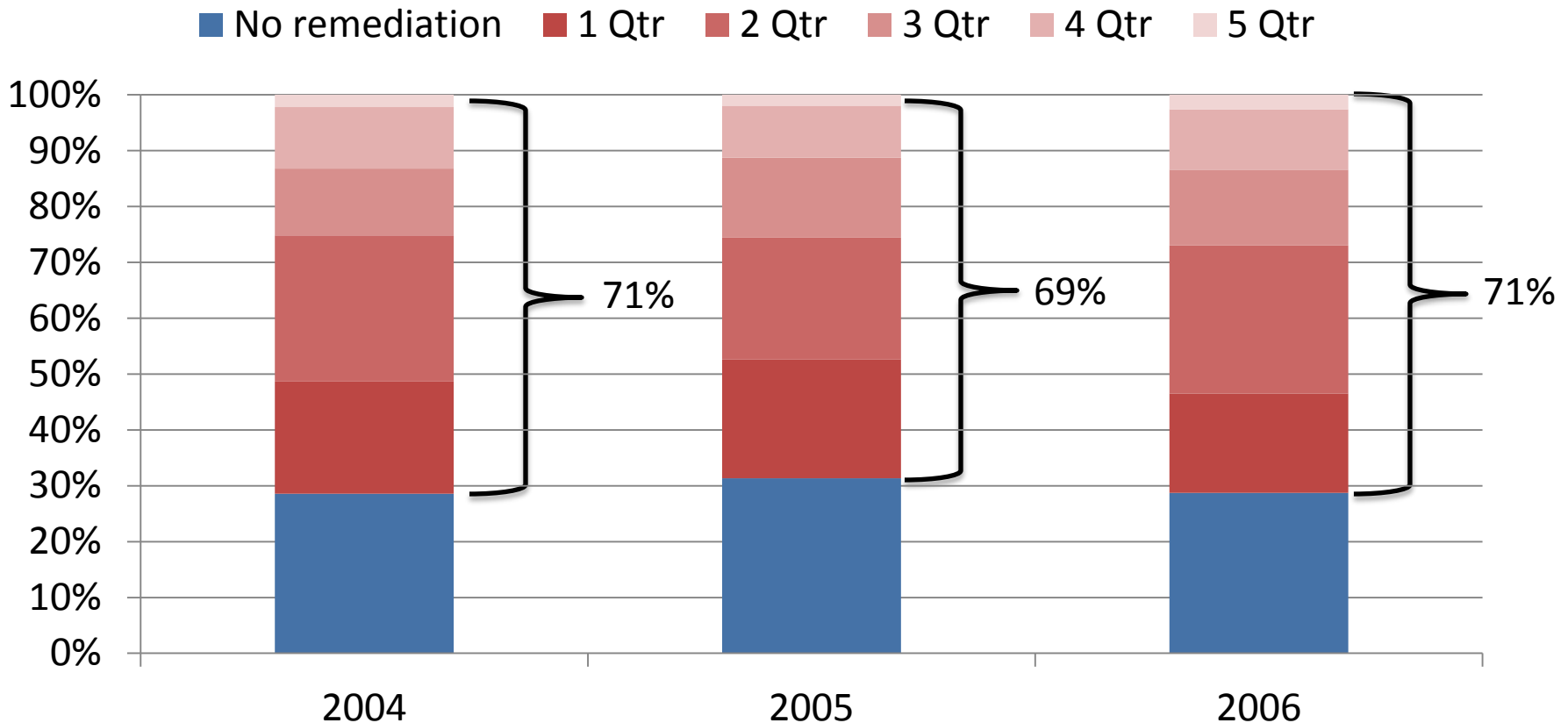
FT/FTF by English Remediation Status for Fall Cohorts 2004-2006

■ No remediation ■ 1 Qtr ■ 2 Qtr



Total Remediation Requirement

FT/FTF Total Remediation Requirement for Fall Cohorts 2004-2006



Relationship Between Years to Degree and Remediation



General Education Math: Lower Division

Fall Cohort	Total Grad. Cohort	Year Completed GE Math													
		1st Year		2nd Year		3rd Year		4th Year		5th Year		6th Year		7th Year	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
2004	770	541	70%	136	18%	23	3%	7	1%	3	0.4%	2	0.3%	2	0.3%
2005	817	585	72%	126	15%	29	4%	12	1%	4	0.5%	1	0.1%	2	0.2%
2006	759	553	73%	134	18%	22	3%	7	1%	4	0.5%	1	0.1%	0	0.0%

General Education English: Lower Division

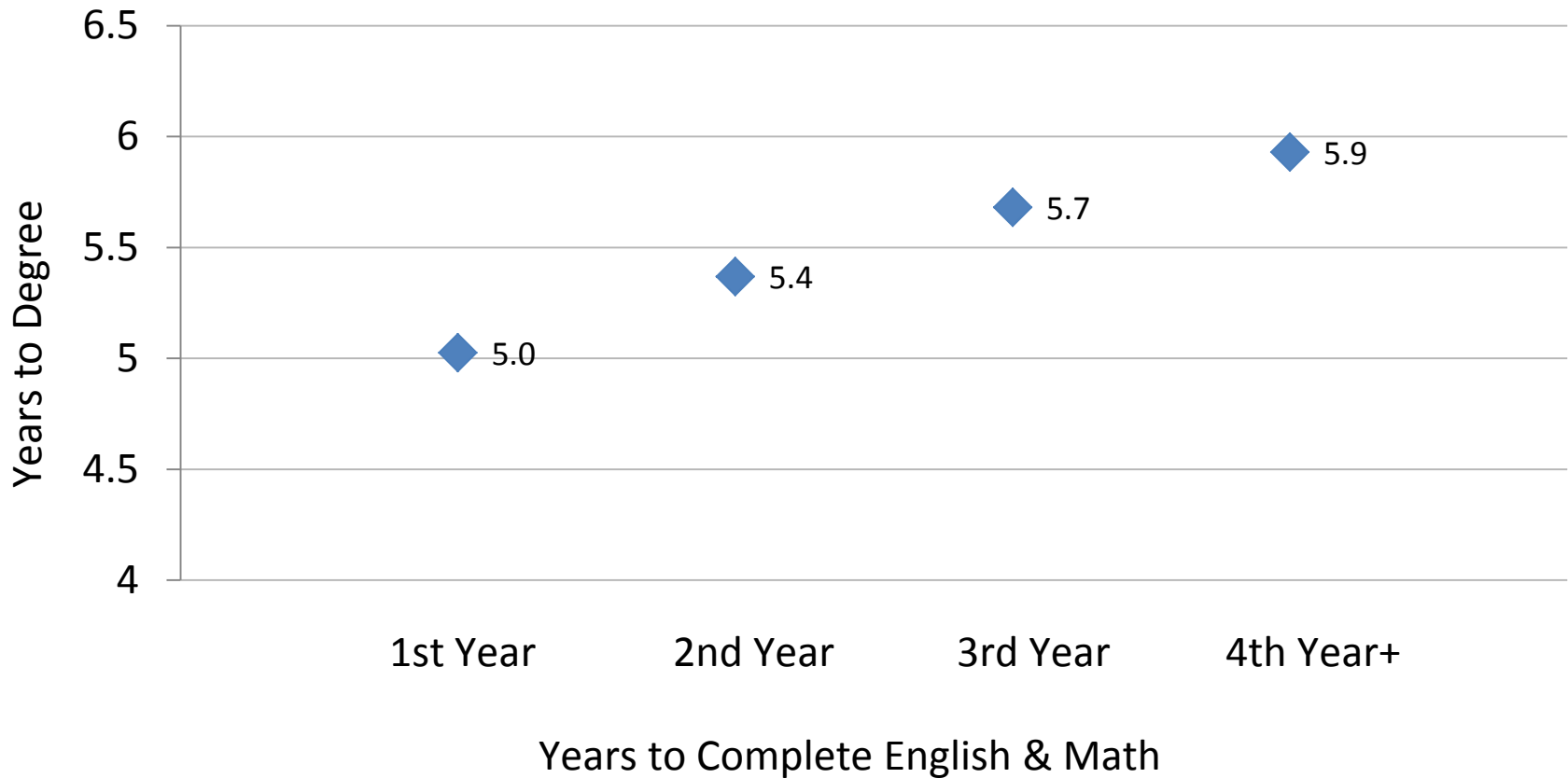
Fall Cohort	Total Graduate Cohort	Year Completed GE English							
		1st Year		2nd Year		3rd Year		4th Year	
		#	%	#	%	#	%	#	%
2004	770	669	87%	34	4%	3	0.4%	0	0.0%
2005	817	684	84%	37	5%	4	0.5%	1	0.1%
2006	759	628	83%	43	6%	6	0.8%	0	0.0%

GE English and Math: Lower Division

Fall Cohort	Total Grad. Cohort	Years to Complete Both GE English and GE Math													
		1st Year		2nd Year		3rd Year		4th Year		5th Year		6th Year		7th Year	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
2004	770	481	62%	147	19%	23	3%	7	1%	3	0.4%	2	0.3%	2	0.3%
2005	817	496	61%	137	17%	31	4%	12	1%	4	0.5%	1	0.1%	1	0.1%
2006	759	468	62%	152	20%	25	3%	6	1%	4	0.5%	1	0.1%	0	0.0%



Relationship Between Years to Degree and Years to Complete GE English and Math

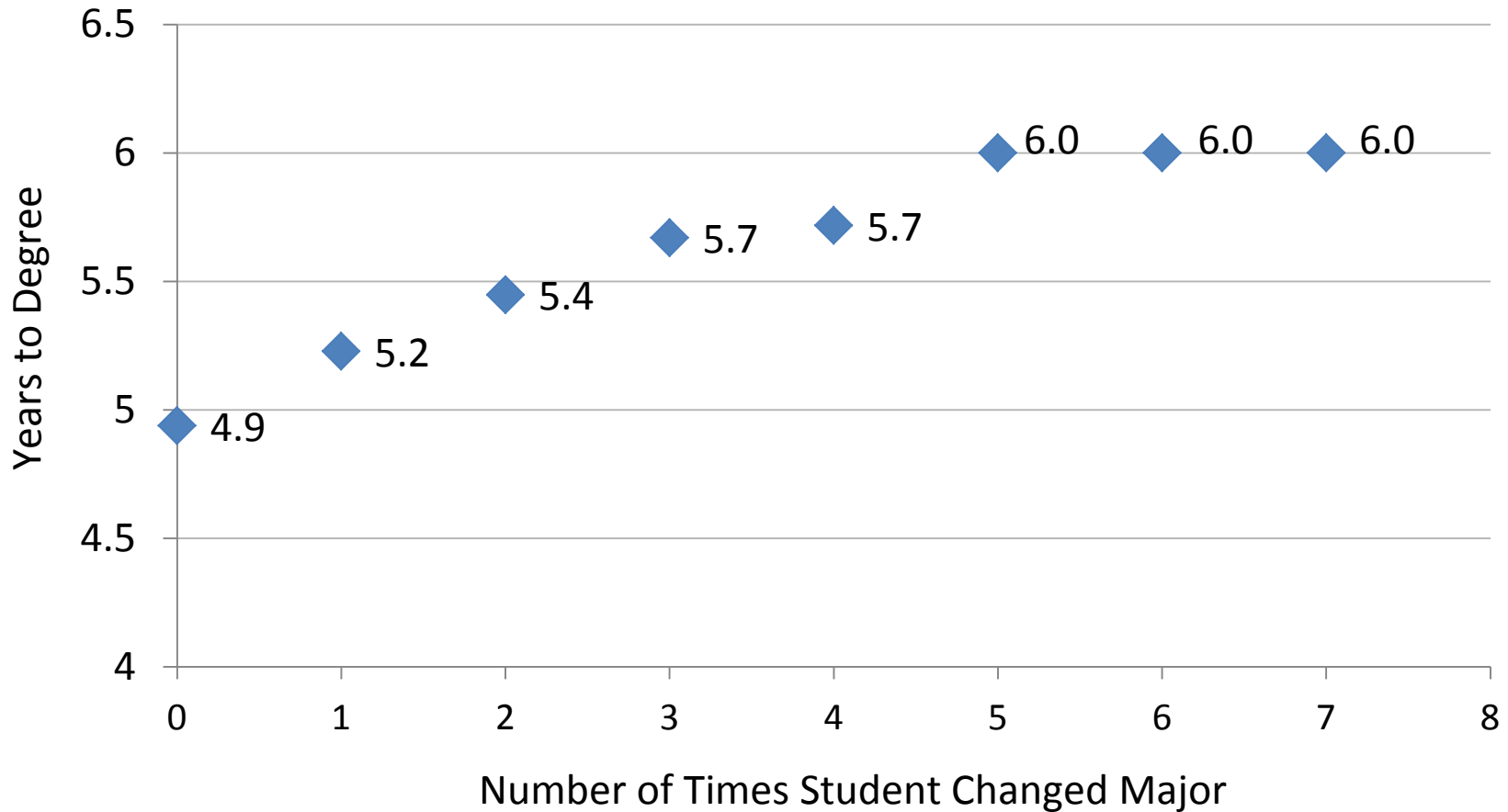


Number of Times Changed Majors

Year	Total Grad. Cohort	Number of Times Changed Major															
		0		1		2		3		4		5		6		7	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
2004	770	212	28%	329	43%	131	17%	73	9%	19	2%	4	0.5%	0	0.0%	2	0.3%
2005	817	241	29%	284	35%	148	18%	113	14%	27	3%	2	0.2%	2	0.2%	0	0.0%
2006	759	245	32%	357	47%	118	16%	30	4%	7	1%	1	0.1%	1	0.1%	0	0.0%



Relationship Between Years to Degree and Number of Times Changed Major

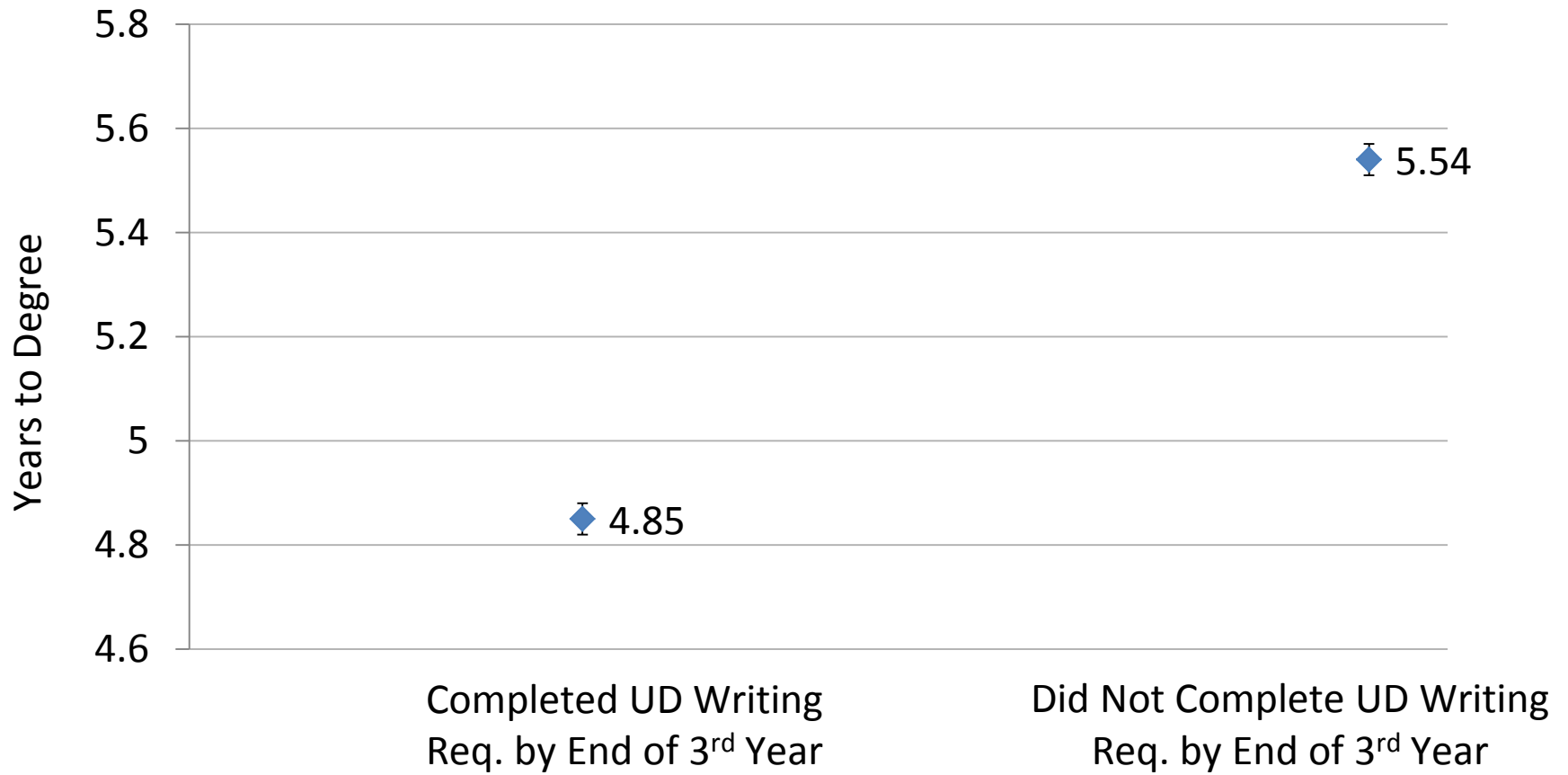


Upper Division Writing Requirement

Fall Cohort	Total Grad. Cohort	Year Took Upper Division Writing Course													
		1st Year		2nd Year		3rd Year		4th Year		5th Year		6th Year		7th Year	
		#	%	#	%	#	%	#	%	#	%	#	%	#	%
2004	770	0	0.0%	24	3%	294	38%	234	30%	103	13%	27	4%	5	0.6%
2005	817	0	0.0%	21	3%	287	35%	253	31%	103	13%	36	4%	6	0.7%
2006	759	1	0.1%	17	2%	272	36%	262	35%	104	14%	17	2%	0	0.0%



Relationship Between Years to Degree and Completion of Upper Division Writing Requirement



Model

- Step 1:
 - Remediation was used as a control variable
- Step 2:
 - Quarters to complete GE English and GE Math
 - Completed upper level writing requirement by end of 3rd year
 - Number times changed major

Sequential Regression of Course Predictors on Years to Degree

Model Summary									
Model	R	R ²	Adj. R ²	Std. Error	R ² Change	F Change	df1	df2	Sig. F Change
1	.236	.056	.055	.929	.056	93.113	1	1584	.000*
2	.486	.236	.234	.836	.180	124.449	3	1581	.000*

Variables in the Model					
Variables	b	S.E.	β	t	Sig
Step 1					
Remediation	.499	.052	.236	9.650	.000*
(Constant)	4.898	.044		112.109	.000*
Step 2					
Remediation	.499	.053	.097	3.903	.000*
Quarters to complete GE Eng. & Math	.060	.009	.168	6.687	.000*
Completed upper division writing	-.559	.044	-.287	-12.668	.000*
Number times changed major	.210	.019	.244	11.065	.000*
(Constant)	4.898	.053		92.077	.000*



Validating the Model

- Used the scoring wizard to get the predicted years-to-degree values for the 2006 cohort
- Vassarstat.net tool
- Fisher's r -to- z transformation non-significant results indicating fit of the model to validation sample

Intervention Strategies: Multi-Prong Approach

- Present results to Undergraduate Studies
- Verbal communication during SOAR Orientation
- Peer Advising Sessions
- Positive Service Indicator
 - GE Math & English: Start of 2nd year
 - Upper Division Writing: Start of 3rd year
- Email Notification
 - GE Math & English: End of 2nd year
 - Upper Division Writing: End of 3rd year



Degree Audit Reporting System

GE/Capstone	Description	Sub Requirement	Deficiency Count*			
			Fresh	Soph	Junior	Senior
GE-A1	BASIC SKILLS	WRITTEN COMMUNICATION - ENGLISH PLACEMENT TEST OR TEST	2062	128	35	16
GE-B1	NATURAL SCIENCES	MATHEMATICS - ENTRY LEVEL MATH EXAM OR TEST EXEMPTION	1839	217	83	61
GE-F1	UPPER DIVISION WRITING REQUIREMENT	UPPER-DIVISION EXPOSITORY WRITING COURSE	4076	2335	2617	1175

*Deficient as of Fall 2013

Degree Audit Reporting System

Emplid	Plan	Description	GPA	Enrolled Units	First	Last	Phone	Email	Fall 2013 Course List	Winter 2014 (as of 11/13/2013)
4073311	PSYC	UD Writing Requirement	2.9	14	Wade	Free	(899) 560-4205	@csusb.edu	ENG 170, PSYC 360, SPAN 202	MUS 180, ENG 306, NSCI 360
4360858	PSYC	UD Writing Requirement	3.6	4	Myra	Mckin	(811) 222-2180	@csusb.edu	NSCI 300, PSYC 334, PSYC 350	PSYC 303, PSYC 311, SSCI 306
3551829	PSYC	UD Writing Requirement	3.1	16	Chris	Horton	(844) 390-2949	@csusb.edu	MUS 266, MUS 267, PSYC 311	PSYC 431, MUS 416, MUS 427
2926893	PSYC	UD Writing Requirement	3.5	12	Mary	Aguilar	(844) 858-0592	@csusb.edu	NSCI 314, PSCI 203, PSYC 382	N/A



Thank you!

Contact us at: institutional_research@csusb.edu

