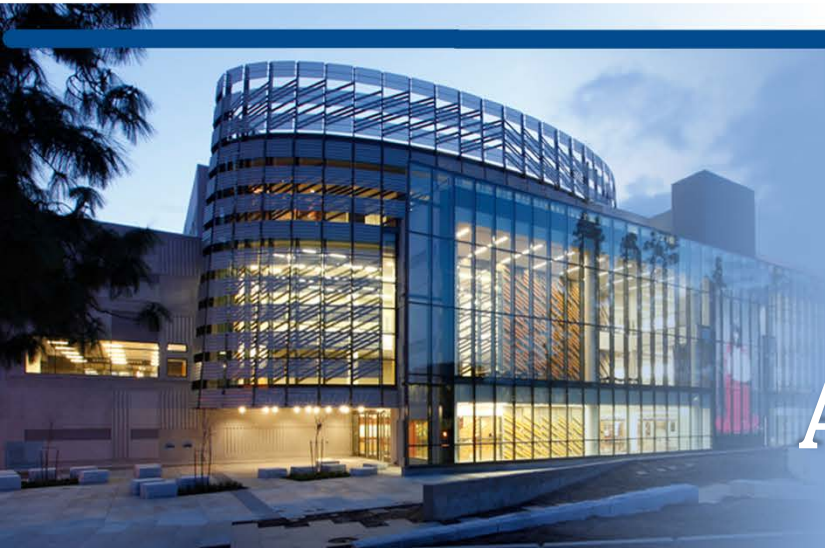


The logo for Fresno State, featuring the word "FRESNO" in red and "STATE" in blue, with a blue paw print icon replacing the letter "O" in "FRESNO".

FRESNO STATE

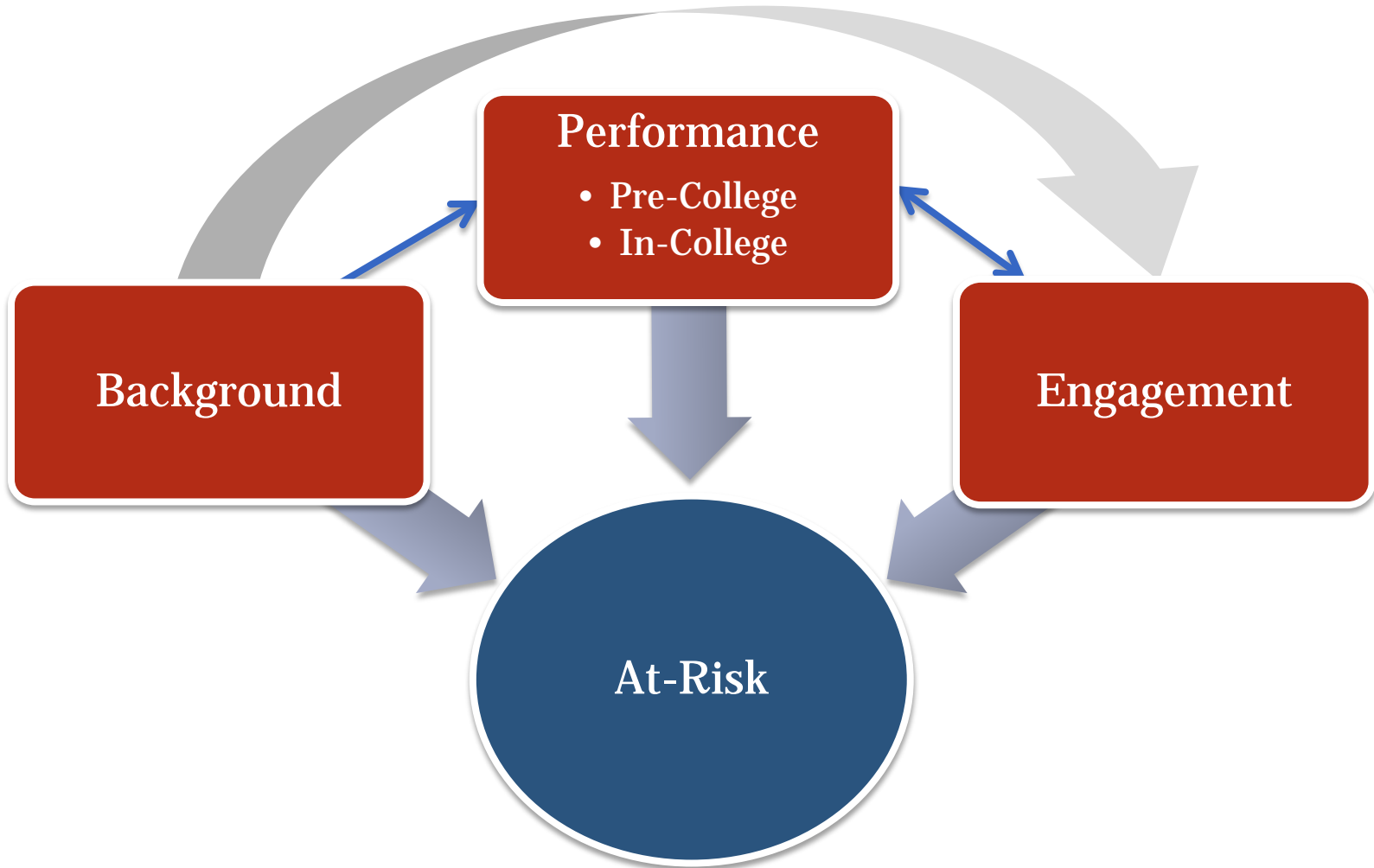
Discovery. Diversity. Distinction.

A photograph of a modern, multi-story glass building at dusk. The building's interior lights are on, and the sky is a deep blue. The building has a curved facade and a prominent glass entrance.

Analysis of Factors Associated with At Risk Status Among 4th Year Students

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Dr. Xuanning Fu, Ph.D., Director • Dmitri Rogulkin, Sr. Research Analyst • Office of Institutional Effectiveness



Among students who have persisted for three years, those who are not at risk are 3.1 times more likely to graduate in 6 years than those who are at risk (83.5% vs. 27.0%).

Table 1 At-Risk Status and Graduation by Fall 2011

At risk and graduation status		Cohort ¹						
		2002 9 years	2003 8 years	2004 7 years	2005 6 years	Total		
Not at risk	Haven't graduated by Fall 2011	N	98	105	89	116	408	
		%	8.6%	8.1%	7.3%	9.1%	8.3%	
	Graduated by Fall 2011	N	1032	1176	1112	1089	4409	
		%	90.8%	91.0%	90.7%	85.7%	89.5%	
	Enrolled in S12	N	6	12	25	65	108	
		%	.5%	.9%	2.0%	5.1%	2.2%	
	Total	N	1136	1293	1226	1270	4925	
		%	100.0%	100.0%	100.0%	100.0%	100.0%	
	At risk	Haven't graduated by Fall 2011	N	142	171	149	136	598
			%	46.9%	50.1%	49.8%	44.9%	48.0%
Graduated by Fall 2011		N	147	158	120	105	530	
		%	48.5%	46.3%	40.1%	34.7%	42.5%	
Enrolled in S12		N	14	12	30	62	118	
		%	4.6%	3.5%	10.0%	20.5%	9.5%	
Total		N	303	341	299	303	1246	
		%	100.0%	100.0%	100.0%	100.0%	100.0%	
Total		Haven't graduated by Fall 2011	N	240	276	238	252	1006
			%	16.7%	16.9%	15.6%	16.0%	16.3%
	Graduated by Fall 2011	N	1179	1334	1232	1194	4939	
		%	81.9%	81.6%	80.8%	75.9%	80.0%	
	Enrolled in S12	N	20	24	55	127	226	
		%	1.4%	1.5%	3.6%	8.1%	3.7%	
	Total	N	1439	1634	1525	1573	6171	
		%	100.0%	100.0%	100.0%	100.0%	100.0%	

¹The 2002, 2003, 2004 and 2005 cohorts are included in the analysis, and these students have had respectively 9, 8, 7, and 6 years in school since first enrolled.

Definitions of Being At Risk

- Cum GPA < 2.1
- Cum GPA ≥ 2.1 and Cum Units < 62
- Cum GPA $2.1 - 2.7$; Cum Units > 62 , and Declining GPA Trend
- Cum GPA > 2.7 , Cum Units > 62 , Declining GPA, and Pre-Major

Table 2 Chances at Risk by Selected Student Background Characteristics

Cohort	AY 2002	1,439	21.1%
	AY 2003	1,634	20.9%
	AY 2004	1,525	19.6%
	AY 2005	1,573	19.3%
	Total	6,171	20.2%
Race/Ethnicity	African American	372	29.6%
	American Indian	30	13.3%
	Asian	976	24.9%
	Hispanic	1,848	26.2%
	Pacific Islander	19	5.3% ***
	Non-Resident Alien	115	17.4%
	Other/ Unknown	526	16.7%
	Total	6,171	20.2%
Under-represented Minority (URM)¹	Non-URM	3,902	16.6% ***
	URM	2,269	26.4%
	Total	6,171	20.2%

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$ (ANOVA)

¹URM Includes Hispanic, African American, American Indian, Native Hawaiian or Pacific Islander "Minority" in later analysis, except in URM where American Indians are combined with Hispanics and African Americans.

Chances at Risk by Selected Student Background Characteristics

Gender	Female	3,768	18.5%	***
	Male	2,403	22.8%	
	Total	6,171	20.2%	
First Generation Student²	Not First Generation Students	2,096	14.1%	***
	First Generation Students	4,075	23.3%	
	Total	6,171	20.2%	
PELL Grant Eligible³	Not Eligible	3,424	16.0%	***
	Eligible	2,747	25.4%	
	Total	6,171	20.2%	
Fresno Service Area⁴	Outside Fresno Service Area	2,219	16.6%	***
	Within Fresno Service Area	3,952	22.2%	
	Total	6,171	20.2%	

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$ (ANOVA)

² First Generation Students with neither of their parents holding a Bachelor's degree

³ Pell Grant: Pell Grant eligible students based on financial aid application

⁴ Fresno Service Area includes Fresno, Madera, Tulare, and Kings counties.

Discussion of Table 2

- The comparisons in Table 2 did not control for other factors.
- All minority students are more likely to be at risk, not just URM. This calls for our attention to Asian students, who have similar at risk probabilities as Hispanic students.
- African American students are most likely to be at risk among students of all ethnic backgrounds.
- Male students are more likely to be at risk than female students.
- First-generation students Pell eligible students and Fresno service area students are more likely to be at risk.

Table 3
Logistic Regression Coefficients (Odds Ratio)
Showing Associations between Chances at Risk
& Selected Student Characteristics

Predictors	Model 1		Model 2	
	Wald	Odds ratio	Wald	Odds ratio
Minority	49.345	1.852 ***		
Other	1.575	1.189		
African American			42.857	2.524 ***
Asian			21.285	1.684 ***
Hispanic			39.360	1.824 ***
Non-Resident Alien			1.905	1.564
Other- Unknown			0.436	1.099
Male	26.280	1.426 ***	25.700	1.422 ***
First generation students	16.007	1.411 ***	15.755	1.413 ***
Pell eligible	1.802	1.117	1.902	1.122
Fresno Service Area	11.886	1.294 **	15.681	1.359 ***
Model χ^2		188.4		200.0
DF		6		9

* $P < 0.05$. ** $P < 0.01$. *** $P < 0.001$.

For race/ethnicity, White is the implicit comparison group.

More likely to be at risk:

- 1st generation college-going students;
- male students; and
- students from Fresno service area

Table 4 Chances at Risk by Pre-college Academic Performance: Remediation

- Students who need remediation are more likely to be at risk, especially those who need remediation in both English and Math.
- Chances of being at risk with one subject remediation are about the same for English or for Math.

Remediation	N	% At-Risk	Sig.
Both English and Math	2,231	29.9%	
Only English	981	17.9%	
Only Math	894	18.1%	***
Neither	2,065	11.6%	
Total	6,171	20.2%	

** P < 0.05. ** P < 0.01. *** P < 0.001 (ANOVA)*

Table 5
Logistic Regression Coefficients (Odds Ratio)
Showing Associations between Chances at Risk and
Pre-College Academic Performance

Predictors	Model 1 ¹		Model 2 ²	
	Wald	Odds ratio	Wald	Odds ratio
High School GPA	220.639	0.304 ^{**} *	178.108	0.315 ^{***}
Composite SAT			42.748	0.998 ^{***}
Remediation				
Both English and Math	82.726	2.209 ^{**} *	2.950	1.235
Only English	8.424	1.379 ^{**}	0.178	1.053
Only Math	4.781	1.282 [*]	0.183	0.946
Model χ^2		463.1		440.1
DF		4		5

* $P < 0.05$. ** $P < 0.01$. *** $P < 0.001$.

Table 6

Logistic Regression Coefficients (Odds Ratio) Showing Associations between Chances at Risk and Term GPA

GPA by Term	Wald	Odds Ratio	
1st Semester	0.112	0.970	
2nd Semester	16.120	0.708	***
3rd Semester	57.473	0.518	***
4th Semester	146.345	0.363	***
5th Semester	236.844	0.262	***
6th Semester	477.540	0.153	***
Model χ^2		2730.0	
DF		6	

* P < 0.05. ** P < 0.01. *** P < 0.001.

Since term GPA is used as part of the factors to calculate at-risk status, this analysis attempts to show which term's academic performance has a greater impact on the at-risk status.

Table 7 At-risk Status and Major Declaration and Major Change¹

Major Change Code by semester ²	% At Risk	# At Risk	Total #
XNNNNNN	59.8%	61	102
RNNNNNN	46.5%	131	282
DNNNNNC	25.3%	40	158
DCNNNNN	18.1%	32	177
DNNNNNN	17.3%	276	1596
RNNNNNP	16.0%	26	163
DNNNNCN	15.0%	25	167
DNNNCNN	13.4%	33	246
XNNNUNN	13.1%	26	198
XNUNNNN	12.4%	15	121
DNCNNNN	11.4%	27	237
DNNCNNN	10.6%	26	245
RNNNPNN	10.5%	23	219
XNNUNNN	10.4%	22	211
RNNNNPN	8.8%	18	205
RNNPNNN	6.5%	11	170
Total	17.6%	792	4497

¹Only major-change patterns that have at least 100 students are included.

²Major change codes:

- X-- no major declared in 1st semester
- D--declared major in 1st semester
- C--changed major
- N--no change
- R- declared a pre-major at entry
- P--changed the declared pre-major to a regular major, a different pre-major or to undeclared

Table 8 Correlation between At Risk Status and % of Courses Withdrawn and Summer Units

- There is a moderate association between withdrawing courses and # being at risk.
- Summer courses are very weakly associated with at risk status.

		W as a % of all courses	Total summer units
At Risk	Pearson Correlation	.290	-.106
	Sig. (2-tailed)	.000	.000
	N	6171	6171

Table 9 Chances at Risk by Selected Student Engagement Patterns

		% At Risk	# At Risk	Total #	
# of full-time terms in 1st 3 years	1	66.7%	13	19	
	2	78.4%	40	51	
	3	72.4%	63	87	
	4	61.7%	142	230	***
	5	40.1%	244	609	
	6	14.4%	744	5,175	
	Total	20.2%	1,246	6,171	
Ever stopped out	No	16.4%	936	5,694	
	Yes	65.0%	310	477	***
	Total	20.2%	1,246	6,171	
A senior at end of 3rd year	No	30.7%	1,217	3,965	
	Yes	1.3%	29	2,206	***
	Total	20.2%	1,246	6,171	
Late registration (within 2 months of a new semester)	No	15.2%	677	4,455	
	Yes	33.2%	569	1,716	***
	Total	20.2%	1,246	6,171	

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$ (ANOVA/T test)

Engagement Patterns That Reduce Chances of Being At Risk

- Full-time in school
- Not stopping out
- Being a college senior at end of 3rd year

Table 10
Logistic Regression Coefficients (Odds Ratio) Showing Associations between Chances at Risk and Selected Student Background, Academic Performance and Engagement Patterns

Predictors	Model 1 ¹			Model 2 ²		
	Wald	Odds Ratio		Wald	Odds Ratio	
Minority				14.286	1.415	**
Other				0.046	0.969	
Fresno Service Area				24.897	1.538	***
High School GPA				106.804	0.373	***
Stopped Out	7.851	1.578	**	8.995	1.652	**
Summer Terms	46.375	0.527	***	41.926	0.546	***
Total Withdrawal	127.048	1.100	***	107.160	1.094	***
Terms full time	158.131	0.451	***	144.081	0.460	***
Total repeats	522.773	1.695	***	377.012	1.588	***
Late Registration	27.165	1.514	***	12.217	1.333	***
Model χ^2		1603.3			1752.3	
DF		6			10	

* P < 0.05. ** P < 0.01. *** P < 0.001.

¹Examines the association between college academic engagement patterns and chances of being at risk

²Adds background characteristics and pre-college academic performance (high school GPA only, to keep all students in the analysis).

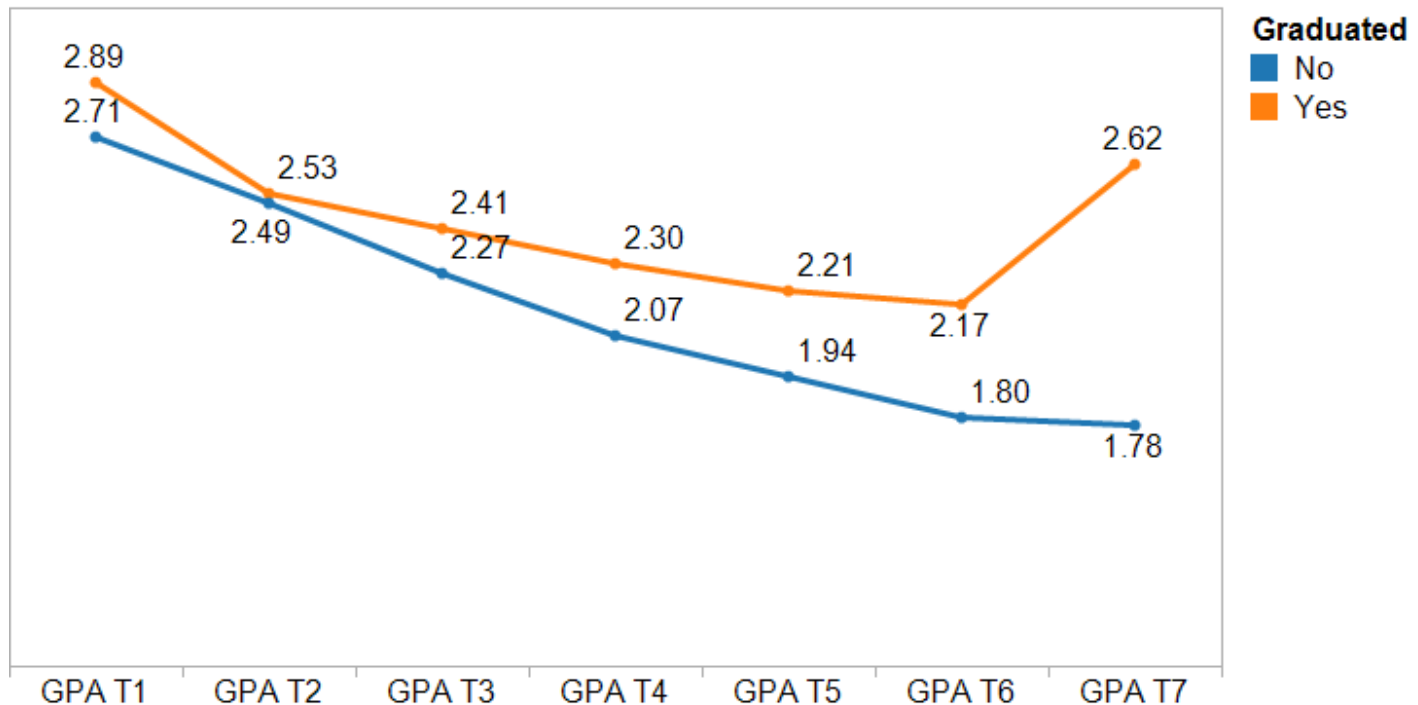
Conclusion: Factors Associated with At Risk Status

- Number of times repeating courses
- Number of semesters full time in school
- High school GPA
- Withdrawals from courses.

Student background (being a minority and coming from Fresno service area) is still relevant but no longer strongly associated with being at risk, once college engagement patterns are included in the analysis. However, high School GPA remains a strong predictor of at-risk status.

Implications / Interventions

Average GPA of the 4th Year At Risk Students by Term and Degree Completion



At Risk students still have a chance to graduate, but need to improve their GPA substantially during the 7th term.

Questions / Comments?