Leaving Early:
Characteristics and Factors Influencing First Year Stopouts/Dropouts

CAIR 2017

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Background

* Nationally, about 40% of bachelor's degree seekers starting at public 4-year colleges do not complete a degree within 6 years
* At UC, about 15% of entering freshmen do not complete a degree at UC (systemwide) within 6 years
  - Differences by campus and by student demographics
  - About 7% leave within the first year
* Decreasing stopout/dropout in first year key to improving graduation rates
* More info needed re: who leaves in first year and what factors are related to leaving

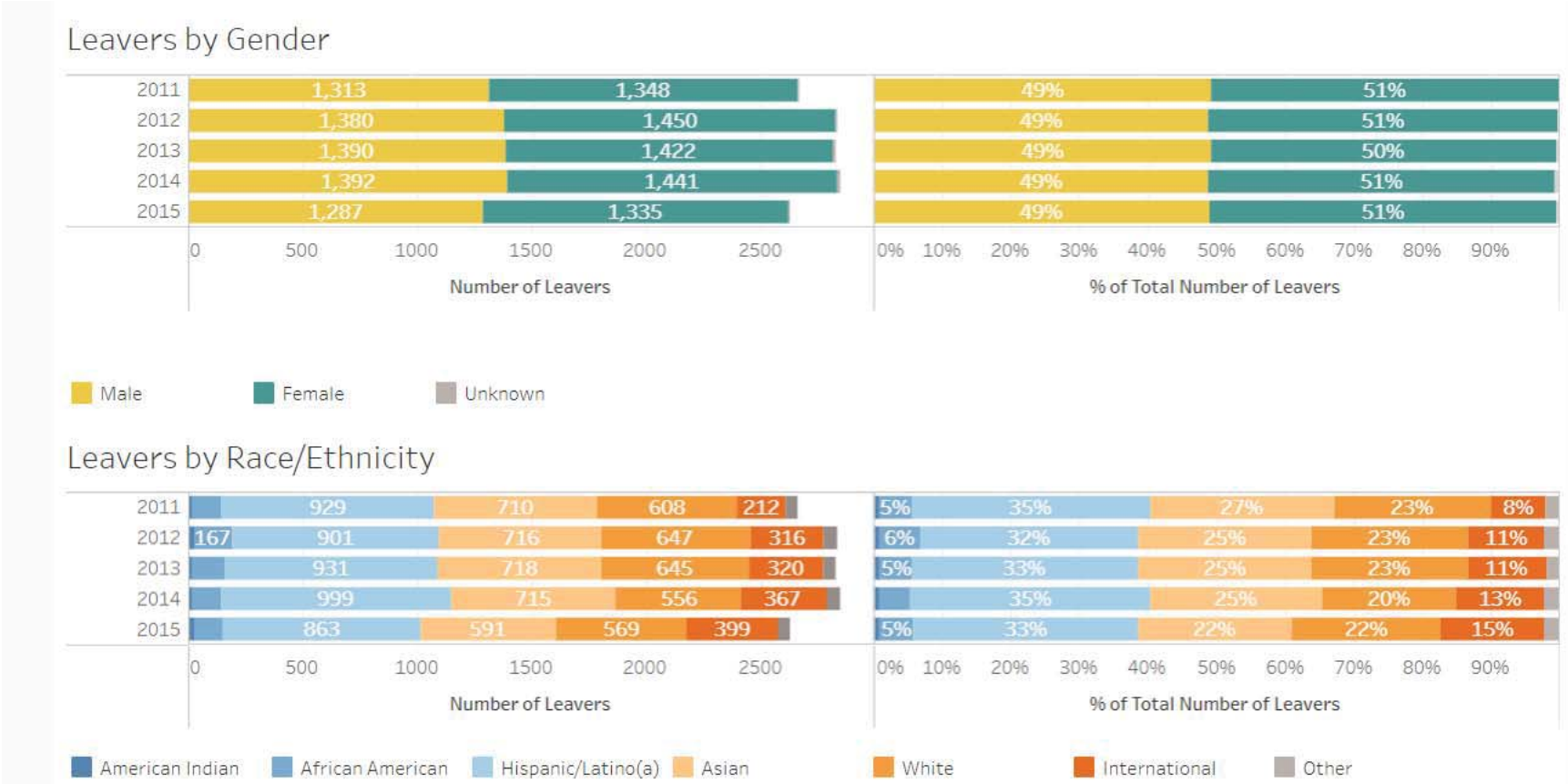
Research Questions

* Who leaves UC in the first year?
* What factors are related to leaving UC in the first year?

Factors Examined

* Pre-UC factors
  - Academic preparation (HS GPA, test scores, honors courses, entry-level writing requirement)
  - Demographics (race/ethnicity, low-income, residency, first language, first generation)
  - Pre-college outreach programs (EAOP/MESA/Puente)
  - Distance from home
* UC factors
  - College performance (1st term GPA)
  - Enrollment intensity (units attempted 1st term)
  - Financial aid (need-based and non-need-based gift aid, loans, work-study)
  - Academic major

Profile of Leavers



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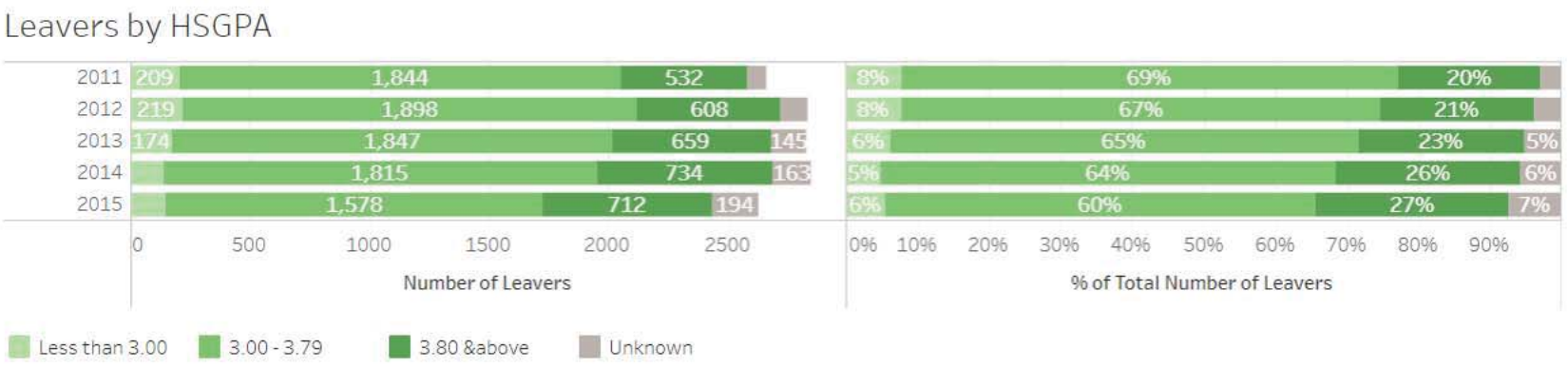
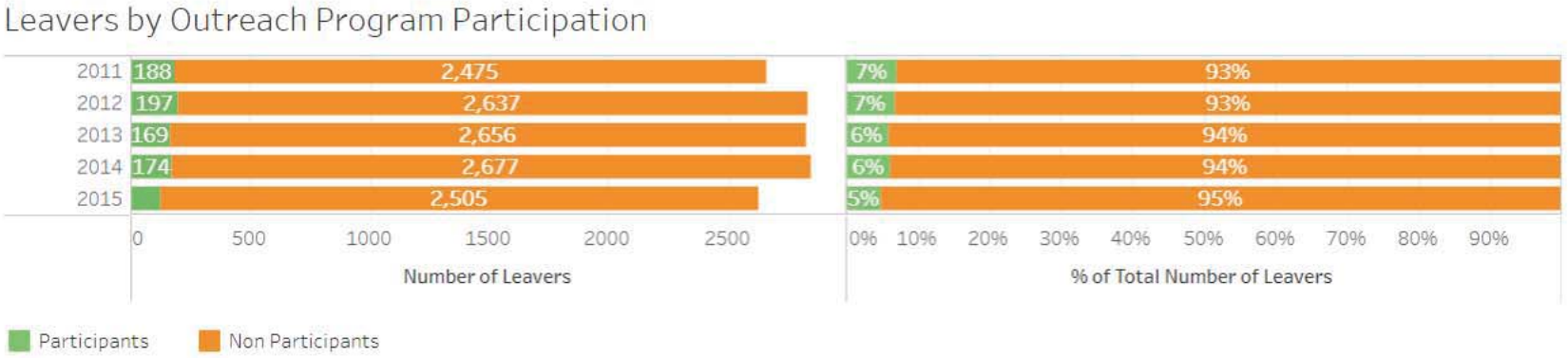
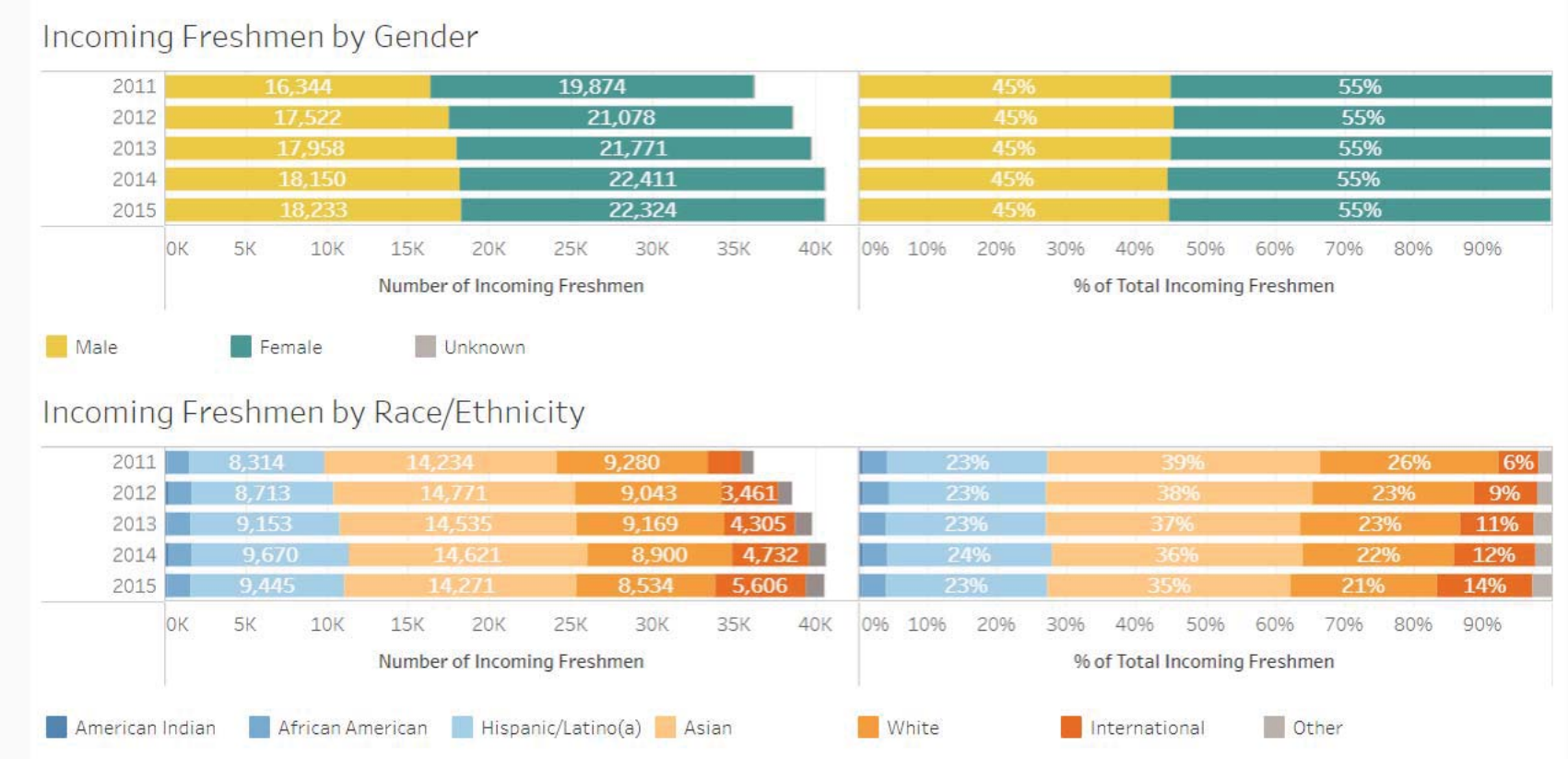




Profile of Leavers

* Context: Profile of Incoming Freshmen



Factors Related to Leaving

* Model 1
  - Data: 2011-2015 Fall Incoming Freshmen cohorts (13,804 first-year leavers vs. 182,154 retained first year)
  - Method: logistic regression
    - Dependent variable: First-year leavers
    - Independent variables:
      - Pre-UC factors
      - UC factors
* Model 2
  - Data: same cohorts but CA residents only (10,644 first-year leavers vs. 149,291 retained)
  - Method: same as model 1 but with distance variable added

Factors Related to Leaving

* Descriptive statistics for some independent variables

Variable	Label	Category	#	%
First Language	First language spoken at home	English only	75,792	39%
		English and another language	59,443	30%
		Another language	60,574	31%
Writing Requirement	Passed UC writing requirement or not	Passed	140,986	72%
		Failed	54,825	28%
Non-Need Based Aid	First year cumulative non-need based aid	Yes	47,231	24%
		No	148,727	76%
Need Based Aid	First year cumulative need based aid	Yes	112,497	57%
		No	83,461	43%
Loans	First year cumulative loans	Yes	85,374	44%
		No	110,584	56%
Work-Study	First year cumulative work-study aid	Yes	13,371	7%
		No	182,587	93%

Variable	Label	N	Mean	Std Dev	Min	Max
Total honors courses	Total number of honors courses taken	188,277	15	9.31	0	176
HSGPA	Unweighted HS GPA	188,292	3.65	0.31	0.25	4
SAT/ACT	Highest SAT or ACT score (log value)	195,701	3.26	0.07	2.86	3.38
UC Units	UC Units Attempted First Term	195,911	14	2.60	0	37
UC GPA	UC GPA First Term	195,229	3.05	0.73	0	4
Distance	Distance from home (per 10 miles)	180,294	39.35	104.48	0.00	1109.43

Factors Related to Leaving

	Model 1 (N=177,910)			Model 2 (N=152,227)		
Variable	B	Sig.	OR	B	Sig.	OR
Constant	4.480	***		4.118	***	
Female	-0.098	***	0.907	-0.100	***	0.904
African American (vs White)	0.270	*	1.309	0.169		1.184
American Indian (vs White)	-0.288	***	0.75	-0.358	***	0.699
Hispanic/Latino(a) (vs White)	-0.077	*	0.926	-0.070		0.933
Asian (vs White)	-0.434	***	0.648	-0.447	***	0.64
Other (vs White)	-0.136		0.873	-0.109		0.896
International (vs White)	0.287	***	1.332			
Domestic Non-Resident (vs CA Resident)	0.713	***	2.039			
Another Language (vs English Only)	-0.222	***	0.801	-0.177	***	0.838
English & Another Language (vs English Only)	-0.222	***	0.801	-0.197	***	0.821
First Generation	-0.036		0.965	-0.017		0.983
Pell Recipient	0.030		1.03	-0.062		0.94
Total honors courses	-0.005	***	0.995	-0.018	***	0.983
Participated in UC Outreach Program	-0.036		0.965	-0.025		0.975
HS GPA	-0.238	***	0.788	-0.237	***	0.789
Highest SAT/ACT (log)	-0.197		0.822	0.027		1.028
Passed UC Writing Requirement	-0.073	**	0.929	-0.082	**	0.921
UC Units Attempted First Term	-0.064	***	0.938	-0.066	***	0.936
UC GPA First Term	-1.168	***	0.311	-1.239	***	0.29
Declared Major	-1.335	***	0.263	-1.364	***	0.256
Non-Need Based Aid	-0.145	***	0.865	-0.126	***	0.881
Need Based Aid	-0.016		0.984	0.045		1.046
Loans	0.109	***	1.115	0.046		1.048
Work-Study	-0.307	***	0.735	-0.323	***	0.724
Distance				0.003	***	1.003
-2 Log L	71875.191			58078.62		
Likelihood Ratio	17265.104	***		15258.58	***	
R-Square	0.0925			0.0954		
Max-rescaled R-Square	0.2347			0.2495		

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Campus Dashboard

Evaluating Interventions

Cohort Frosh	Group	Enrl Sem01	Retained to 2nd Year	Retained to 3rd Year	Retained to 4th Year	Observed Graduation Rate (4 Yr)	Expected Graduation Rate (4 Yr)	Gap (4 Yr)
Fall 2010	Null	72	90%	75%	67%	50%	54%	-4%
	"Group A"	49	76%	65%	65%	49%	47%	2%
	"Group B"	28	82%	71%	71%	43%	47%	-4%
	"Group C"	26	73%	69%	62%	38%	48%	-10%
	"Group D"	44	82%	68%	73%	52%	48%	5%

Future Plans

* Further refine profile and statistical model
* Track retention/leaving term-by-term, 1st two years
* Use model to create predicted vs. Actual retention tool

Q & A