June 2022

Fall to Spring Persistence & Attrition 2017-2020

College of the Canyons

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COLLEGE OF THE CANYONS

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Introduction & Background

The office of institutional research, planning and institutional effectiveness conducted analyses on student persistence rates at the request of the instruction office examining which students were not retained from fall to spring terms, in other words students' fall to spring attrition rates. Specifically the following research question was examined:

What are the distinguishing characteristics of students who do not persist from fall to spring?

Method

Data were obtained from enrollment files (usx) and student information files (ust) for 4 fall terms 2017- 2020. The analysis excludes In-service Agreement students (e.g., LA County Fire/Lifeguard, LAPD, LASD), concurrently enrolled high school students, noncredit only students, and educational goal indicating 4-yr students and those who completed a degree in the given fall or subsequent spring term for that year. Students who started as credit students and re-enrolled in non-credit in the subsequent spring term were excluded, a total of 69 students met this criteria across the four years. Term to term non-persistence, or attrition, was measured through students having enrollment units in the fall term, and 0 units in the subsequent spring term (limited to credit enrollment). A total of 50,103 records were examined.

The following factors were examined to assess differences between those who persisted and those who did not:

- Admit status (first-time, returning etc.)
- Unit load
- Enrollment types (day/evening, primary enrollment location, primary delivery mode)
- Educational Goal
- Academic Standing
- Financial Aid
- Demographics (First-Generation College, Race/ethnicity, Gender, Age, Community of Residence)
- Program Major

If one or more section enrolled is evening, then the student is categorized as having their enrollment be 'evening'. Academic Standing excludes category of 'Dismissal' since those students would not be eligible to enroll in the subsequent term. Financial aid students were identified as those who received either PELL or BOGW in each of the years that were examined. Program majors were reviewed among those who persisted and those who did not, identifying at the broadest level whether there was a difference in the division/school in which students were pursuing a degree/certificate.

Differences were identified by examining the percentage of students who did not persist to the spring term in each category in comparison to the same percentage out of the total enrolled population (after exclusions). For instance, attrition rate among part-time students was 39% whereas the overall rate was 30% yielding a difference of 9 percentage points. A minimum difference of 2 percentage points needed to be met in order to be designated as an effect.

Results

Overall, during a 4-year time period, the pattern for the proportion of students persisting from the fall term to spring term is approximately 70%, indicating that 30% of students enrolled in the fall term do not re-enroll in the subsequent spring term. Year over year variability in the attrition rate is low, ranging from 29% to 31.5% (Figure 1).

Figure 1. Fall to Spring Attrition Rates (non-persistence)

30%	29.1%	30.1%	31.0%	31.5%
4 year average	2017	2018	2019	2020
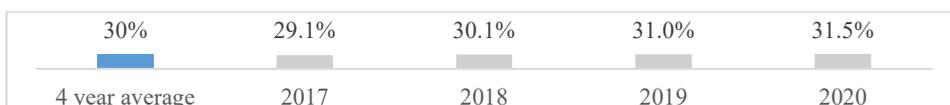
A total of 13 characteristics were identified as being associated with fall to spring student attrition.

Within-Group Attrition Rates

First, in examining within-group rates (percentage of students not persisting from fall to spring) the list of characteristics below were identified as having higher attrition rates in comparison to "the others" in that category. For instance, full-time is the comparison for part-time, Day students for Evening, Degree/Transfer for Vocational/Career, Age 19 or less for 20+ etc.). Figure 2 provides details on the rates and is presented in the order from highest to lowest percentage gap between the group's rate and the comparison's rate. Notably, financial aid recipients were more likely to persist than those who did not receive PELL/ BOGW funding, perhaps due to the obligation to stay enrolled in order to be eligible for the aid. Academic probation standing (progress or GPA).

Characteristics of Students with Higher Attrition Rates

- Academic Probation
- Admit status: returning (those who may have attended the college previously and took a break).
- Unit load: part-time
- Age: 20 or more years
- Evening enrollments
- Online-only
- Race/ethnicity: African American/Black, Two or more Races
- Primary enrollment: Canyon Country
- Education goal: Vocational Ed
- Out of district community of residence
- Financial Aid non-recipients
- First-generation college status

Figure 2. Fall to Spring Attrition Rates: Group vs. Comparison (4 year Average (2017-2020))
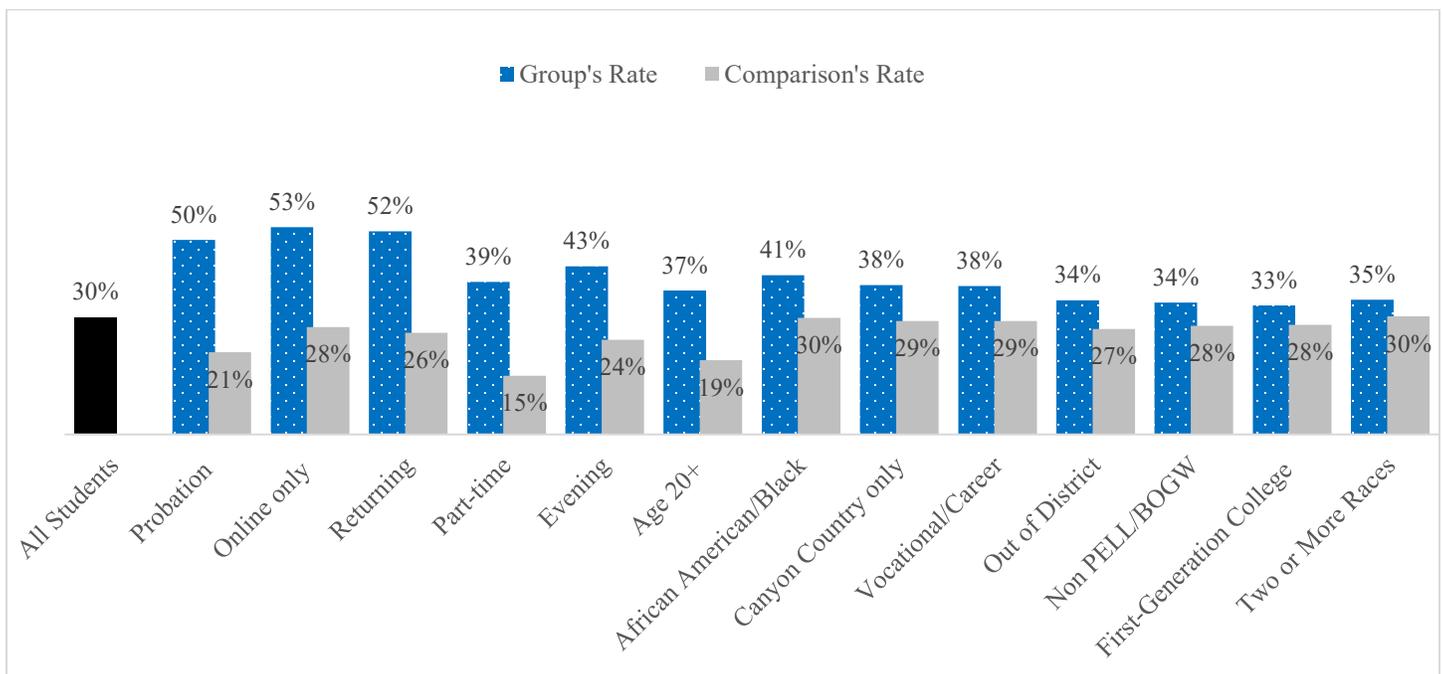
Program or major was examined as a factor, and students with majors in the division/school of Applied Technologies had the highest attrition rate in comparison to students majoring in other divisions (Table 6 provides details on program/majors).

Students exceeding expected Attrition

Assessing the volume of students who have not persisted from fall to spring, the highest number of students exceeding the *expected* attrition based on the overall rate of 30% is among part-time students, followed by returning, and students aged 20, or more years old. Table 1 provides details on the number of students who do not persist from fall to spring within each category.

Table 1. Number of more students lost to attrition within each category* than expected.

	Per Year	Cumulative Total for 2017-2020			
	Number of students exceeding expected attrition *Per Year*	**Total**	**Observed Attrition**	**Expected Attrition** Ref. 30%	**Number of students exceeding expected attrition** Overall
Part-time	744	30,362	12,084	9,109	2,976
Returning	374	6,563	3,466	1,969	1,496
Age 20+ years	533	31,900	11,703	9,570	2,133
20-24 years	126	17,971	5,894	5,391	503
25+ years	407	13,929	5,808	4,179	1,630
Online only	369	4,810	2,549	1,443	1,106
Evening	252	7,566	3,276	2,270	1,006
Out of District	219	20,342	6,977	6,103	875
Non PELL/BOGW	218	23,599	7,953	7,080	873
Academic Probation (progress or GPA)	148	2,406	1,315	722	593
First-Gen	143	16,384	5,489	4,915	573
Vocational/Career	136	6,263	2,424	1,879	545
African American/Black	70	2,605	1,060	782	279
Canyon Country	92	3,357	1,282	1,007	275
Two or more Races	14	1,254	433	376	56

*Categories are not mutually exclusive, students can be in more than one category simultaneously
1. Enrollment mode and location are limited to 3 years 2017-2019, as the 2020-21 year was impacted by COVID19 and transition period to delivering instruction virtually.
2. Expected Attrition is calculated based on the overall attrition rate, 30% of the total per group.

Given that the categories identified as having high attrition rates may also be correlated (returning students are also more likely to be part-time etc.), regression modeling was used to assess the unique effect of each category while holding others constant. Binary logistic regression results are provided in Table 4. Predicting the probability of 'not persisting', this model uses Odds ratios to express the effect size of each characteristic. The higher the Odds Ratio value, the odds of 'not persisting' increase. This model shows that Academic probation standing has the strongest effect on attrition, followed by part-time, returning students, students aged 20+ years and evening status, showing the consistent strong influence of these characteristics on fall to spring attrition. All predictors were statistically significant driven by the large number of cases included in the regression model (N=30,520).

Table 2. Logistic Regression predicting attrition ranked by Odds Ratio.

		Odds Ratio	95% CI Lower	CI Upper
Academic Standing	AcadProbation(1)	12.82	11.04	14.89
Admit Status	Returning(1)	2.17	2.00	2.36
Unit Load	Parttime(1)	2.07	1.92	2.22
Age	AgeGT20(1)	2.00	1.85	2.18
Primary Enrollment Time	Evening(1)	1.57	1.45	1.69
Race/Ethnicity	AfAmer/Black(1)	1.47	1.28	1.69
Primary Delivery Mode	OnlineOnly(1)	1.45	1.31	1.60
Financial Aid	NoFinAid(1)	1.38	1.30	1.47
Community of Residence	OutofDist(1)	1.34	1.13	1.59
Primary Enrollment Location	CCC(1)	1.21	1.13	1.29
Education Goal	VocEd(1)	1.18	1.04	1.34
Parent/Guardian Education Level	firstgen(1)	1.15	1.05	1.26

Reference Group: Good Standing, First-time, Full-time, Not aged 20-34 years, Day enrolled, Non African-American/Black, Non- Two or more Races, On-ground/Both enrolled, received Financial Aid, In-district, non CCC, and degree/transfer goal, not first-gen.

Summary Findings

Overall, 30% of fall students do not persist to enroll in the subsequent spring term. Within category attrition rates are highest among academic probation students followed by online-only, returning, evening students, 20 or more years, African American/Black students then part-time students.

Recommendations

Upon review of the results of non-persistence/attrition data over the 4 year time-frame, the following recommendations should be taken into consideration:

- Consider re-engagement and retention efforts to target part-time, returning students, non-traditional aged, online, and evening students because this is where the college is most likely to make the largest impact.

For questions, or more detailed information on this research brief, contact Preeta Saxena, Ph.D., Senior Research Analyst preeta.saxena@canyons.edu, or Daylene Meuschke, Ed.D., Associate V.P. Institutional Research, Planning and Institutional Effectiveness at daylene.meuschke@canyons.edu.

APPENDIX

Table 3. Fall to Spring Attrition rates within each category (4 year average and per year)

	Persisted	Did not Persist*	Percentage Point Gap Ref. Overall ~min 2.0	2017	2018	2019	2020
*Overall**	70%	30%		29.1%	30.1%	31.0%	31.5%
Admit Status							
First-time/FT Transfer	70.6%	29.4%	-0.6%	27.7%	26.6%	28.3%	41.2%
Continuing	74.3%	25.7%	-4.3%	24.2%	26.5%	26.7%	25.7%
Returning	47.2%	52.8%	22.8%	52.2%	51.8%	53.8%	53.7%
Fall Unit Load							
Part-time	60.2%	39.8%	9.8%	38.2%	39.4%	41.0%	41.0%
Full-time	84.2%	15.8%	-14.2%	15.0%	15.0%	15.8%	17.7%
Day/Evening							
Day	75.7%	24.3%	-5.7%	23.1%	24.3%	25.4%	24.4%
Evening	56.7%	43.3%	13.3%	42.9%	43.3%	44.9%	43.1%
Unknown	51.4%	48.6%	18.6%	54.6%	53.1%	51.4%	42.4%
Mode of Delivery(primary) excludes Fall 2020*							
On-ground/in-person only	69.6%	30.4%	0.4%	28.5%	30.2%	32.9%	-
Online only (includes OLC)	47.0%	53.0%	23.0%	54.8%	53.2%	51.3%	-
On-ground and Online equally	72.4%	27.6%	-2.4%	27.0%	29.0%	26.6%	-
Other (includes other)	77.8%	22.2%	-7.8%	22.5%	22.1%	21.9%	-
Section Location(primary) excludes Fall 2020*							
Valencia	70.2%	29.8%	-0.2%	28.4%	29.1%	32.2%	-
Canyon Country	61.8%	38.2%	8.2%	37.0%	38.0%	40.5%	-
Both VLC/CCC	77.7%	22.3%	-7.7%	19.6%	24.5%	23.5%	-
Educational Goal							
Degree/Transfer	70.90%	29.10%	-0.009	27.4%	28.8%	29.6%	30.9%
Vocational/Career	61.3%	38.7%	8.7%	38.2%	37.8%	40.1%	38.8%
Other (Basic Skills, GED, unknown etc.)	75.0%	25.0%	-5.0%	29.3%	29.6%	30.0%	29.0%
Acad. Standing							
Good Standing	77.4%	22.6%	-7.4%	20.1%	21.1%	22.0%	22.6%
Progress Probation (withdrawals/incompletes)	34.9%	65.1%	35.1%	65.1%	64.9%	68.4%	75.2%
Academic Probation (low GPA)	55.8%	44.2%	14.2%	44.2%	42.7%	42.1%	47.6%
Not applicable. Attempted less than 12 units	53.4%	46.6%	16.6%	46.6%	48.0%	50.5%	52.6%
Financial Aid							
Non PELL/BOGW	66.3%	33.7%	3.7%	31.7%	33.6%	34.3%	35.5%
Received PELL/BOGW	72.6%	27.4%	-2.6%	26.8%	26.9%	28.1%	27.8%
First-Generation (excl. unknown)							
First-Gen	66.5%	33.5%	3.5%	31.3%	33.6%	34.2%	35.1%
Not First-Gen	71.5%	28.5%	-1.5%	27.5%	28.0%	29.2%	29.4%

	Persisted	Did not Persist*	Percentage Point Gap Ref. Overall ~min 2.0	2017	2018	2019	2020
Race/Ethnicity							
Native Amer./Alaskan	71.3%	28.7%	-1.3%	21.7%	26.9%	28.9%	41.9%
Asian/Pacific Islander	76.3%	23.7%	-6.3%	23.9%	24.9%	23.3%	22.5%
African American/Black	59.3%	40.7%	10.7%	39.6%	42.7%	43.4%	36.5%
Hispanic/Latinx*	69.1%	30.9%	0.9%	29.3%	30.1%	31.5%	33.0%
Two or More Races	65.5%	34.5%	4.5%	34.1%	29.5%	36.4%	37.4%
White	70.5%	29.5%	-0.5%	28.1%	29.9%	30.4%	30.0%
Unknown	71.9%	28.1%	-1.9%	30.2%	21.4%	29.2%	30.9%
Gender							
Female	70.0%	30.0%	0.0%	28.3%	30.0%	30.7%	31.1%
Male	69.2%	30.8%	0.8%	30.0%	30.3%	31.3%	31.9%
Age							
19 or less	81.0%	19.0%	-11.0%	17.1%	17.8%	19.5%	21.9%
20-24	67.2%	32.8%	2.8%	31.1%	32.8%	33.6%	34.1%
25-29	58.3%	41.7%	11.7%	41.5%	42.3%	41.7%	41.1%
30-34	58.0%	42.0%	12.0%	38.7%	42.2%	45.7%	41.5%
35-39	58.2%	41.8%	11.8%	42.2%	39.0%	43.6%	42.8%
40-49	58.6%	41.4%	11.4%	42.6%	41.9%	41.9%	39.1%
50+	55.6%	44.4%	14.4%	43.4%	45.7%	48.4%	38.8%
Community of Residence							
Out of District	65.7%	34.3%	4.3%	32.0%	34.4%	35.7%	35.4%
In-District	72.1%	27.9%	-2.1%	27.0%	27.1%	28.0%	28.6%
Program/Major Division (3 terms only)							
Applied Technologies	66.3%	33.7%	3.7%	-	32.4%	35.8%	32.9%
Health Professions & Public Safety	68.9%	31.2%	1.2%	-	31.2%	29.3%	32.8%
Business	74.3%	31.1%	1.1%	-	30.7%	30.8%	31.7%
Humanities	68.8%	29.7%	-0.3%	-	27.0%	30.2%	32.3%
Social & Behavioral Sciences	70.3%	29.6%	-0.4%	-	30.7%	28.6%	29.4%
Personal & Professional Learning	72.3%	28.3%	-1.7%	-	16.4%	32.3%	29.1%
Kinesiology & Athletics	75.2%	27.7%	-2.3%	-	30.4%	27.2%	25.5%
Enrollment Services/Counseling	71.7%	25.7%	-4.3%	-	26.3%	24.5%	26.4%
Mathematics, Science & Engineering	70.4%	24.8%	-5.2%	-	23.3%	22.6%	28.6%
Visual & Performing Arts	75.7%	24.3%	-5.7%	-	26.1%	22.3%	24.6%

*Since Hispanic/Latinx students comprise over 45% of the total student population, their attrition rate was also compared to the 'all others' category and the percentage point gap was 1.1%.