Out of State, Out of Place?

An Examination of Non-Resident Persistence and Retention

Charles Mathies
Mauricio Saavedra
University of Georgia

Introduction

- A regular analysis conducted by many institutional research offices relates to student persistence and retention.
- One area that is not regularly examined is non-resident student persistence and retention at public universities

Persistence & Retention

- Persistence: the conscious act by students to continue enrollment in higher education (Mortenson, 2005)
- Retention: ability of institution to keep a student from admission through graduation (Berger & Lyon, 2005)

Persistence & Retention

- No definitive model of persistence through graduation has been developed (Seidman, 2005)
- Influential reasons as to why students persist:
  - Academics (preparation & performance)
  - Level of commitment to studies by student
  - Intensity of student involvement within the institution
  - Ability to pay

Non-Resident Persistence & Retention

- Students who attend out-of-state universities instead of in-state institutions typically do so based on a perception of a larger return on their investment in higher education
- Research shows that tuition is inversely related to non-resident enrollment; increases in non-resident tuition usually lead to reductions in non-resident enrollment (Leslie & Brinkman, 1987; Heller 1999)

Research Questions

1. Is there a difference between non-resident and resident students in persistence and retention?
2. If there is a difference between non-resident and resident students in persistence and retention, what are the causalities of the differences? Ex: Gender, G.P.A., academic probation status, financial aid received, etc.

Sample

- 4 IPEDS Freshman Cohorts (1998-2001) N= 17,416 students
- Variables on demographic, financial-aid, academics, & social activity for 6 years (18 semesters)
- 2 student groups identified (based on residency at time of admission)
  - Resident Students
  - Non-Resident Students

Sample

- Institution
  - State flagship
  - Land grant institution
  - 16 colleges & schools
  - ~ 150 degree programs
  - ~ 25,000 undergraduates
    - mainly traditional age
  - State offers merit-aid scholarship

Methods

- Descriptive Statistics
- One-way ANOVAs
- Logistic Regression
  - To examine contributing factors of students persisting and being successful (graduating)
  - 2 sets of models (resident & non-resident)
  - Binary Dependent Variables
    - 2nd year retention
    - 4-year graduation
    - 5-year graduation

Findings – Resident & Non-Resident

- 11.2% (N=1956) non-resident students

	All Students	Resident	Non-Resident
HS GPA	3.54	3.56	3.42
ACT *	25	25	25
SAT *	1193	1193	1190
Predicted GPA	3.05	3.06	3.04
White	0.81	0.83	0.63
Female	0.59	0.59	0.64

Note: p<.01 except for * which were p>.1

Findings – Resident & Non-Resident

	All Students	Resident	Non-Resident
Pell 1st Fall	0.07	0.08	0.05
Pell Ever	0.15	0.16	0.09
Non-Need 1st Fall	0.35	0.34	0.41

Note: p<.01

Findings – Resident & Non-Resident

	All Students	Resident	Non-Resident
1st Fall Term GPA	2.97	2.96	3.04
1st Spring Term GPA	3.01	3.00	3.10
Last Cum GPA	3.08	3.06	3.17
Probation 1st Fall	0.08	0.08	0.06
Probation Ever	0.14	0.14	0.10

Note: p<.01

Findings – Resident & Non-Resident

	All Students	Resident	Non-Resident
Retention 2nd Year	0.91	0.92	0.87
Retention 3rd Year	0.85	0.85	0.81
Graduation 4 Year	0.45	0.43	0.54
Graduation 5 Year #	0.71	0.71	0.73
Graduation 6 Year *	0.76	0.76	0.77

Note: p<.01 except for # which were p<.02 and * p>.1

Logistic Regression

- Dependent Variables
  - Retention to 2nd year
  - 4-year Graduation
  - 5-year Graduation
- Box-Tidwell transformation (Retention model only)
- Independent Variables
  - Gender
  - Race/Ethnicity
  - Predictive GPA
  - Cumulative GPA
  - Earned Academic Probation
  - Housing
  - Joined Greek organization
  - Received Financial Aid (Pell & Non-Need)
  - 1 Parent w/Bachelor degree

Logistic Regression Retention 2nd Year

- Resident: Pseudo R^2: 0.18 p<.01
- Non-Resident: Pseudo R^2: 0.13 p<.01

	Pred. GPA	Pred. GPA Tran	Cum GPA	Cum GPA Tran	White	Female	Parent Ed.	Prob.	House	Greek	Pell	Non-Need
Resident			+		-	-			+	+	- *	
Non-Resident										+		

Note: Individual variables p<.01 except for * where p<.05

Logistic Regression Graduation 4th Year

- Resident: Pseudo R^2: 0.14 p<.01
- Non-Resident: Pseudo R^2: 0.12 p<.01

	Pred. GPA	White	Female	Parent Ed.	Prob.	Housing	Greek	Pell	Non-Need
Resident	+	-	+	+	-	+	+	-	
Non-Resident	+		+		-	+	+		

Note: Individual variables p<.01

Logistic Regression Graduation 5th Year

- Resident: Pseudo R^2: 0.16 p<.01
- Non-Resident: Pseudo R^2: 0.09 p<.01

	Pred. GPA	White	Female	Parent Ed.	Prob.	Housing	Pell	Non Need
Resident	+		+ *	+	-	+	-	+
Non-Resident	+	+ *		+ *	-	+		+ *

Note: Individual variables p<.01 except for * where p<.05

Summary

- Little to no differences in admissions profile between resident & non-resident students
- Differences found in student demographics and academic performance between resident & non-resident students
- Differences found in retention to 2nd year and graduation at 4-year & 5 year between resident & non-resident students
- No differences found in 6-year graduation between resident & non-resident students

Summary

- Retention 2nd year model:
  - Non-resident: Greek involvement only significant variable impacting (positive) retention
  - Resident: GPA, living in on-campus housing, and Greek involvement positively impact retention; being white, female, and receiving Pell grant negatively impacts retention
- Graduation 4-Year model
  - Both: Predicted GPA, being female, earning probation, living on campus, and Greek involvement impacts 4-year graduation
  - Resident students only: Being white, parents education, and receiving Pell grant impacts 4-year graduation

Summary

- Graduation 5-Year:
  - Both: Predicted GPA, parents education, earning probation, living on-campus, and receiving non-need aid impacts 5-year graduation
  - Resident only: Being female and receiving Pell grants impacts 5-year graduation
  - Non-resident only: Being white impacts 5-year graduation

Conclusions

- Admissions' academic profile of resident & non-resident students roughly equal prior to enrollment, however non-resident students performed better (academically) when enrolled at UGA
  - Non-resident students had higher mean GPAs (1st Fall, 1st spring, and overall cumulative)
  - Non-resident students had lower rates of probation (1st Fall and over entire UGA enrollment)
  - Non-resident students had higher 4-year and 5-year graduation rates
  - This possibly suggests that non-resident students are more motivated to graduate than resident students

Conclusions

- Retention model suggests that non-resident students are only influenced by student life/campus involvement
  - This is in-line with Astin's student involvement theory (1977, 1984, 1993); the more a student is involved and feels connected to campus, the more likely they will stay and be successful
  - Maybe getting involved and connected to campus is the single biggest influence (variable) for non-resident students persisting to 2nd year while resident students have possibly more influences (variables) as to why they persist to 2nd year?

Conclusions

- Some retention model findings for resident students run counter to previous studies
  - Being female and white are negatively associated with retention while joining a Greek organization is positively associated
  - Question: What is different about UGA resident students than previous studies on retention and graduation?
  - Maybe UGA non-white and male resident students are atypical compared to previous studies?

Conclusions

- Receiving non-need aid does not impact retention & 4-year graduation
  - Question: Should we (UGA) be providing financial incentives for students? … it is not impacting retention and 4-year graduation
    - Factors to consider:
      - Impact on initial enrollment of students
      - Should focus of analysis be on the $ amount received, not necessarily the act of receiving non-need aid?
      - Should we differentiate between UGA provided non-need aid and non-UGA non-need aid received by students?
      - Does the presence of HOPE impact non-need aid's influence on retention and graduation?

Conclusions

- 4-Year & 5-year graduation models suggest that there are some similar as well as different influences (variables) on graduation for resident and non-resident students
  - Example: 4-year graduation
    - Same: Predicted GPA, gender, earning probation, living on campus, joining Greek organization, receiving non-need aid
    - Different: Race/ethnicity, parents education, Pell
  - Programs/services developed to address both individual group as well as all student needs/issues
    - Ex: Living Learning Communities, Freshman seminars, etc.

Future Research

- Expand financial aid to include dollar amount of aid received
  - Maybe total cost of attendance?
- Expand and include more student involvement/engagement variables
- Expand study to include major choice

How to Replicate

- Need to identify sample to track
  - IPEDS Freshman cohort(s)?
- Collect institutional data on sample
  - If sample is across multiple of cohorts (years) … need to identify/label/adjust/reformat data to ensure measurement is of same time period
  - Ex: 1st fall for 1998 cohort is different than 1st fall for 1999 cohort
    - Fall 1999 data would be 2nd fall data for 1998 cohort and 1st fall for 1999 cohort

How to Replicate

- Identify residency status
  - Resident & Non-Resident
- Develop descriptive statistics
  - Determine if differences are significant or not (ANOVAs)
- Develop logistic regression model(s)
  - Examine marginal effects
  - Need to make sure about model(s) fitting appropriately
    - Test for model specificiation error (linktest, stata)
    - Goodness of Fit Test (Hosmer & Lemeshow)

Limitations

- Sample drawn from single institution
  - Could produce a homogenous sample
  - A larger diverse sample could produce greater explanatory results
- State of Georgia offers merit-aid
  - Could influence resident students to initially enroll and stay at UGA
- Analysis assumes students from each cohort had similar experiences to one another (environment)