Major Commitment as a Predictor of Student Success

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Choosing a Major

- An estimated 20% to 50% of students enter college as "undecided"

- **75% of students change their major at least once** before graduation (Gordon & Steele, 2015).

- Approximately **one-third of students enter TTU as "undeclared"** (TTU Institutional Research, 2015),

- It is unknown how many students change majors at Texas Tech University.

Conflicting Research

- A commonly held assumption in higher education is that students who are **undecided or indecisive about a college major are at greater risk for attrition** than students with a declared major (Education Advisory Board, 2012).

- However, studies have also shown **major-changers have higher graduation rates** than students who have not changed majors (Cuseo, 2005).

- "More research is needed to help **identify who the major-changers are**" (Gordon, 2007, p. 95).

Persistence

- Colleges and universities consistently experience a **first to second year persistence rate of only 80%** (National Center for Education Statistics, 2015).

- At Texas Tech University, the first-year retention rate has remained somewhat steady from **80-83% for the last 10 years** (Texas Tech Institutional Research, 2015).

- While the institutional average is above that of the national average, the university has a Strategic Goal (Priority One) to increase student retention to **85% by the year 2020** (Texas Tech University, 2010).

Significance of the Study

- Student retention is a means of **evaluating institutional performance** (Green, 2002; Metz, 2004).

- Many states, including **Texas**, now use some measure of institutional retention and graduation rates in their funding formulas (Texas Higher Education Coordinating Board, 2012).

- Even the **Federal government** is considering using institutional retention rates in a national system of higher educational accountability (Education Advisory Board, 2012).

Introduction

Purpose and Objectives

The purpose of this study was to increase understanding of students' **academic major commitment and persistence at Texas Tech University**. This research examined the relationship between academic major commitment and persistence through the following objectives:

1. Determine if any statistically significant **relationships** exist among a student's academic major commitment and first-year persistence

2. Identify how well pre-entry attributes, major commitment and academic achievement **factors combine to predict** first-year persistence.

Longitudinal Model of Institutional Departure (Tinto, 2012b)
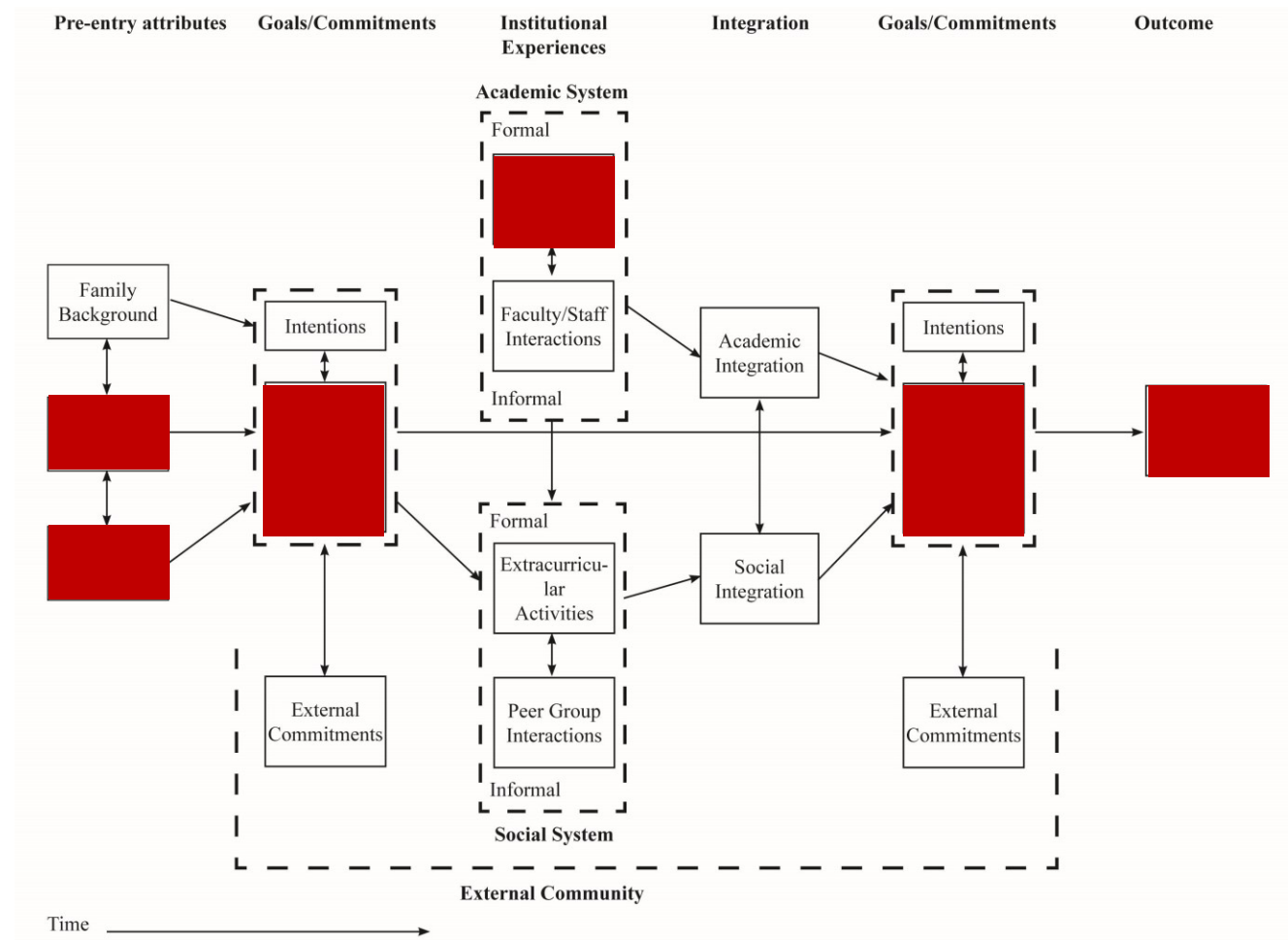
Context of the Study

Texas Tech University

- Large, public, four-year comprehensive research university

- 150 undergraduate degree programs

- 11 academic colleges

Participants

| Group	*n*
Attended Two-Day RRO (Accessible Population)	5,863
Invalid E-mail Addresses	96
Responses	1,014
Submitted Forms	1,001
Opted Out	13
Consenters	818
Excluded Transfers	63
Study Participants	755

Data Set

- Data assembled after the census date (12th class day) of Fall 2015
- List of consenting participants given to university officials
- De-identified data was returned in a single excel file
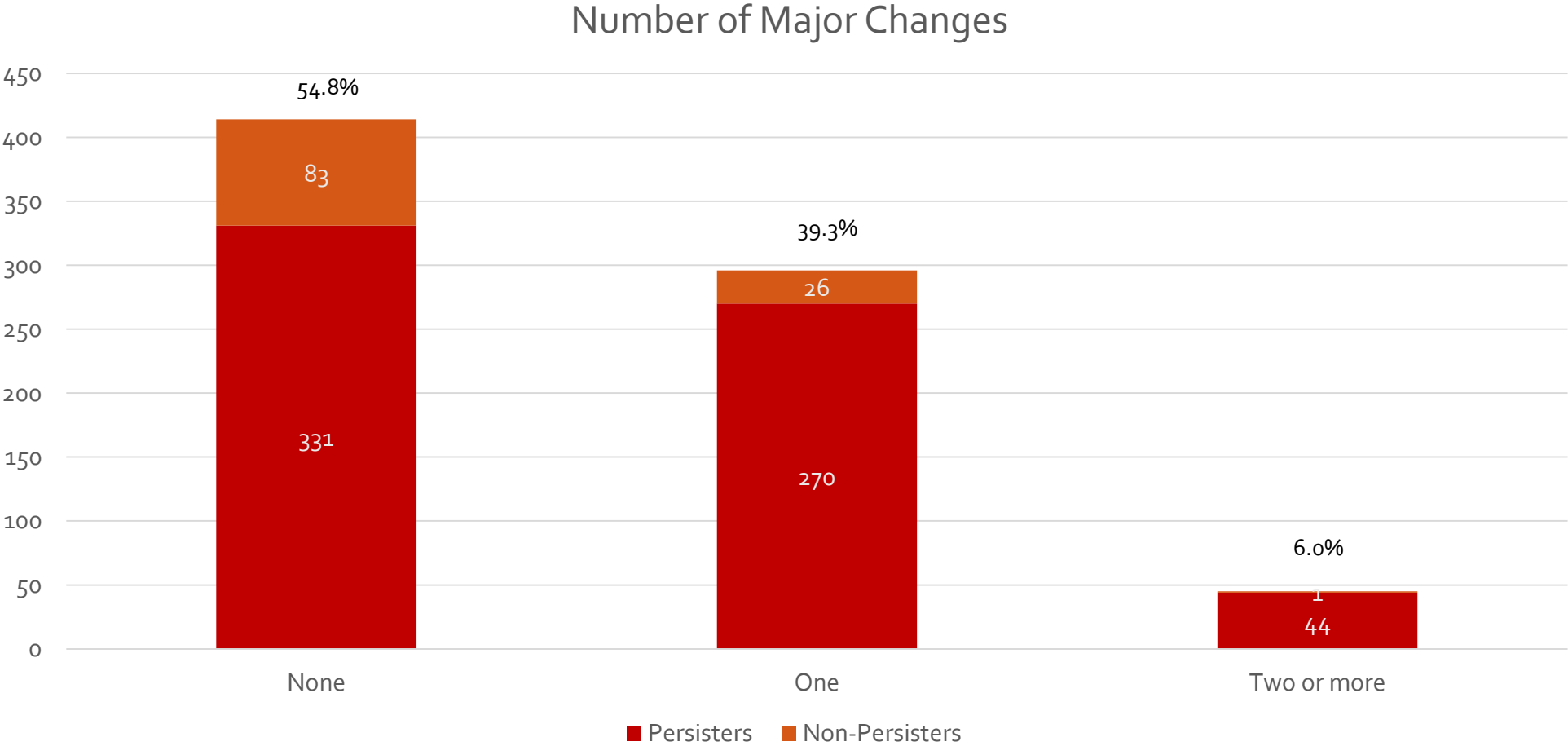
Data Analysis

- Descriptive statistics

- Correlation coefficients

- Chi-square and ANOVA

- Logistic regression

Persistence

First-Year Persistence
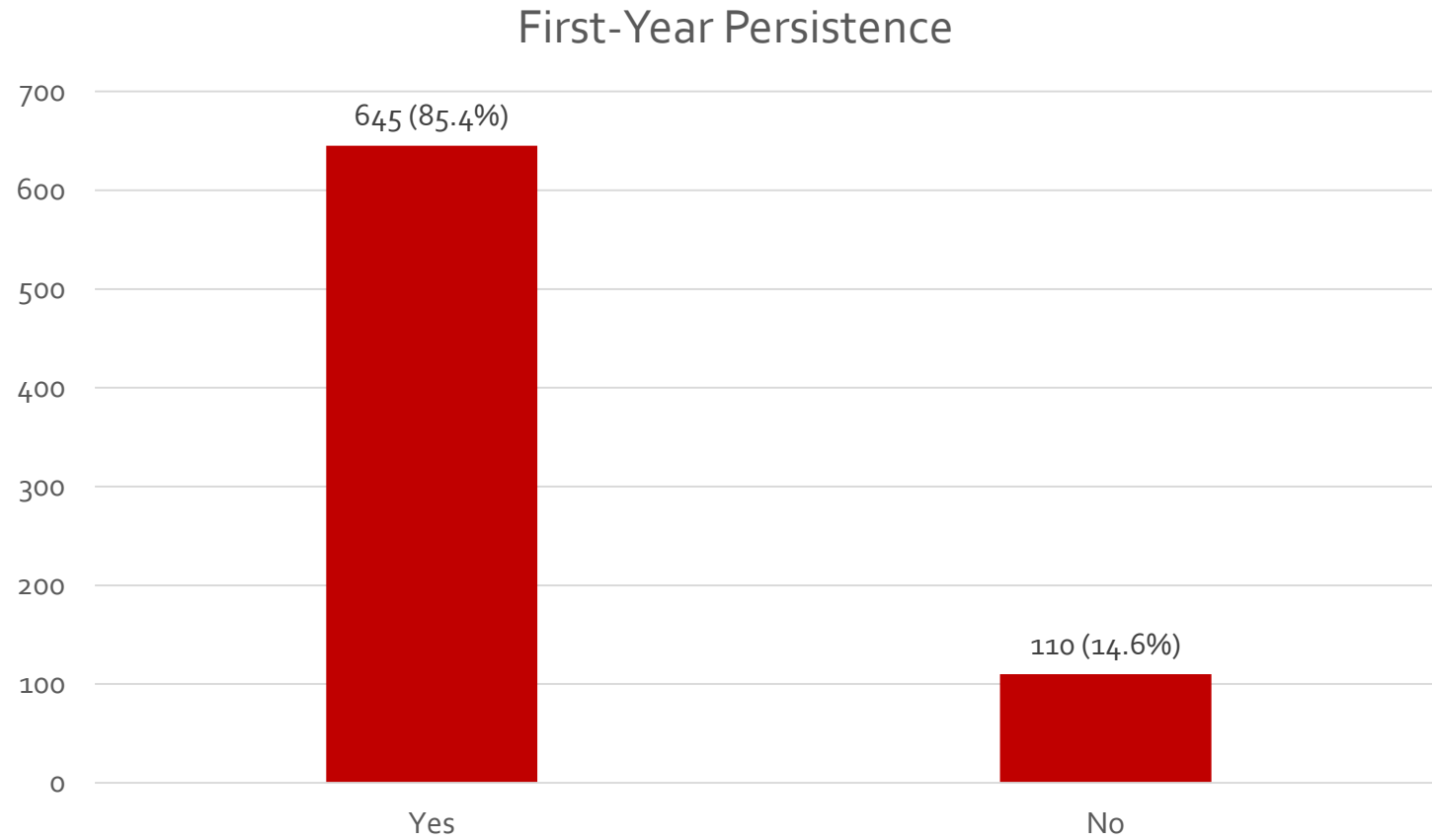
Persistence and Major Changes

Number of Major Changes

Stepwise Logistic Regression

Statistically Significant Models that Predict First-Year Persistence	
Model	**Predictors**
Model 1	Cumulative GPA
Model 2	Cumulative GPA
	Attempted Hours
Model 3	Number of Changes
	Cumulative GPA
	Attempted Hours
Model 4	Transfer Hours
	Number of Changes
	Cumulative GPA
	Attempted Hours
Model 5	Transfer Hours
	Number of Changes
	Cumulative GPA
	Attempted Hours
	Earned Hours

Objective Two Results and Discussion

Predicting Persistence

	χ^2	p	-2 LL	Nagelkerke R^2
Statistical Significance and Variance Explained by Stepwise Logistic Regression Models Predicting First-Year Persistence				
Model 1	138.541	.00*	440.094	31.6%
Model 2	191.022	.00*	387.612	42.1%
Model 3	206.540	.00*	372.095	45.1%
Model 4	214.48	.00*	364.587	46.5%
Model 5	222.519	.00*	356.116	48.0%
*p < .05				

Final Model

Percent Classification Accuracy			
	Predicted Outcome		
Observed	Non-Persister	Persister	% Correct
Non-Persisters	46	53	46.5
Persisters	13	615	97.9
Overall			90.9
Constant Only			86.4

Final Model

Logistic Regression Predicting the Likelihood of Persistence					
Predictor	*B*	SE	Wald	*p*	Odds Ratio
Transfer Hours	.042	.015	7.718	.01*	1.043
Number of Changes	.817	.263	9.625	.00*	2.264
Cumulative GPA	.627	.203	9.541	.00*	1.872
Attempted Hours	.003	.001	15.313	.00*	1.003
Earned Hours	.066	.025	7.114	.01*	1.068
Constant	-4.586	.613	55.951	.00*	.010

Implications for Practice

- This research shows that the group of students who changed majors were not more "at-risk" than their peers who remained in their first declared major.

- Cuseo (2005) states that it is unfortunate there is a perception that undecided students are more attrition-prone.

- Some institutions treat major changing as a deficiency in student development rather than as an expected part of the complex process of personal growth" (Tinto, 2012).

- **A shift in the major change culture is warranted. Practitioners should encourage, not discourage, exploratory choices and major changing.**

Implications for Practice

- Because so many students in this study changed majors during their first year, **practitioners should promote career exploration and early academic planning early in their academic careers.**

Recommendations for Research

- Much of the prior published research on student persistence has focused on the first year of college.

- The results of this study are a snapshot of one point in time for the participants and does not capture the longitudinal effects and influences.

- **A longitudinal, quantitative and qualitative study is recommended to build on the present study.**

Recommendations for Research

- This study focused on student persistence for first-time freshman, since the first year has been proven to be a critical time (Tinto 2012b).

- However, community colleges have become an important and increasingly popular entry point for postsecondary education in Texas (Texas Higher Education Coordinating Board, 2010).

- **Continued research should focus on the persistence of transfer students at the university level.**

Recommendations for Research

- **Future researchers are encouraged to replicate this study with a multiple institution sample.**

- This would give a more accurate picture of student persistence, as opposed to the *institutional retention* rates.

- In addition, obtaining a larger sample size would allow researchers to isolate analysis of one academic college or particular major.

Recommendations for Research

- As the literature has shown, students change majors for a variety of reasons.

- **It would be beneficial to explore the motivating factors that influence students changed their major or for researchers to delve into student's decision making process when selecting an academic major.**