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SHOULD UNIVERSITIES ENCOURAGE STUDENTS TO BE UNDECIDED?:

A CONSIDERATION OF MAJOR DECLARATION PATTERNS

AND FIRST-DESTINATIONS

A thesis

Presented to

The School of Social Sciences, Education & Business

Department of Higher Education and Student Development

Taylor University

Upland, Indiana

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts in Higher Education and Student Development

by

Amber D. Stanley

May 2021

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**Higher Education and Student Development
Taylor University
Upland, Indiana**

CERTIFICATE OF APPROVAL

MASTER'S THESIS

This is to certify that the Thesis of

Amber D. Stanley

entitled

Should Universities Encourage Students to be Undecided?: A Consideration
of Student Major Declaration Patterns and First-Destinations

has been approved by the Examining Committee for the thesis requirement for the

Master of Arts degree
in Higher Education and Student Development

May 2021

Scott Gaier, Ph.D. Date
Thesis Supervisor

Drew Moser, Ph.D. Date
Member, Thesis Hearing Committee

Todd Ream, Ph.D. Date
Member, Thesis Hearing Committee

Tim Herrmann, Ph.D. Date
Director, M.A. in Higher Education and Student Development

Abstract

Research on undecided students is contradictory at best. Studies both support and condemn the undecided status based on factors like persistence, changing majors, and graduation rates. Given the conflicting nature of the research on undecided students and the absence of research on undecided students and first-destinations (i.e., first jobs following graduation), it is difficult to discern whether or not institutions should actively encourage students to choose an undecided status.

This study sought to combine major declaration and first-destination data to explore what, if any, relationship exists between major declaration patterns and first-destination outcomes. Quantitative descriptive analysis was used to compare various groups of students in the graduating classes of 2015–2020 at Taylor University, a small, midwestern, Christian liberal arts institution. Students were categorized by first-destination outcomes and time to graduate then further analyzed by major declaration patterns.

Outcomes indicate that students who were ever undecided during their time at Taylor secured first-destinations at rates nearly identical to their declared counterparts. The undecided status had strong implications on time to graduate. Recommendations for practice are provided.

Acknowledgements

I would like to thank my dog and cats, without whom my feet would have been cold while typing this thesis. Also, my family. They are endlessly supportive and the best people I know.

Special thanks to Emilee Pell and Jacob Gerding, the dream team, for collaborating with me on the group project that helped lay the groundwork for this thesis.

If you opt to conduct a quantitative analysis that involves reconciling nearly 50,000 lines of institutional data, I highly recommend you marry a computer scientist. It's the only way forward. Thank you, Dannie Stanley!

Table of Contents

Abstract	iii
Acknowledgements	iv
Chapter 1 Introduction	1
Undecided Students and Persistence.....	1
Changing Majors.....	2
First-Destination	3
Research Statement	3
Chapter 2 Literature Review	5
The Challenge of Defining the Undecided Student Population	5
Undecided Student Persistence.....	8
First-Destination	11
Conclusion.....	13
Chapter 3 Methodology	14
Context and Participants.....	14
Procedure.....	14
Data Analysis.....	15
Chapter 4 Results.....	17
Undecided Student Persistence Outcomes	17
First-Destinations	18

Time to Graduate21

Conclusion24

Chapter 5 Discussion25

 Persistence25

 First-Destination25

 Time to Graduate26

 Implications27

 Limitations.....29

 Conclusion30

References32

List of Tables

Table 1. Persistence Data for Undecided Versus Decided Students	18
Table 2. First-Destination Outcomes: Humanities Graduates Versus Sciences Graduates	19
Table 3. First-Destination Outcomes: Undecided to Declared Versus Never Changed Major	20
Table 4. First-Destination Outcomes: Students Who Were Ever Undecided Versus Students Who Were Never Undecided	20
Table 5. First-Destination Outcomes: Ever Undecided Major Changers Versus Never Undecided Major Changers	21
Table 6. Time to Graduate: Humanities Versus Sciences	22
Table 7. Time to Graduate: Ever Undecided Versus Never Undecided	22
Table 8. Time to Graduate Based on Major Changes: Never Undecided Students	23
Table 9. Time to Graduate Based on Major Changes: Ever Undecided Students	23

Chapter 1

Introduction

As a career counselor, I field a fair number of calls from concerned parents. On one such occasion, I received a call from a frantic parent seeking help for her son. Unlike his older brother, he had no idea what he wanted to major in. Would he be ok? I assured the parent that (some) research in the field actually supports the idea of entering college undecided, that students benefit from developing an understanding of who they are and what they enjoy before they choose a major, and that our university has programs and professionals in place to help him along his path. I also shared research that indicates that employers are looking for students with liberal arts tendencies, not merely students with a specific degree. Her response: “That is exactly what I needed to hear!” Everything I told her is true, but would it eventually ring true for her son? Research on undecided students is contradictory at best. Studies both support and condemn the undecided status based on factors like persistence, changing majors, and graduation rates. But which studies represent this student? Will her undecided student persist as well as declared students? Will he have similar success securing a job after graduation? Given the current literature in the field, these are difficult questions to answer.

Undecided Students and Persistence

Some of the confusion surrounding undecided students and their experience is due to the conflicting nature of how past studies have identified and defined the undecided student population (Anderson et al., 1989; Leppel, 2001; Lewallen, 1995). Inconsistent

definitions have led to misrepresentations of the undecided student experience and persistence and how best to serve undecided students. Some studies suggest that choosing an undecided status negatively affects students in regard to persistence (Leppel, 2001; Peterson & McDonough, 1985; Rose & Elton, 1971; St. John et al., 2004) while other studies suggest the undecided status has a positive impact on persistence (Anderson et al., 1989; Education Advisory Board [EAB], 2016; Graunke et al., 2006; Lewallen, 1995; Straumsheim, 2016). Given the conflicting nature of the outcomes of the research, it is difficult to draw conclusions about the undecided student experience and ultimately whether or not universities should allow or encourage the undecided status.

Changing Majors

Changing majors is a necessity for undecided students given that they will eventually have to declare a major. The positive impact of changing majors has been the focus of several studies (EAB, 2016; Graunke et al., 2006; Micceri, 2001; Murphy, 2000) and reflects a student's natural goal-clarification process (Tinto, 1987). Cuseo (2005), a primary researcher in the field of student success and retention, warns that requiring undecided students to declare a major too soon could negatively impact persistence. Students must be allowed time to wrestle with major options, which could include multiple major changes:

Changing decisions about a major is not necessarily a negative phenomenon, but may represent student discovery of other academic fields that stimulate greater personal interest or that are more compatible with their personal aptitudes and abilities. Also, major changing may reflect an underlying process of cognitive

maturation among college students, and their natural progression to more advanced developmental stages of decision making. (Cuseo, 2005, p. 3)

Cuseo goes on to suggest a shift in focus away from *which* major to *when* a student declares their major, thereby supporting the need for research that considers student major declaration patterns.

First-Destination

First-destination is the placement a graduate secures within the first six months following graduation, either in full- or part-time employment or graduate school. A student is inherently unable to secure a first-destination unless they persist to graduation. First-destination data is typically collected by career services offices on behalf of the university. Universities use the caliber of a graduate's first-destination as a representation of institutional success (National Association of Colleges and Employers [NACE], 2019). Given that a graduate's first-destination outcomes are so valuable to the university, one would expect to find research on how to best guide a student toward a quality first-destination. However, because first-destination data is typically collected by career services offices and student major status is typically tracked by the registrar (two separate departments), it is not surprising that no studies were found linking major declaration patterns to a graduate's first-destination.

Research Statement

Given the conflicting nature of the research on undecided students and the absence of research on undecided students and first-destinations, it is difficult to discern whether or not institutions should actively encourage students to choose an undecided status. The purpose of this research is to combine major declaration and first-destination

research to explore what, if any, relationship exists between major declaration patterns and first-destination.

Chapter 2

Literature Review

Research on undecided student success is conflicting. Some of the confusion is tied to differences in definitions of undecided student populations. Regardless, it remains unclear whether undecided students persist as well as declared students. It is also unknown to what extent the undecided status and the act of changing majors impacts first-destination outcomes.

The following review of the literature seeks to provide an overview of the existing research in the field and highlight the need for a revised approach to this type of research in order to more fully understand the impact of major declaration patterns on the first-destinations of undecided students. First, an exploration of some of the conflicting definitions in the field of undecided student research are offered, along with a set of revised definitions as an attempt to clarify the specific populations considered in this study in the hopes of making the results more useful for future researchers. Next, research on the impact of changing majors on persistence and time to graduate is offered. The literature review concludes with a summary of the limited first-destination research related to undecided students.

The Challenge of Defining the Undecided Student Population

As noted, definitions of undecided student populations vary among researchers and studies, contributing to the confusion surrounding this population. For example, some researchers rely on students' self-reports of their major status on a survey to identify undecided students. For his foundational study on undecided students, Lewallen (1995)

included all students who “were labeled undecided or decided based on their response to the ‘career occupation’ item on the SIF” (p. 23). Leppel (2001) identified undecided students as students with a “missing or blank” major on a national survey (p. 332). Similarly, Graunke et al. (2006) defined commitment to an academic major based on students’ indication of major commitment on a survey. Anderson et al. (1989) created a classification system, referring to an undecided student as “one who listed no major field upon initial enrollment” (p. 47). If all of these researchers were conducting research at the same institution, they would each be investigating a different group of students yet each labeling those students as undecided.

All undecided students will eventually leave the university or enter a declared status. While first impressions suggest that declared or decided would refer to any student who has declared a major, nuances exist. Does this definition only include a student’s current state of declaration? Must a student stay declared throughout their entire college career to retain this label? Anderson et al. (1989) used the *decided* label for students who entered the institution with a major and never changed, referring to students who changed their major one or more times as *multiple change* students. However, Cuseo (2005) notes that multiple change students are often classified under the undecided umbrella, further complicating research in the field.

Variations in definitions underline the importance of verifying research population consistency before comparing data and staking claims. While a student’s indication of a commitment to a career in Lewallen’s (1995) research might indicate undecidedness, that same student could declare a major and persist with that major until graduation, placing them in the decided category for Anderson et al. (1989). These types

of inconsistencies in the literature have led to misconceptions about the undecided student population. Instead of categorizing students as decided or undecided, focusing on major declaration patterns and, more specifically, when students make a major change could provide fresh insight (Cuseo, 2005).

As exemplified by the aforementioned studies, in order to consider the experience of an undecided student, one must first identify the undecided student population, as well as the populations that represent alternative categorization options for the undecided student. The following industry–standard definitions therefore inform this study and provide context for existing research on undecided students:

- *Undecided* refers to a major declaration status as recorded by the registrar indicating lack of commitment to a major. It also refers to a student in that status.
- *Ever Undecided* refers to a student who was ever in an undecided major declaration status during their college career.
- *Declared* is a major declaration status indicating commitment to a major as recorded by the registrar. Declared also refers to a student in that status.
- *Persistence*, sometimes referred to as retention, is defined as continued enrollment from freshman to sophomore year.
- *Persistence to graduation* is defined as continued enrollment from freshman to senior year resulting in graduation.
- *First-destination* is the placement a student secures within the first six months following graduation, either in full- or part-time employment, internship, or graduate school. (NACE, 2019)

- *Excellence rates* represent the percentage of students from a university who respond to a first-destination survey that secure full-time placement within six months of graduation.
- *Success rates* represent the percentage of students who respond to a first-destination survey that secure part or full-time placement within six months of graduation.

Undecided Student Persistence

Persistence research is critical to major declaration pattern and first-destination outcomes given that a student cannot change their major or secure a first-destination without persisting or persisting to graduation. Student persistence rates at universities continue to fluctuate, making persistence a topic of great interest in higher education (Astin et al., 2012). Because undecided students will eventually declare a major, persistence research on declared students also reflects a portion of their experience.

Complicated and nuanced, persistence has been analyzed and explained from various perspectives. Studies have focused on individual characteristics of students (Arum & Roska, 2011), academic performance (Allen & Robbins, 2008), and the impact of specific majors on persistence (Leppel, 2001). However, not all persistence research is useful for understanding undecided students, given that undecided is a declaration that students can elect after their sophomore year. Shaw and Barbuti (2010) report that some persistence studies even disregard undecided students, further complicating our understanding of an undecided student's path to persistence.

Persistence has been shown to vary among majors. One study found that students who majored in social sciences were less likely to persist than other students (St. John et

al., 2004). This finding is supported by Wilcoxson and Wynder (2010) who found that career-related majors correlated with increased persistence. Leppel (2001) found that both gender and major played a role in persistence, pointing to women in health majors as most likely to persist while males majoring in education were less likely to persist than other males.

Changing majors has been shown to have both a positive and negative impact on persistence to graduation. Several studies have shown a strong positive correlation. Murphy (2000) found that every time a student changed their major, their chances to graduate increased by up to 40%. In a replication of Murphy's study, Micceri (2001) found that "major changers in every cohort and every college showed substantially greater graduation rates than those who did not change majors" (p. 1). Furthermore, Micceri (2001) noted that students who changed majors persisted at a 20–40% higher rate than students who never changed. Graunke et al. (2006) further support changing majors by suggesting that commitment to a major could have a negative impact on persistence:

First, according to this study, commitment to a specific major or career is not related to degree completion. Second, when institutional commitment and educational goal commitment were factored into the model, a high level of commitment toward an academic major was not found to be a significant predictor of degree completion. In fact, individuals who reported relatively high levels of commitment toward a specific career path were less likely to complete a degree in 6 years than were individuals who reported lower levels of commitment. (p. 17)

A 2016 study conducted by the Education Advisory Board (EAB) further supports this claim by focusing on time to graduate. In their study consisting of 45,000 student transcripts, the researchers revealed that students who enter the university as undecided then declare their initial major by the end of their sophomore year take less time to graduate than 1) students who enter the institution declared and 2) students who wait to declare until after that point in their career. The EAB coined the ideal time to declare (during a student's second, third, or fourth term) as the "productive exploration window." The study also noted that students who declared during the productive exploration window have higher GPAs than students who entered the institution declared and are less likely to change their major after declaring (EAB, 2016).

The decision to change majors is part of a student's natural goal-clarification process (Tinto, 1987) and, as these studies have shown, often has a positive impact on persistence (Anderson et al., 1989; EAB, 2016; Straumsheim, 2016). Therefore, it is reasonable to conclude that undecided students, inherent major-changers, should experience a positive impact on persistence. However, several studies have found that the undecided status has a negative impact on persistence (Kreysa, 2006; St. John et al., 2004; Wilcoxson & Wynder, 2010). As noted, undecided is a status a student can declare at multiple points throughout their career, making it difficult to quantify the implications of that status. Students may enter the university with an undecided election, then declare a major. Alternatively, a student could enter the university declared, switch to undecided, then return to a declared status. Various iterations exist, but all require a change in major. To further complicate matters, most studies that focus on the relationship between graduation outcomes and majors focus on the major a student has upon graduation and do

not consider whether students were ever in an undecided status during their academic career.

Cuseo (2005) has completed extensive research on the undecided student population. He concludes:

Looking toward future research and assessment on the academic decision-making process, it appears as if not much more is to be gained from the traditional approach of categorizing students as either “decided” or “undecided” and computing correlations between this dichotomous variable and student retention.

(p. 4)

Instead of categorizing students as decided or undecided, Cuseo recommends a “move toward longitudinal assessment of when students reach these decisions during their college experience” (p. 4).

First-Destination

Persistence to graduation is inherent to first-destination data given that a student must first graduate in order to have an opportunity to secure a first-destination.

Institutions prize excellence and success rates for marketing purposes, and those rates stem directly from first-destination placement data. In 2014, the National Association of Colleges and Employers (NACE) introduced standards for first-destination data collection to provide comprehensive national data on placement trends and the overall value of higher education (NACE, n.d.-b). As stated by NACE, the data collection standards are “designed to address the growing demand by accrediting bodies and governmental agencies for more consistent, comparable, and reliable outcomes data” (NACE, n.d.-a).

The general body of first-destination research provides insight on graduates from a variety of perspectives including the impact of GPA on the quality of a graduate's first-destination (Di Pietro, 2017), the skills most useful for first-destination success (Shah et al., 2004), the impact of age and gender on first-destination (Woodfield, 2011), and comparisons of university outcomes (Johnes & Taylor, 1989).

Much of the aforementioned first-destination research was conducted at institutions where undecided is not a viable major option, thus limiting the applicability of the research for the undecided student population. First-destination research specific to undecided students has primarily focused on advising and intervention strategies (Bullock-Yowell et al., 2014; Hanna & Conlon, 2012). Emphasis is placed on the importance of providing ample opportunity for students to develop the competency required to mindfully choose a major (Galilee-Belfer, 2012). No studies were found linking first-destination to undecided students' major declaration patterns.

In 2018, NACE collected and reported first-destination data from 361 universities (NACE, 2019). Outcomes were broken down into a variety of categories, including region, school size, type of institution, and academic discipline. According to major-specific first-destination outcomes for 2018,

in general, overall outcomes by discipline show that virtually every academic program displays considerable success in seeing its graduates achieve positive outcomes relatively quickly after graduation. This is completely consistent with the results of graduating classes prior to 2018. (NACE, 2019, p. 10)

NACE's findings suggest that first-destination outcomes are fairly positive regardless of major and that these results have remained consistent over time. Considering that

undecided students comprise up to 50% of an incoming freshman class (Tinto, 2012), a large portion of the graduates reflected in NACE's first-destination outcomes were at one time undecided. However, the report does not provide a way to isolate undecided students in order to validate perceived positive outcomes. Per the institutional emphasis placed on this data and the large undecided student population, it is surprising that no studies were found connecting first-destination outcomes to students once classified as undecided.

Conclusion

Research on undecided student success remains conflicting. Varying definitions of undecided student populations in past research studies have contributed to the confusion. While the EAB (2016) offered a compelling case for undecided students declaring a major during the productive exploration window in order to improve time to graduation, the research does not isolate data on students who change their major more than once, and it does not provide a connection to those graduates' first-destinations. Further research is needed in order to better understand the implications of an undecided major status on time to graduate and those graduates' first-destinations.

Chapter 3

Methodology

This study sought to explore what, if any, relationship exists between major declaration patterns and first-destination. A quantitative descriptive design was used to analyze the data.

Context and Participants

Research for this study was conducted at Taylor University, a small, midwestern, Christian liberal arts institution. The yearly enrollment of the university is around 1,800 students representing 43 states and 31 countries. In-state residents comprise 43% of the total student population; 54% are female and 46% are male. Only 16% of the student population is a racial minority; 5% are international students. Of the 1,800 students, 91% are under the age of 21, and 99% are under the age of 25. Participants included students from all majors in graduating classes of 2015–2020.

Procedure

This study analyzed major declaration data and first-destination placement data from the freshman through senior years of the graduating classes of 2015–2020. All data was scrubbed prior to attainment in preparation for analysis. First, persistence data on both declared and undeclared students was secured from the Office of the Registrar, along with data on major declaration patterns of graduates from their freshman year through graduation. Second, first-destination data for graduates was secured from the career services office. The office gathers first-destination data via an annual post-graduation survey. The data is compiled by the career services office into a first-

destination report. Graduates who did not respond to the survey were listed as “not found” on the first-destination report and were excluded from the study.

Data Analysis

One of the challenges within the literature in this field is that the findings are in conflict. If information exists, it is confusing or nominal. Because of the nature of the literature, this study approached the data with openness to discovery in an effort to fully understand the relationship, if any, between major declaration patterns and first-destination.

In order to better understand the impact of the undecided major status on first-destination outcomes, a quantitative descriptive analysis was conducted on the following student populations who persisted to graduation and provided first-destination outcomes:

Persistence Analysis

- Students who entered the university declared and persisted to their sophomore year versus students who entered the university undecided and persisted to their sophomore year

First-Destination Analyses

- Humanities versus sciences graduates
- Students who entered the university as undecided then declared a major versus students who entered the university as declared and persisted in that major to graduation
- Students who were ever undecided versus students who were never undecided

- Students who were ever undecided and changed their major more than once versus students who were never undecided and changed their major more than once

Time to Graduate Analyses

- Humanities versus sciences graduates
- Students who were ever undecided versus students who were never undecided
- Students who were never undecided categorized by the number of times students changed their major
- Students who were ever undecided categorized by the number of time students changed their major

Chapter 4

Results

The following chapter provides a quantitative descriptive analysis of various groups of graduates' first-destination outcomes and time to graduate data for the graduating classes of 2015–2020. Student groups were divided according to undecided student status and major declaration patterns. Online and AA degree candidates were removed prior to analyses. All analyses were conducted with the goal of investigating the connection between major declaration patterns and first-destination.

The layout of this chapter follows the order of data analyses as presented in Chapter 3. The first supplemental analysis focuses on persistence rates for undecided students, followed by a comparison of first-destination outcomes for various groups of students categorized by major declaration patterns. The chapter culminates with analyses of time to graduate for various groups of students categorized by major declaration patterns.

Undecided Student Persistence Outcomes

As noted in Chapter 2, undecided students must persist in order to provide major declaration patterns and first-destinations. The data set used for this analysis represents persistence data for the incoming classes of 2014–2019, students who will eventually represent the graduating classes of 2015–2020. Some of these students may not persist to graduation or report a first-destination. Therefore, the cohort size will differ from

following data sets. Table 1 shows persistence rates comparisons for undecided and decided students from each cohort.

Table 1

Persistence Data for Undecided Versus Decided Students

Measure	2014	2015	2016	2017	2018	2019
Cohort Size	434	518	472	448	531	490
Cohort Returned	378	443	423	384	452	432
Cohort Retention Rate	87%	86%	90%	86%	85%	88%
Declared Size	376	479	430	417	481	446
Declared Returned	330	409	384	357	404	392
Declared Retention Rate	88%	85%	89%	86%	84%	88%
Undecided Size	58	39	42	31	50	44
Undecided Returned	48	34	39	27	47	40
Undecided Retention Rate	83%	87%	93%	87%	94%	91%

Note: Undecided students persisted at similar rates to decided students. Therefore, all following analyses offer an accurate representation of typical graduating classes at Taylor.

First-Destinations

First-destination outcomes are calculated by first determining *knowledge rate*, which is the percentage of students from the graduating class who respond to a university's first-destination survey. The data set used for these analyses represents an average collective knowledge rate of 87%. The national average knowledge rate established by NACE, the governing body for first-destination data, is 65% (NACE, n.d.-b). The more graduates a university includes in its first-destination data, the higher

the likelihood that unfavorable results will be included in the calculation. An average knowledge rate of 87% represents a robust collection of 2188 graduate results.

Success rates represent the percentage of students who responded to the first-destination survey who secured any type of employment or graduate school placement following graduation. Excellence rates represent the percentage of students who responded to the first-destination survey who secured full-time placement or are enrolled in graduate school. Tables 2, 3, 4, and 5 show first-destination outcome comparisons for different categories of graduates.

Table 2

First-Destination Outcomes: Humanities Graduates Versus Sciences Graduates

Measure	Humanities	Sciences
Number of Students	1133	1055
# Still Seeking	12	15
# Part-Time	107	71
# Grad School	220	132
#FT/Grad School	1014	969
# PT/FT/Grad School	1121	1040
Success Rate	99%	99%
Excellence Rate	90%	92%
% Grad School	19%	12%

Note: The excellence and success rates for the Humanities and the Sciences are very similar. Graduates in both fields successfully secure employment at similar rates following graduation.

Table 3

First-Destination Outcomes: Undecided to Declared Versus Never Changed Major

Measure	Undecided to Declared	Never Changed Major
Number	278	979
# Still Seeking	5	13
# Part Time	21	83
# FT/Grad School	252	883
# PT/FT/Grad School	273	966
Success Rate	98%	99%
Excellence Rate	91%	90%

Note: This table represents students who entered the university undecided then declared their graduating major versus students who never changed their majors. Note the similar excellence and success rates.

Table 4

First-Destination Outcomes: Students Who Were Ever Undecided Versus Students Who Were Never Undecided

Measure	Ever Undecided	Never Undecided
Number	517	1671
# Still Seeking	6	21
# Part Time	45	133
# FT/Grad School	466	1517
# PT/FT/Grad School	511	1650
Success Rate	99%	99%
Excellence Rate	90%	91%

Note: A student who was never undecided could still represent a major changer.

However, the student was never listed as undecided. Excellence and success rates are nearly identical for both categories of students.

Table 5

First-Destination Outcomes: Ever Undecided Major Changers Versus Never Undecided Major Changers

Measure	Ever Undecided	Never Undecided
Number	245	148
# Still Seeking	1	4
# Part Time	25	7
# FT/Grad School	219	137
# PT/FT/Grad School	244	144
Success Rate	99%	97%
Excellence Rate	89%	93%

Note: This table represents students who changed majors more than once and compares major changers who included an undecided status with those who did not. Note that students who were at one time undecided and changed their major more than once suffered only slightly (89%) when securing full-time placement over their declared counterparts (93%).

Time to Graduate

Tables 6, 7, 8, and 9 present time to graduate comparisons for different populations. Time to graduate was determined by noting the first term a student registered at the university then setting the student's start date as the first day of the month represented by that term, along with the respective year. Terms include

Fall/September, Interterm/January, Spring/February, and Summer/May. The start date was then subtracted from a student's graduation date, resulting in the number of days a student required to graduate. This field is represented in the following tables as "Average Days." A four-year timespan is equal to approximately 1,460 days (365x4). Therefore, 1,460 is a helpful benchmark for making sense of time to graduate. Transfer students were removed from the data set to prevent data skew, resulting in a data set of 2,018 students.

Table 6

Time to Graduate: Humanities Versus Sciences

Category of Student	Number	Average Days	Min	Max	Increase in Average Days
All Humanities	1044	1418	629	4738	
All Sciences	974	1409	720	3916	9

Note: There is almost no difference between the average days to graduate for humanities graduates versus sciences graduates.

Table 7

Time to Graduate: Ever Undecided Versus Never Undecided

Category of Student	Number	Average Days	Min	Max	Increase in Average Days
Ever Undecided	494	1562	991	3916	
Never Undecided	1524	1365	629	4738	197

Note: Students that were at any point undecided required an average of 197 additional days to graduate.

Table 8

Time to Graduate Based on Major Changes: Never Undecided Students

Category of Student	Number	Average Days	Min	Max	Increase in Average Days
Never Undecided/ Never Changed Major	871	1346	629	4738	
Never Undecided/ Changed Major Once	520	1378	720	4279	32
Never Undecided/ Changed Major Twice	116	1412	989	2454	34
Never Undecided/ Changed Major Three Times	14	1506	1126	2090	94

Note: Students who were never undecided and change majors one time required an average of 32 additional days to graduate compared with students who remain declared throughout their college career. Changing majors twice added an additional 34 days, and changing majors three times an additional 94 days to graduate.

Table 9

Time to Graduate Based on Major Changes: Ever Undecided Students

Category of Student	Number	Average Days	Min	Max	Increase in Average Days
Ever Undecided/ Changed Major Once	261	1503	991	2513	
Ever Undecided/ Changed Major Twice	200	1608	993	3916	105
Ever Undecided/ Changed Major Three Times	37	1713	995	2705	105

Note: Students who were ever undecided and change majors twice required an average of 105 additional days to graduate compared with students who were ever undecided and changed majors only once. Changing majors three times added an additional 105 days to

graduate for students who were ever undecided. Changing majors has significant negative implications on time to graduate for students who were ever undecided.

Conclusion

The layout of this chapter followed the order of data analyses as presented in Chapter 3. The first supplemental analysis focused on persistence rates for undecided students and showed that undecided students persist at similar rates to undecided students. Next, the chapter offered a comparison of first-destination outcomes for various groups of students categorized by major declaration patterns. The analyses revealed little difference in the first-destination outcomes among all types of students. The chapter culminated with analyses of time to graduate for various groups of students categorized by major declaration. The following chapter offers a more in-depth discussion of the findings.

Chapter 5

Discussion

This study sought to explore what, if any, relationship exists between major declaration patterns and graduates' first-destination and time to graduate. Careful evaluation of six years of institutional data and first-destination findings revealed both promising and interesting results.

Persistence

As noted, only students who persist are able to secure first-destinations. Persistence analyses for Taylor University students indicated that undecided students persist at similar rates to declared students. Thus, the population of students included in the first-destination analyses is an accurate representation of both the decided and undecided student experience.

First-Destination

Encouragingly, the data revealed that almost no difference exists between the first-destination outcomes of undecided students and declared students. This supports NACE's (2019) findings regarding the success of all 2018 graduates. Both groups successfully secure employment following graduation well above the national average. A similar outcome was revealed for humanities graduates compared to those majoring in the sciences. Regardless of an undecided designation, the graduates are successful in securing first-destinations. This supports the stances of Cuseo (2005) and Galilee-Belfer (2012) that changing majors may simply be an indication of a student maturing in their self-understanding and decision-making abilities.

However, differences begin to emerge when undecided students change their major more than once. These graduates saw a 4% decrease in their first-destination excellence rates compared to multiple-change students who were never undecided. This finding adds a new dimension to studies that note the positive impact of changing majors on persistence (EAB, 2016; Graunke et al., 2006; Micceri, 2001; Murphy, 2000). While students who were ever undecided will still likely graduate, the quality of their first-destinations may be negatively impacted.

Time to Graduate

The data revealed that, overall, undecided students take longer to graduate than students who were never undecided. On average, undecided students at Taylor will require nearly 200 additional days to graduate compared to their declared counterparts. Both decided and undecided students who change majors more than once, not surprisingly, take longer to graduate than students who never change or change fewer times. The data revealed that an undecided student who (necessarily) changes their major only once (you have to declare to graduate!), on average requires around the same amount of time to graduate (1503 days) as a student who was never undecided and changed their major three times (1506 days).

An approximate four-year timespan is 1460 days, indicating that students who were ever undecided require, on average, more than four years to graduate. Each time a student who was ever undecided changes their major, they require an additional 105 days to graduate, compared to students who were never undecided and required only an additional 32 and 34 days, respectively, for their first and second major change. Both groups add close to 100 days to graduate when changing majors for the third time.

What can we learn from these findings? Overall, undecided students at Taylor persist just as well as declared students. Additionally, undecided students at Taylor are just as successful in securing first-destinations as their declared counterparts. However, the undecided designation is correlated with a greatly increased time to graduate, and undecided students who change majors more than once may secure slightly less promising first-destinations. In order to graduate in a timely fashion, all students should avoid changing majors more than twice.

Implications

Practice

In response to these findings, Taylor University should consider the narrative surrounding the undecided declaration status. While undecided is a sound choice in regard to initial success following graduation, the declaration likely has an impact on time to graduate, and potentially the student's first-destination. Given the current realities highlighted by this study, helping students who are undecided to declare prior to entering the university, or to change majors only once could improve their chances of graduating on time and securing an excellent first-destination.

Perhaps equally important is a consideration of why undecided students are taking longer to graduate at Taylor. If, as according to Tinto (1987), Cuseo (2005), and Galilee-Belfer (2012), waiting to declare a major is truly beneficial to a student's developmental process, the institution may want to consider putting accommodations in place to provide space for students who are engaging in the goal-clarification process. Taylor should aim to find ways to allow for this natural process while supporting timely graduation for the

majority of its students. A more consistent alignment of foundational core courses with major tracks could prove beneficial.

Choosing majors strategically could benefit undecided students in regard to time to graduate. Some majors naturally require more time to graduate than others. In addition to major exploration tools provided online for enrolled students, the university would benefit from creating a visual aid that provides both prospective and enrolled students with a clear picture of which majors require the greatest time investment, like education, music, and cybersecurity. Students considering a more time-intensive major may benefit from early declaration of that major, even if they later switch to another major. Galilee-Belfer (2012) provides ample suggestions on both messaging and a visual representation strategy.

It would benefit Taylor to conduct further research into the specific majors selected by undecided students and their time to graduate in order to best serve both prospective and enrolled students in regard to major declaration. Additionally, providing this major data to respective departments would allow those departments to analyze the types of students who are most likely to eventually declare their majors and create strategic plans for engaging with those students early in their academic careers and supporting them once they have declared.

Further research is required to clarify when is the optimal time for a student to declare their major at Taylor in order to positively impact time to graduation (Cuseo, 2005). However, based on the findings of the extensive study conducted by the EAB (2016), which suggest a productive exploration window of a student's second, third, or fourth term as the optimal time to declare, early support for undecided students in the

realm of vocational exploration could aid undecided students in developing the competency required to confidently declare a major earlier in their career (Galilee-Belfer, 2012). Elective courses for freshmen focused on major exploration could provide additional support.

Future Research

During the review of the literature, no comparable research studies were found connecting major declaration patterns to graduates' first-destinations. More research is required at both similar and different types of institutions in order to validate the results of this study.

Differences in the definition of undecided cause confusion in regard to how to best serve this population. It would be helpful for an industry-standard definition of undecided to emerge. Must a student officially declare undecided to fall into this category? How many major changes reflects a truly undecided student? Are there other predictors of undecidedness? Perhaps openness to experience? What are the demographic backgrounds of students who end up undecided? Are there strategic reasons for institutions to retain or prioritize those students (e.g., first generation students)?

Additionally, it would be interesting to expand this study to include first-destination satisfaction. The results of this study confirmed that undecided students secure first-destinations as readily as their declared counterparts at the studied institution, but are they as satisfied with the placement? Maybe more satisfied? Less?

Limitations

Research for this study was conducted at Taylor University, a small, Evangelical, liberal arts college in the Midwest. Both the type of student and number of students are

inherent limitations, especially for smaller subgroups of students that were analyzed (e.g., only 14 students were never undecided and changed their major three times).

Additionally, only students who responded to a first-destination survey or were located by the career services office were included in the first-destination results. Thus, the research does not reflect the experience of the entirety of the graduating classes.

However, these limitations would be similar at other institutions and would be dependent on the caliber of their institutional knowledge rate.

Time did not allow for the analyses of when undecided students declared their graduating majors, nor did it allow for identifying which majors undecided students eventually choose. These analyses are integral to discerning a wholistic, informed approach to supporting undecided students. No major modifications should be made at the institution until these analyses are completed.

The lack of clear research regarding the undecided student experience is, perhaps, the greatest limitation to this study. Until standards are agreed upon and a status quo is identified, institutions will have to create their own benchmarks regarding acceptable parameters for the undecided student experience.

Conclusion

Overall, the findings are positive. Undecided students at Taylor University persist just as well as their declared counterparts. A student's major declaration patterns do not have any significant implications on their eventual first-destination. Taylor graduates, regardless of major declaration patterns, secure first-destinations at impressive rates. While changing majors more than once has a negative impact on time to graduate for both undecided and decided students, students who were ever undecided are most

vulnerable. Research connecting first-destinations with major declaration patterns should be conducted at other universities to confirm these results. In order to positively impact time to graduation, mitigation strategies for undecided students at Taylor should focus on helping students develop the competency required to declare a major prior to entering the university or shortly thereafter. Alternatively, the institution could consider altering its academic model to allow time for major exploration without necessarily extending time to graduate.

Remember the concerned parent? How did her undecided student fare? I am pleased to report that he's still here! Her son is finishing up his sophomore year declared in one of the university's more time-intensive majors. Though uncertain about committing to a major, he opted to declare as an incoming freshman, which should have a positive impact on his time to graduate over an undecided status, whether or not he eventually opts to change his major. Regardless, we can confidently anticipate—based on the data—that he will obtain a quality first-destination following graduation, which was arguably the parent's gravest concern. Based on the data, her son is going to be just fine.

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