SATISFIED WITH THE SAFETY SCHOOL: RANK, CHOICE, AND COMPETITION

WITHIN THE COLLEGE ADMISSIONS MANIA

by

KEITH FRAZEE

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Student: Keith Frazee

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This dissertation has been accepted and approved in partial fulfillment of the requirements for the Doctor of Philosophy degree in the Department of Educational Methodology, Policy, and Leadership by:

Dr. Gerald Tindal	Chairperson
Dr. Michael Bullis	Core Member
Dr. Roger J. Thompson	Core Member
Dr. John Seeley	Institutional Representative

and

Kate Mondloch	Interim Vice Provost and Dean of the Graduate School

Original approval signatures are on file with the University of Oregon Graduate School.

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DISSERTATION ABSTRACT

Keith Frazee

Doctor of Philosophy

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College Admissions Mania

Over 16% of entering college students attend more than one university's new student orientation program. How does attending multiple orientations affect the likelihood of students' enrollment a university? Similarly, do students always attend their top-ranked college when admitted? This manuscript presents results from binary logistic regressions attempting to better understand why some students may attend a university's orientation but not arrive for the first day of classes. Independent variables include orientation attendance and the rank students assign each college in their choice set. Additional variables investigated include cohort, estimated household income, high school GPA, SAT/ACT score, residency, proximity of the college from home, gender, first-generation status, and waitlist status. Among the results, rank choice, residency, and high school GPA provide statistically significant results though with limited effect.

CURRICULUM VITAE

NAME OF AUTHOR: Keith Frazee

GRADUATE AND UNDERGRADUATE SCHOOLS ATTENDED:

University of Oregon, Eugene
University of Missouri, Columbia
Baylor University, Waco, Texas

DEGREES AWARDED:

Doctor of Philosophy, Educational Leadership, 2019, University of Oregon
Master of Arts, Educational Leadership, 2008, University of Missouri
Bachelor of Science, Secondary Education, 2005, Baylor University

AREAS OF SPECIAL INTEREST:

College Choice and Higher Education Enrollment
Student Affairs Administration
Decision-Making and Management

PROFESSIONAL EXPERIENCE:

Assistant Vice President and Chief of Staff, Student Services and Enrollment
Management, University of Oregon, November 2019–present

Assistant Director of Orientation Programs, University of Oregon, June 2013–
November 2019

Assistant Director of Campus Life, Westmont College, June 2012–May 2013

Assistant Director of Student Activities, Baylor University, June 2008–June 2012

Coordinator of Peer Education, University of Missouri, August 2006–May 2008

PRESENTATIONS AND PUBLICATIONS:

Smith, J., Beach, P., & Frazee, K. (2016). Teaching across boundaries: An
evaluation of technology use in a doctoral education program. In *2017 Yearbook of*

Teacher Education (pp. 275–288). Brno: International Council on Education for Teaching.

More Than a Logo: Funding First-Year Student Programs through Sponsorships NASPA Annual Conference presentation, March 11, 2019, Los Angeles, California

We Didn't Plan for That: Crisis Management during Campus Events NASPA Annual Conference presentation, March 12, 2018, Philadelphia, Pennsylvania

Your Student Staff Can Help Prevent Sexual Violence NODA Annual Conference presentation, October 25, 2015, Denver, Colorado

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CHAPTER I

INTRODUCTION

Choosing which college to attend typically affects major elements of an individual's life trajectory, including their economic, professional, and social wellbeing (Pascarella, Terenzini, & Wolfle, 1986). Consequently, students would ideally make the high stakes decision of where to attend college following a process of deep research, self-reflection, and a rational cost-benefit analysis. However, the choice of which college to attend is, to some extent, unscientific as students work with incomplete data, tight timelines, and many external influences. Students may feel pressure from family, friends, guidance counselors, and college ranking publications. Students may feel pressure through a desire to attend college where their best friends or significant other are attending. The sources of information and misinformation seem endless, yet the time it takes to consider such information is not. A comprehensive and systematic decision-making process including careful analysis and discernment is just not possible in today's world of admissions mania (Bruni, 2015). Thus, students choose their college with limited and bounded rationality (Simon, 1955, 1959). The choice is a stressful one even among the best of circumstances, such as when students receive multiple admission offers including admission to their top-choice school (Galotti, 1995).

An emerging national trend suggests high school seniors apply to a steadily increasing number of universities each year in the United States (M. Clinedinst, Koranteng, & Nicola, 2015). When a student chooses which universities to apply to, their options seem endless. They could apply to in-state or out-of-state universities, local regional colleges or highly selective, globally reputable universities. According to the

National Association of College Admission Counselors (M. E. Clinedinst & Patel, 2018), "between the Fall 2016 and Fall 2017 admission cycles, the number of applications from first-time freshmen increased four percent; applications from prospective transfer students increased by three percent; and international student applications increased by eight percent" (p. 3). This increase does not represent an increase in *applicants* but in *applications*. Students are applying to more institutions during their application and admission process. This trend is further demonstrated over time. In 1990 just nine percent of students applied to seven or more colleges, and by 2015, that group of applicants rose to 36 percent (Eagan, Stolzenberg, Ramirez, Aragon, Suchard, & Rios-Aguilar, 2016). The increase in applications can likely be contributed in part to the growing ease of applying. The Common Application represents one popular method for students to submit multiple college applications online. The Common Application (2017) is a consortium of universities sharing a single application for admission. The Common Application offers students the opportunity to explore nearly 700 colleges and apply to up to 20 through a single online application process. Submitting applications online is nearly universal with Clinedinst et al., (2015) finding that in 2014 "four-year colleges and universities received an average of 94 percent of applications online, up from 68 percent in Fall 2007 and only 49 percent in Fall 2005" (p. 3). The ease of submitting a college application online may seem like a helpful step in the complex process, but as the number of applications increase, many universities' selectivity rates decrease.

After students select which colleges will be in their choice set, colleges are then able to consider which applicants to admit through a selection process. A university's selectivity rate is the ratio of students who are offered admission to those who applied,

expressed as a percentage. Higher selectivity equates to fewer applicants admitted. For fall 2016 the national average selectivity rate was 65.4%, meaning colleges and universities in the U.S. admitted on average 65.4% of their applicants (M. E. Clinedinst & Patel, 2018). With greater numbers of applicants, universities are forced to admit more students and thereby sacrifice their selectivity rate or risk a sharp decline in enrollment because not all students admitted at a university will enroll at that university. Yield defines the measure of students who actually attend a university after considering other admissions offers. For fall 2016 the national average yield rate was 33.6%, a decline remaining consistent from the previous two years when the national average yield was 35.1% in fall 2015 and 36.2% in fall 2014 (M. E. Clinedinst & Patel, 2018).

As an example, for fall 2016 if the national averages applied to a single university, by admitting 65.4% of applicants, the example university would expect 33.6% of those to actually arrive for the first day of classes. In sum, nationally the percentage of applicants admitted is rising while the percent of yield is falling. If a university admits more students yet yields fewer, the predictability of which admitted students will ultimately enroll weakens. To use a real estate term, the increased applications and decrease in selectivity rate is tantamount to the admissions process transitioning from a seller's market to a buyer's market for all but the most selective universities. I will next describe how the current state of college admissions presents a problem for all involved.

Problem of Practice

The existing admissions mania presents a problem for both students and universities. Problems center around the themes of indecision and unpredictability, where student indecision (or delayed decision) may contribute to college enrollment

unpredictability. I next describe the problems of practice for both students and universities.

Problem of practice for students. With a limited window of time during which to consider likely one of the most consequential decisions thus far in a student's life, applying to multiple universities then being admitted to multiple universities counterintuitively becomes a burden. Adequate data-gathering and time for reflection may compromise the decision-making process. By applying to several colleges, students may think they increase the likelihood of admission to their top choice school, but they simply increase the likelihood of admission to *a* school.

Some students will earn admission to multiple schools, none of which are their top choice. For students with multiple admissions options, more choice is not always better. Loewenstein (2000) described the cost of more choice by stating, "expanded choices can impose costs on decision-makers. It can absorb scarce time that people would prefer to spend on other activities, result in decision errors, and produce anxiety and regret" (p. 1). Considering multiple admission offers limits the time to build institutional commitment prior to students' decisions, risking accepting admission from a school they may not be particularly excited about when compared to their top choice.

One high school counselor, Lisa Sohmer, director of college counseling at the Garden School in Jackson Heights, in Queens, New York, described this in a *New York Times* article by stating, "when students file 20 or more applications, they've loaded on lots of ultra-competitive schools, so their list becomes disproportionately top-heavy. Or they throw in lots of schools at the end where they're overqualified." (Kaminer, 2017). What is the impact on students making a high-stakes decision with low data and limited

time? They may choose to attend a school that is not a strong fit, a school wherein they overmatch or undermatch with the university's standards, thereby challenging their institutional commitment and risking drop-out or transfer. Problems within the college choice process affect not only students navigating through the process but colleges and universities also experience difficulties due to admissions mania.

Problem of practice for universities. The increase in the number of applications submitted by prospective students creates uncertainty in university enrollment because many universities admit more students than will ultimately enroll (M. Clinedinst & Koranteng, 2017). As previously stated, for the fall 2017 term, the number of applications to college for first-time freshmen rose 4% from the previous year (M. E. Clinedinst & Patel, 2018, p. 3). Students submitting multiple applications increase the likelihood of receiving multiple admissions. However, if universities know or suspect the students they admit will also receive admission from other universities, enrollment becomes unpredictable. Universities depend on the predictability of enrollment to set budgets, plan personnel, and draft capital projects among other university operations. If students delay their decision, universities delay their planning process for the upcoming year. I next describe the theoretical frameworks through which I explore these problems of practice and the associated existing literature of college choice.

Theoretical Frameworks

Theories of student development in higher education, economics, and psychology provide insight into student decision-making related to college choice. Student development theories take into account many, often competing, influences on the student interests, such as their pre-college attributes and preparedness for college academic rigor.

Economic theories allow researchers to consider cost-benefit analysis as a critical sway for students in their decision-making process. Psychological theories provide general insight into how decisions are considered, formed, and reinforced. Taken together, theories within multiple disciplines provide a foundation for how I frame the exploration of college choice. I next describe the theoretical frameworks I drew from as I explored the literature related to decision-making and college choice. I begin with broad decision-making theories and narrow to college choice theories. Figure 1 displays how each theory narrows toward my focus on the construct of interest—institutional commitment.
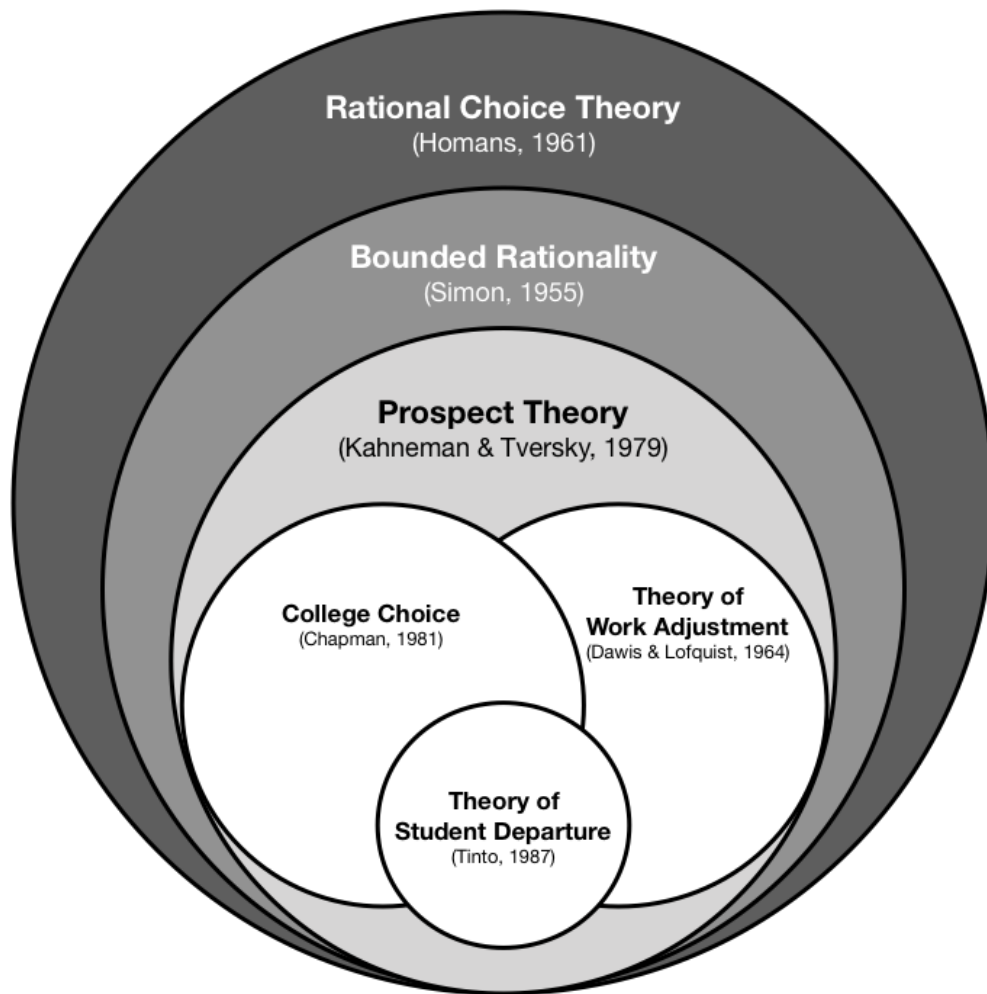
Figure 1. Funnel of theoretical framework

Decision-making theories. Generally, decision-making represents a problem-solving activity with the decision serving as the resolution. However, the decision-making process may include rationality and irrationality; it may include empirical and explicit knowledge as well as implied and tacit beliefs about the world. I next describe three decision-making theories and how they scaffold with one another to form a general framework prior to describing theories directly related to college choice.

Rational choice theory. To help understand the nature of rational decisions, Homans (1961) developed rational choice theory, also known as rational action theory, which assumes perfect information. If all available information about a choice were taken into account, including probabilities and costs as well as benefits, a person would select the option that they determined was best. Rational choice theory assumes the sum of social behavior stems from a collection of individuals making decisions rationally toward their preferences (Oliveira, 2007).

If applying the rational choice model to college choice, the student would be able to rank their admission alternatives without uncertainty due to incomplete information and without uncertainty of possible outcomes, and they would choose the college they determined was best. Yet such an omniscient circumstance is not possible; students are unable to obtain complete information, comprehensive probabilities, or thorough cost-benefit analysis about every college in their choice set. Students' decide their college of choice with limitations on their ability to obtain all possible information, and so they decide their college of choice with bounded rationality.

Bounded rationality. Without perfect information people still maintain the ability to make consequential decisions rationally. Bounded rationality adds to my theoretical framework beginning with rational choice theory by accounting for lack of complete information or computational resources (Simon, 1955, 1959). Bounded rationality suggests decision-makers settle on a satisfactory solution rather than an optimal one due to the complexity of time limitations and cognitive constraints required in determining the optimal solution. Bounded rationality provides a helpful addition to the theoretical framework because the time students have between admission and the start of classes is just not enough to learn all available information about a university, much less multiple universities. Furthermore, students are unable to compute all possible probabilities of their decision or the complete cost-benefit of choosing one university over another. So they take the information they have and compensate for missing information with mental shortcuts or heuristics.

However not accounting for emotion or intuition presents a critique of bounded rationality (Hanoch, Wood, & Rice, 2007). Selecting a university to attend may include intuitive responses not accounted for in the rational decision-making model of bounded rationality. A student's first impression of a university can create a lasting impression whether accurate and rational or not. Bounded rationality does not take into account the effect of intuition on the decision-making process because intuition may not be rational.

Prospect theory. Heuristics supplement a decision-making process that may not be purely rational, and Prospect Theory adds dimension and understanding of such mental shortcuts in the decision-making process. As a critique of rational choice theory, Prospect Theory presents an alternative idea of decision-making under risk using

heuristics (Kahneman & Tversky, 1979; Kahneman, 2014). Prospect Theory attempts to model real-life decision-making with heuristics, instead of decision-making under optimal conditions. Heuristics are generally understood as the building blocks of an educated guess or intuitive judgements, often colloquially described as "common sense." Heuristics help ease the cognitive load in the decision-making process by filling in missing information (Gigerenzer & Selten, 2002). Kahneman and Tversky (1979) theorized that people, when deciding among options, set a reference point based on a heuristic that considers outcomes equivalent. After the reference point is set, people see lesser outcomes as losses and greater outcomes as gains. For example, when applied to a student's college choice, after a student receives admission from a university, they rank any subsequent admissions from other universities as better or worse by comparison. Such ranking behavior poses an interesting question related to college choice — does a student's ranking behavior of the colleges in their choice set affect their ultimate decision of which college to attend? I intend to explore students' ranking behavior in my first and fourth research questions, which I list below.

The authors also noted that people tend to remove characteristics when shared by all options, zeroing out similarities. When applied to college decision-making, Prospect Theory would suggest when students compare colleges, they dismiss similarities during the decision-making process. For example, if a student receives the same amount in scholarship awards from two colleges, in deciding which of the two to select, the student would likely dismiss scholarship awards in the decision-making process, instead focusing on other factors that differ between the two colleges.

College choice and retention theories. Following general decision-making theories, I next add to the theoretical framework with theories specific to college choice and retention. The general psychology of complex decision-making, while critical context, does not provide enough specificity to fully understand how students choose their college. To that end, I looked to theoretical models specific to higher education. What influences students to choose a college? Presumably, all students choose among a common, finite set of factors and variables of influence. While that set of factors and variables is certainly vast, it is doubtfully limitless. It likely includes cost, living arrangements, social circumstances, academic programs, and many more, though not infinitely more. The Model of College Choice (Chapman, 1981) identifies common, measurable influences, and it adds to the theoretical framework.

Notably, I also included a theory of college retention (Tinto, 1987) that focuses chronologically after students chose their college because I believe some inferences may arise retrospectively. Why a student chooses to *stay* at a university may provide insight into why they *chose* the university in the first place. The theory of students' decisions to stay or depart from college are therefore included in my theoretical framework. Finally, I included a theory of change related to workers adjusting to new jobs. Some inferences may be drawn from a person's choice of job, so I included a career-related theory to build on the theoretical framework. Literature in each research area can provide insight to how students make decisions about college selection. I next describe theories of college choice, student retention, and work adjustment.

Model of student college choice. When looking specifically at the decision-making of students choosing their college, Chapman (1981) identified factors that affect

college choice and grouped those factors into student characteristics and external influences, which included significant persons, fixed college characteristics, and college marketing efforts. Chapman suggests fixed student characteristics of influence include family income, aptitude test results, high school grade-point average, and level of educational aspiration. Missing from Chapman's list of student characteristics is first-generation status, which may correlate closely with level of educational aspiration, though Chapman does not specifically address generational status in their Model of College Choice.

The second level of Chapman's model includes influences external to the student, such as significant persons, college characteristics, and college marketing efforts. Of the significant persons Chapman lists in the model, parents hold the greatest influence over students college choice while other significant persons include guidance counselors, peers, teachers, and lastly, college admission officers (Tillery, 1973). College characteristics include cost, financial aid, location, and availability of academic programs (Chapman, 1981). And finally, Chapman includes the college's marketing efforts in the Model for College Choice. Of all the factors within the model, the marketing efforts seem to represent the factor least resistant to change. In other words, a college can add or reduce its marketing efforts with greater ease than adding or reducing its academic program offerings. Such possible volatility in marketing efforts may present a challenge in measurement over time because if college administrators change their marketing efforts year-to-year, it would be difficult to analyze any lasting effect on such marketing efforts.

The Model of College Choice seems to not account for student behavior which may indicate institutional commitment. For example, events for prospective students may influence the college choice, such as attending a campus tour or a new student orientation session, yet the model seems not to account for such events. The lack of inclusion of orientation attendance represents a gap in the research which is worth exploring. I intend to utilize the Model of College Choice to guide which factors I include in my model, while building on the model to include orientation attendance as a factor of interest, specifically in research questions two and five.

The Model of College Choice (Chapman, 1981) pairs well with an additional higher education model, the Model of Student Departure (Tinto, 1987). Together, both models could add insight to my theoretical framework by considering why students choose their college but also why students retain or depart from college.

Theory of student departure. Tinto (1987) presented a theoretical framework regarding student persistence in higher education, which represents a decision-making process downstream of the college choice process yet with applicable concepts. Figure 2 shows Tinto's Theory of Student Departure. A students' academic skill and prior schooling (or lack thereof) play an important role in their academic goals for higher education, and those goals and institutional commitment then influence academic performance. The theory considers pre-college attributes, such as academic skill and ability, as well as institutional commitment, the primary construct I explore for explained variance in the college choice process. Tinto's theoretical framework tries to help explain why students choose to leave or stay at college. When applied upstream and considered for students choosing which college to attend, Tinto's framework may provide unique

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insight into students' ultimate decision for where to attend by measuring their commitment to the college prior to the start of classes. A student's decision to stay enrolled at a university may provide evidence for why they chose that university in the first place, though such linkage may not apply to all students in all circumstances.

Theory of work adjustment. The matching of students and universities could also be explained by looking to theories of career choice. The Theory of Work Adjustment (Dawis & Lofquist, 1964) attempts to explain the reciprocal match of people and their career environment. A person seeks work with organizations that match their needs. Similarly, work organizations seek people with the capability of meeting the needs of the organization. The Theory of Work Adjustment uses indications of satisfaction and satisfactoriness, where individuals seek satisfaction with their work environment, and the workplace assesses a person's abilities by a degree of satisfactoriness. A person's satisfaction and a workplace's satisfactoriness would jointly predict the person's tenure in that workplace.

As a critique of the theory, the Theory of Work Adjustment does not consider between-group differences by diverse populations such as under-represented minorities. Bias unrelated to a person's abilities may play a factor in the degree of congruence of the satisfaction and satisfactoriness between a person and their work environment. Furthermore, Krumboltz (1992) points out some employees are "chronically undecided" about the fit of their career and goes further to suggest such indecision should not be viewed negatively but instead can be interpreted as a "profound philosophical perspective" that leads to health and happiness (p. 244).
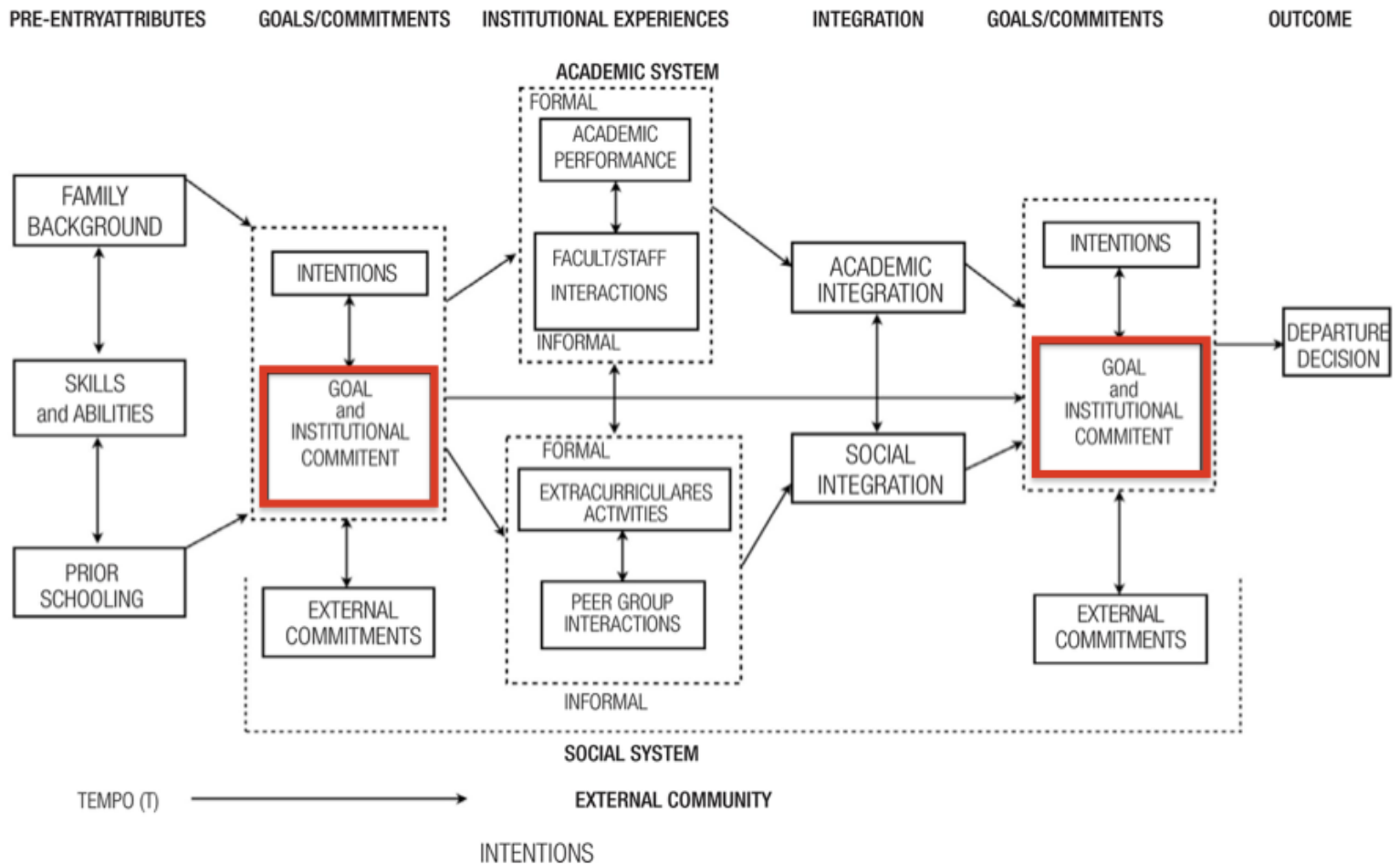
Figure 2. Tinto's Theory of Student Departure (Tinto, 1988), red box added for emphasis on the construct of interest

If applied to the relationship between students and universities, the Theory of Work Adjustment describes how a student seeks belonging that would match what they need, and universities in turn seek students who have the abilities to match the need of the university. The closer a student's abilities, skills, attitude, and behavior align with the requirements of the university, the more likely they will fulfill the "job" of being a student well and be perceived as satisfactory by others. Figure 3 represents the theory model. However, special consideration should be given to students who persist in a state of indecision because, as Krumbotlz (1992) suggests, societal pressures may give way to anxiety and unhappiness during the decision-making process.
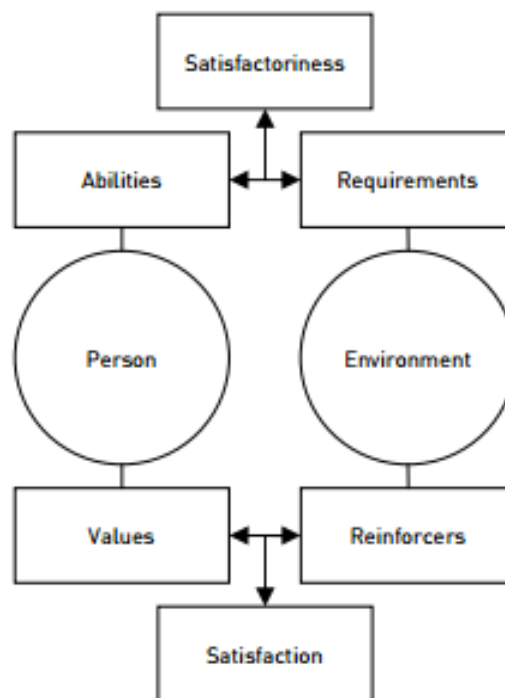
Figure 3. Path diagram of the Theory of Work Adjustment (Dawis & Lofquist, 1964).

Summary. Taken together, the theories of decision-making and college choice suggest choosing a college to attend is a complex, multi-stage process. In an optimal scenario, students could select the college of best fit because they have all possible information and omniscience of probabilities of outcomes. However, students can not obtain perfect information prior to the decision, so they prioritize characteristics of the options, setting a reference point with the first option, and comparing subsequent options. Throughout the process institutional commitment, student characteristics, significant persons, college attributes, and college marketing efforts, all play influential roles through students' college choice process toward the goal of finding a match. Such influences construct my theoretical framework within which I explore college choice.

CHAPTER II

LITERATURE REVIEW

The search for empirical research about college choice proceeded iteratively and included multiple databases and multiple attempts to refine search terms. In the following section, I describe my literature search process to thoroughly account for the process I followed in establishing the literature pool. I then synthesize the literature to suggest gaps that I work to fill.

Digital Search Procedure

Articles about the topic of college choices and decisions may not use a precise and universal key term for the college decision. My intent was to therefore search a series of college choice-related terms alongside the term "decision making." My hope was to obtain a robust body of literature on the topic of college choice from which I could review and synthesize in order to locate a gap in the research. I searched the University of Oregon LibrarySearch using the Boolean phrase provided by the ERIC thesaurus,

"('College Choice' OR 'College Admission*' OR 'College Applicant*' OR 'College

Bound Student*' OR 'College Freshm*' NOT 'Community College')

AND

('Decision Making')."

The search yielded 3,951 results after filtering for peer-reviewed articles. The search attempt indicates the precisicion of the Boolean search phrase helped cast a wide search of articles from which to review. I then considered narrowing the search parameters by date range. I considered two years as important in the history of the college

choice process in American higher education. First, the Higher Education Act of 1965 established the Pell Grant, a program of federal funding that opened college access to students from lower socio-economic status to postsecondary education (Higher Education Act, 1965). Although 1965 was a landmark year in higher education to consider as the start of a date range limit, narrowing the date range of my search to 1965–present excluded only 38 of the 3,951 results.

The next year I considered of landmark importance to the college choice process was 1998, the year internet search engines were introduced to the public (Van Couvering, 2008). Internet searches democratized the college search process by providing detailed, searchable information on colleges to any prospective student with minimal effort and time. By narrowing the literature search date range to 1998–present, only 844 of the 3,951 results were excluded.

Despite using a search phrase with several filters, the remaining 3,000 search results were unmanageable for an in-depth inspection of the literature for review. I then reviewed article titles across several pages of search results and could see that my search process identified articles unrelated to my specific topic of interest. For example, one title was, "Track Placement and the Motivational Predictors of Math Course Enrollment" (Reyes & Thurston, 2017), which did not fit my ultimate goal because it was specific to math course enrollment, not general college enrollment. I determined to edit my search phrase with new search terms in the hope of yielding results more precise to the topic of college choice and to reduce the volume of results that I would ultimately read. The final search terms are displayed in **Error! Reference source not found.**.

Table 1

Databases, Searches, Search Terms, and Results

Search 1		Search 2		Search 3	
"prospective college student" AND choice AND admission		("College Admission*" OR "College Freshm*" OR "College Applicant*" OR "College Bound Student*" NOT "Community College") AND ("Decision Making")		("College Applicant*" OR "College Bound Student*") AND ("College Choice" OR "Decision Making" OR "College Selection") NOT ("Community College" OR Career)	
Database	Results	Database	Results	Database	Results
UO LibrarySearch	242	UO LibrarySearch	4,471	UO LibrarySearch	151
ERIC	1	ERIC	214	ERIC	160
Academic Search Premier	0	Academic Search Premier	74	Academic Search Premier	24
Total	243	Total	4,759	Total	335

Notes. All search results were narrowed to only include peer-reviewed journals, and the date range was narrowed to 1998–2017. Quotation marks = exact phrase, ALLCAPS = Boolean search operator

Revised search attempt. I decided to delete the term "college freshm*" from the search phrase because the phrase was pulling too many articles unrelated to the focus of my search about college choice. Such articles included emphasis on the freshman year of college but were not relevant to the college choice process preceding the start of the freshman year.

The third search phrase was,

("College Applicant*" OR "College Bound Student*")

AND

("College Choice" OR "Decision Making" OR "College Selection")

NOT

("Community College" OR Career)

Including filters for peer-reviewed journals and a date range of 1998–present, this new search phrase provided 151 search results from the University of Oregon LibrarySearch. I added to the results by using the same search phrase in the ERIC database and Academic Search Premiere database. Removing all duplicates among the databases left 152 articles for the initial review. I later added seminal studies related to decision-making and college choice that were outside the date range.

Initial review and exclusion criteria. I initially reviewed the 152 results by reading the article titles, which enabled me to create a categorization system based on article theme. That is, I determined the literature in my initial review could be categorized based on the titles by the following themes: influence of financial aid on college choice, equity in the college admission process, influence of college rankings, higher education

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marketing strategies, decision processes for college, and international case studies. I tagged each article with one or more category.

  Exclusion criteria. I decided to exclude articles that focused on college access instead of college choice. Generally, the term *college choice* refers to a process by which students decide whether and where to attend college, yet this term assumes students have access to college. The term *college access*, however, refers to who gets to attend college. Many articles include or conflate topics of college choice and college access. The differentiation in terms is necessary to fully understand the nature of college-going behavior for students, yet I excluded articles about college access to gain a discrete understanding of the choice process.

  For example, articles including both topics of college access and college choice focused generally on a critique of the entire admission process, such as, "The Admission Industrial Complex: Examining the Entrepreneurial Impact of College Access" (Liu, 2011). The literature is replete with articles placing emphasis on the limitations to college access as a bind on the college choice set. In order to focus on college choice more generally, I excluded articles focused on college access, in order to not draw conclusions more appropriately related to *access* instead of *choice*.

  I also excluded articles about college decision-making in countries outside of the United States that have substantially different college enrollment processes. For instance China holds a national standardized test for all students. The test is known as the National College Entrance Examination, or gaokao, and the result of this single test determines students' admission to the highly stratified university system in China (Gu & Magaziner, 2016). I excluded articles focused on college admission in China, India, or Thailand

because their university systems, and centralized admissions processes utilize testing as the placement determinant, and student choice is not taken into account.

I excluded "community college" from the search terms to focus on the decision-making of students who consider four-year universities for their baccalaureate degree. The weight of evidence indicates beginning at community college after high school tends to suppress degree attainment in part due to the barrier of getting admitted into a four-year university (Dougherty, 1992, 1994). I therefore excluded articles focused on community college.

After excluding articles about college access, community college, or the countries of China, India, and Thailand, 63 results remained in the pool of articles. I then reviewed article abstracts to determine the final selection of research articles that are synthesized in search of gaps in the literature.

Final review and selection of research literature. Of the 63 articles in the next-to-final literature pool, I searched for indicators of empirical research in the article abstracts. I read for terminology such as, "investigated," "measured," "participants," "sample" as well as descriptions of statistical methodology. For example, one article abstract mentioned that the researchers examined, "variables on post graduating high school choices using multinomial logistic regression analysis" (Lee, Jara Almonte, & Youn, 2013). I sorted the 63 articles into categories as empirical or theoretical. A total of 25 article abstracts met my preliminary criteria for empirical research as displayed in Figure 4. Another 11 articles required further reading, as the abstracts did not provide an indication of methodology. I reviewed those 11 articles to determine their inclusion or not based on the aforementioned criteria for terminology of empiricism. I determined 6 of the

11 were empirical studies, and thus I added them to literature I review further. Specifically, I identified 31 articles that met my search parameters and that described the college choice process through empirical research methods.

- Total search results from three databases
- 186 results were duplicates across the three databases

335

- Unique search results from the three databases

152

- Total studies after eliminating through title theme

63

- Total empirical articles as indicated by the article abstracts
- Abstracts from 11 articles did not indicate type of scholarship therefore needed further reading

25

- Total empirical articles after further reading of the 11 unsorted articles
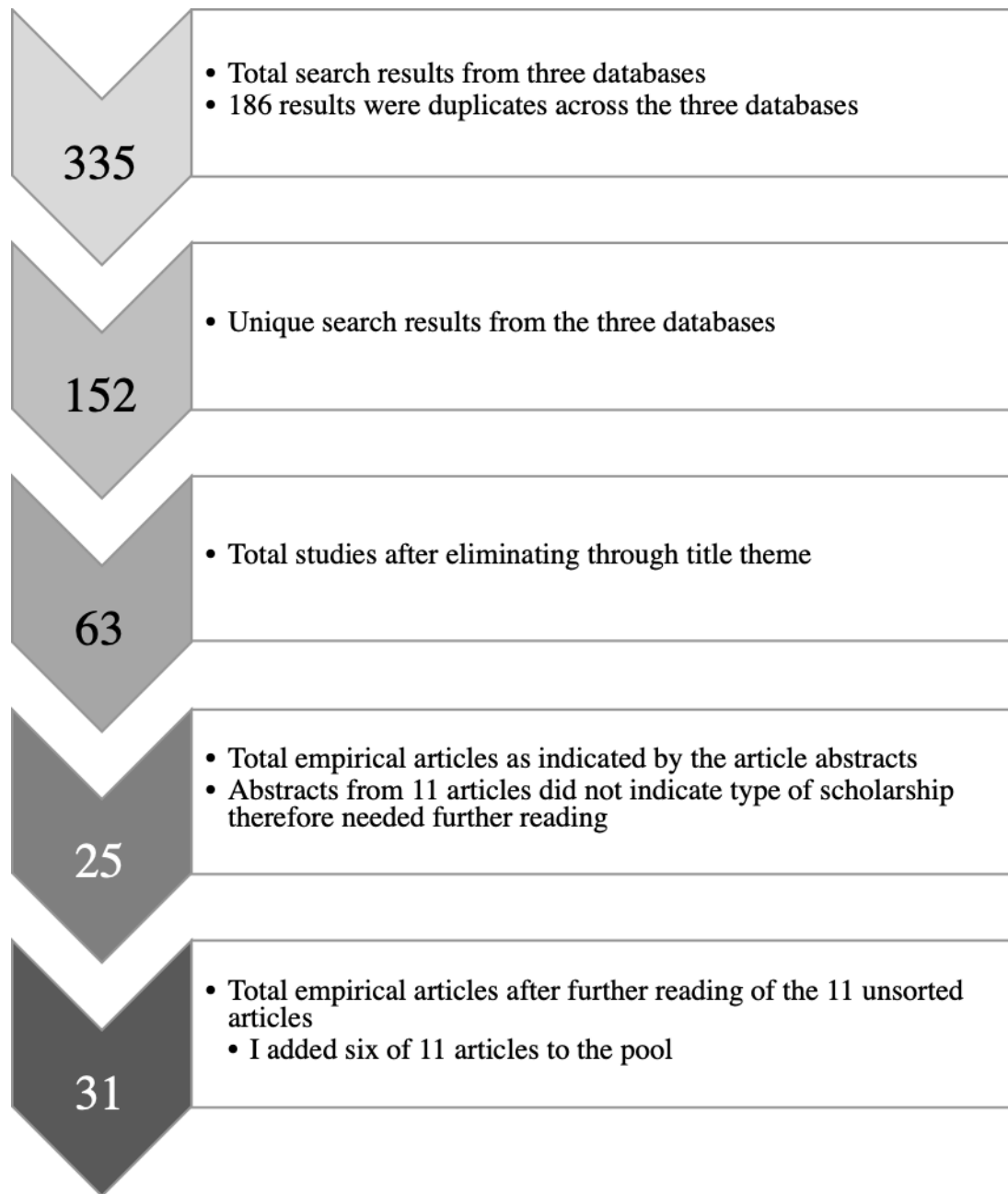 - I added six of 11 articles to the pool

31

Figure 4. Article results narrowed from the third literature search to the final pool of articles.

I next read the collection of 31 articles to summarize the findings and conclusions of the empirical research. From that reading, I continued gathering relevant literature through ancestral searches from the references in the pool of articles. In the next section I synthesize the literature in search of gaps in the body of research. Following a synthesis of the empirical literature, I synthesize the theoretical articles regarding decision-making theory and college choice.

Synthesis of Empirical Literature

I synthesized the literature by reviewing the methods, settings, participants, instruments, findings, and conclusions, of articles in the literature pool.

Methods and quality of the empirical literature. From the 31 empirical articles, I selected during my literature review search process, I list the methodological tradition, method description, and research quality of a sample of the articles in

Table 2. Methodological tradition is the broad categorization of quantitative methods, qualitative methods, or mixed methods. I determined the methodological tradition of each article based on either the authors' direct statement within the methods section or from implications that I discerned from the method description. Method description is what I gathered from each article's methods section and relates to the specific research study design. For example, Elliott's (2016) study of self-efficacy on student retention used a quantitative methodological tradition and a logistic regression, and David, Ball, Davies, & Reay's (2003) study of gender and parental involvement in

the college search process used a qualitative methodological tradition and ethnography as their methods.

Table 2

Research Methodology of a Sample of Articles within the Literature Review

Citation	Author(s)	Method Tradition	Method Description	Research Quality
1	Chang, L.	Quantitative	Logistic regression, data-mining	High quality
2	Christiansen, D. L., Davidson, C. J., Roper, C. D., Sprinkles, M. C., & Thomas, J. C.	Quantitative	One-way ANOVA	Low quality
3	David, M. E., Ball, S. J., Davies, J., & Reay, D.	Qualitative	Ethnography	Moderate quality
4	Dawes, P. and Brown, J.	Quantitative	Unstated	Low quality
5	Dillon, E, and Smith J.	Quantitative	Conjoint analysis (market research)	Moderate quality
6	Dunnett, A., Moorhouse, J., Wash, C., et al	Mixed Methods	Multivariate, interviews	High quality
7	Smith, M.	Qualitative	Case study; focus groups	Low quality
8	Elliott, D.	Quantitative	Nested logistic regression	High quality
9	Fletcher, J. and Tienda, M.	Quantitative	Variables-fixed-effects estimation	Moderate quality
10	Gonzalez, J. and DesJardins, S.	Quantitative	Artificial neural network	Moderate quality

Note. Ratings of research quality was assessed based on the depth and description provided in the articles' methods sections and how the authors addressed threats to internal validity.

I rated research quality on a three-level summative index scale of high, moderate, or low quality. I rated each study's research quality based on the depth and description the author provided of the methods they used and whether the author's chosen research design was appropriate for the research question and variables. In assessing the overall research quality of a study, I analyzed how each article addressed or failed to address six common threats to internal validity displayed in Table 3 (Shadish, Cook, and Campbell, 2002). For example, Chang's (2006) study of data mining on college admissions addressed several threats to internal validity and was therefore rated high quality. Dillon and Smith's (2017) study of market economic factors on students' college choice utilized market research without addressing all or most threats to internal validity. I therefore rated their study as moderate quality. Smith's (2012) study of parents' perceptions of the college choice process addressed no threats to validity and was rated low quality.

Table 3

Shadish, Cook, and Campbell (2002) Threats to Internal Validity

Internal Validity Threat	Definition
Ambiguous temporal precedence	Lack of clarity about which variable occurred first may yield confusion about which variable is the cause and which is the effect
Selection	Systematic differences over conditions in respondent characteristics that could also cause the observed effect
History	Events occurring concurrently with treatment could cause the observed effect
Maturation	Naturally occurring changes over time could be confused with a treatment effect
Attrition	Loss of respondents to treatment or to measurement

	can produce artifactual effects if that loss systematically correlated with conditions.
Instrumentation	The nature of a measure may change over time or conditions in a way that could be confused with a treatment effect

Settings of the empirical literature. Studies within the literature pool comprised a wide range of settings as shown in Table 4. Timing of the study played an influential role in determining setting because researchers study the topic of college choice before and after students make their choice. Settings within the literature pool therefore include high schools and universities. For example, Smith (2012) conducted a case study of one inner-city high school in Los Angeles, California, and Elliott (2016) studied sophomore university students across 14 states. Studying students' choice of college before the decision may yield quite different inferences than studying students' choice post hoc when confirmation bias by affect students' account of their college choice.

Table 4

Settings of a Sample of Articles within the Literature Review

Citation	Author(s)	Setting
1	Chang, L.	1 university *insufficient description
2	Christiansen, D. L., Davidson, C. J., Roper, C. D., Sprinkles, M. C., & Thomas, J. C.	1 research university in the Midwest
3	David, M. E., Ball, S. J., Davies, J., & Reay, D.	1 high school in the United Kingdom
4	Dawes, P. and Brown, J.	United Kingdom
5	Dillon, E, and Smith J.	*insufficient description
6	Dunnett, A., Moorhouse, J., Wash, C., et al	United Kingdom

7	Smith, M.	1 inner-city public high school in Los Angeles
8	Elliott, D.	14 states in USA
9	Fletcher, J. and Tienda, M.	1 research I university in Iowa
10	Gonzalez, J. and DesJardins, S.	1 research I university in Texas

Note. Studies with no or little description of the setting of the study are indicated with "insufficient description."

Of the 31 studies within the pool, three studies were conducted in the United Kingdom. The articles set within the United Kingdom addressed discrete topics within college choice and therefore met the inclusion criteria. For example, David, Ball, Davies, and Reay's (2003) study on gender differences in parental involvement during the college choice process revealed transferable findings for the roles mothers and fathers play during their student's college choice process.

Participants of the empirical literature. The literature pool comprised of studies with a wide range of participants as shown in

Table *5*. As with setting, timing of the study played an influential role in determining participants because researchers study the topic of college choice before and after students make their choice. Participants in studies within the literature pool therefore include current high school students, parents of high school students, and current university students reflecting on their college choice process. For example, Dawes and Brown (2002) studied a convenience sample of 266 freshman college students

in a single introductory business course who were asked about their past college choice process, and Christiansen, et al (2003) studied 406 high school juniors and seniors who attended a college visit day as prospective students.

Table 5

Participants of a Sample of Articles within the Literature Review

Citation	Author(s)	Participants	Surveyed Before or After Decision
1	Chang, L.	26,611 prospective college students	Before
2	Christiansen, D. L., Davidson, C. J., Roper, C. D., Sprinkles, M. C., & Thomas, J. C.	185 HS juniors and 221 HS seniors	Before
3	David, M. E., Ball, S. J., Davies, J., & Reay, D.	120 students, 17–20 years old, across six universities	After
4	Dawes, P. and Brown, J.	266 freshman students in a single intro Business course	After
5	Dillon, E, and Smith J.	2,406 university students	After
6	Dunnett, A., Moorhouse, J., Wash, C., et al	400 university students	After
7	Smith, M.	8 mothers of students from a single HS school	Before
8	Elliott, D.	2,358 freshman students	After

Colleges and universities across the United States annually submit data to the federal government on their enrollment, which provides the opportunity for very large

datasets. Some of the studies within the literature pool reflect studies of very large sample sizes, such as Fletcher and Tienda (2009) who studied 66,654 files of prospective students from a single university. Studies in the literature pool also included small sample sizes, such as the focus group conducted by Smith (2012) with a sample of eight mothers of high school students in the college search process.

Instruments of the empirical literature. Studies in the literature pool, in most cases, collected and analyzed extant data from individual institutional datasets or nationally available datasets. For instance, in their study of student sorting by academic ability, Dillon and Smith (2017) analyzed data from several extant data sources, including the Integrated Postsecondary Education Data System (IPEDS), a national dataset provided through the National Center for Education Statistics (2018) and managed by the U.S. Department of Education. Such a dataset is publicly available, and colleges and universities are obligated to submit annual updates on a series of metrics. Other studies involved collecting data using program evaluation surveys, such as the campus tour surveys administered by Christiansen, et al (2003). No detail on instrumentation was provided for that specific campus tour survey, and such was the case for many studies in the literature pool. A smaller number of studies in the pool utilized unique instruments intended to measure more complex latent constructs.

One example of the use of unique measures was Elliott's (2016) study of self-efficacy on student persistence. Elliott utilized the Freshman Survey from the Cooperative Institutional Research Program (CIRP), which has a history of over 15 million respondents across 1,900 institutions since 1966 (Higher Education Research Institute, 2011). The Freshman Survey provides a technical report alongside the

instrument that includes exploratory factor analysis, parameter estimation, and scoring detail using item response theory to measure the latent traits. Such instrument validation was rare in the literature pool, suggesting a gap in the literature that could be filled by the validation of some other existing instrument or the creation of a new robust instrument that could measure latent constructs of college belonging and decision-making.

Findings of the empirical literature. The articles within the literature pool found multiple associations among students' choices of university. For example, Dunnett, Moorhouse, and Wash (2012) suggest that college reputation was by far the strongest association to a student's college decision, whereas David, et al, (2003) reported student identities, such as gender, social class, and ethnicity, played a critical role in their decision. Some authors noted discrepancies in the college choice among students of different socio-economic backgrounds. For example, students from lower socio-economic backgrounds are academically capable to succeed at selective colleges, but many do not attend those colleges according to Carnevale and Van Der Werf (2017) who identified that about, "86,000 students receiving Pell Grants who scored 1120 or higher on the SAT [above the median] are not attending selective colleges" (p. 13). They also discovered that students who are recipients of Pell Grants are more likely to attend open-access colleges that average far lower graduation rates (49%) than selective colleges (82%). Graduation rates of Pell Grant recipients follow the average graduation trend at those two types of institutions with only 48 percent graduating from open-access colleges, and about 78 percent of Pell Grant recipients graduate from selective colleges and universities (Carnevale & Van Der Werf, 2017, p. 9). The type of university would seem to have an

effect on the ultimate graduation rates of its students that heightens the necessity to eliminate any barrier in the decision-making process during the admissions process.

Inconsistent with the aforementioned findings, Elliott (2016) reported academic and social self-efficacy are the most influential factors on student persistence in college. Elliott's study is unique because it was conducted with a high quality of research methodology relative to many studies in the literature pool by utilizing a nested logistic regression, and yet Elliott's focus was not precisely on college choice but on college persistence from freshman-to-sophomore year. The lack of high-quality research methodology on college choice presents a gap in the literature that I intend to help fill with my study. The use of logistic regression in Elliott's study presents an opportunity to test the replication of results on her hypothesis with a slightly different student sample, admitted students instead of continuing students.

College ranking publications. Publications such as U.S. News & World Report's Annual Guide to America's Best Colleges serves as a source for many prospective college students (Griffith & Rask, 2007). Ample literature exists regarding the influence of ranking publications on students' choice of college, and such literature presents mixed results. For example, Griffith and Rask (2007) noted that sensitivity to rank diminished as students considered lower ranked colleges, whereas sensitivity to rank was highest among students who considered higer ranked colleges. Contrary to the findings of Griffith and Rask, Soo (2013) detected no statistical significance of college ranking publications on the ultimate enrollment choice of students, however rankings did have a meaningful effect on the perceptions of high school teachers, who, as Chapman (1981) observed, serve as significant persons in the college choice process of students (Tillery, 1973).

Although the literature on college choice includes ample research on the effect of publications ranking colleges, I found no related research on the effect of *students* ranking of colleges within their choice set, which presents one important gap in the literature among others.

  Gaps in the empirical literature. From a thorough review of the pool of articles in my literature search, blank spots were revealed that I intend to address with my proposed study. Paramount among the gaps in the literature is the absence of investigation of students' rank choice as well as multiple orientation attendance, which I investigate as independent variables. Ranking behavior, as previously indicated in the theoretical framework, plays an integral role in decision-making (Kahneman & Tversky, 1979). Consequently, how students rank their choice set of colleges may prove worthy of exploration empirically. Although considerable research has been conducted on the relationship between college rankings publications such as U.S. News & World Report and college selection, I found no empirical research on the relationship between *students'* ranking of their college options and their ultimate decision-making in my search.

  Another notable gap in the empirical literature was the absence of research on new student orientation attendance. As described previously Chapman's Theory of College Choice (1981) does not include certain student behaviors which may influence decision-making, such as taking a campus tour or attending new student orientation. Similarly, I discovered no existing, empirical research on such behavior as the relationship between students attending multiple universities' orientation programs and their decision-making. These gaps reveal an opportunity to investigate such phenomena

to see if any variance may be explained by student ranking of their college options and by students attending multiple universities' orientation programs.

Although student ranking of their college options and multiple orientation sessions serves as my main predictor variables, another gap in the literature suggests the need for further exploration. I intend to include the variables of *waitlist status* and *first-generation status* as predictor and moderator variables in my models. I found no existing literature directly investigating variance in college selection that can be explained by either of these two variables, yet the literature does include other critical identity-based factors.

In terms of methods, much of the research in the literature about college choice include qualitative methods, such as David, et al's (2003) study of the association of gender and the decision process. Such studies provide interesting examples of the nuances in students' decision-making process, yet few studies provided large sample sizes and generalizable results. I intend to help fill a gap in the literature by providing quantitative methodology using logistic regression, to create a predictive model of college choice by addressing nuances in the complexity of the decision-making process yet with a large, generalizable sample size.

Conclusions of the empirical literature. The articles reviewed in the literature pool seemed to conclude the college choice process is a complex, multi-stage process for high school students, one with multiple latent and manifest factors. No seminal study provides a comprehensive, contemporary model for college choice. The body of literature on college choice spans multiple academic disciplines, including sociology, economics, psychology, and marketing communications. Among those disciplines, the body of

literature includes multiple research methodologies, including quantitative, qualitative, mixed-methods, and newer methodologies, such as neural network analysis. With a broad and disparate body of literature, I intend to add to the body of research on college choice with quantitative methods, testing the relationship between ranking choice sets, orientation attendance, and college choice.

Research Questions

RQ1: Does the rank of incoming students' choice of university relate to their enrollment decision?

RQ2: Does the number of universities' freshman orientations that students attend affect their enrollment decision?

RQ3: Does the rank of incoming students' choice of university relate to the number of universties' freshman orientations that students attend?

RQ4: Do demographic variables (listed below) affect incoming students' decision to enroll at the University of Oregon?

- IV: Cohort
- IV: High school GPA
- IV: SAT/ACT composite score
- IV: Family Income
- IV: Residency
- IV: Proximity to home
- IV: Gender
- IV: First-gen status
- IV: Waitlist status

RQ5: Do demographic variables (listed above) moderate the effect of rank on students' decision to enroll at the University of Oregon?
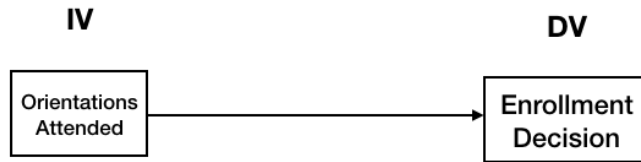
RQ6: Do demographic variables (listed above) moderate the effect of orientations attended on students' decision to enroll at the University of Oregon?

Path diagrams for RQ1–RQ6 are displayed in Figures 5–7.

RQ1: Does the rank of incoming students' choice of university affect their enrollment decision?
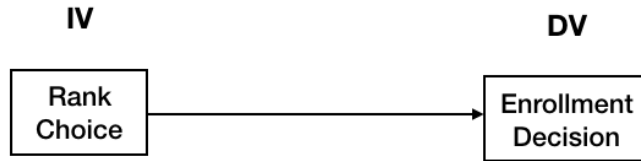
RQ2: Does the number of universities' freshman orientations which students attend affect their enrollment decision?

RQ3: Does the rank of incoming students' choice of university relate to the number of universities' freshman orientations that students attend?
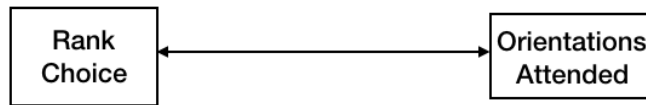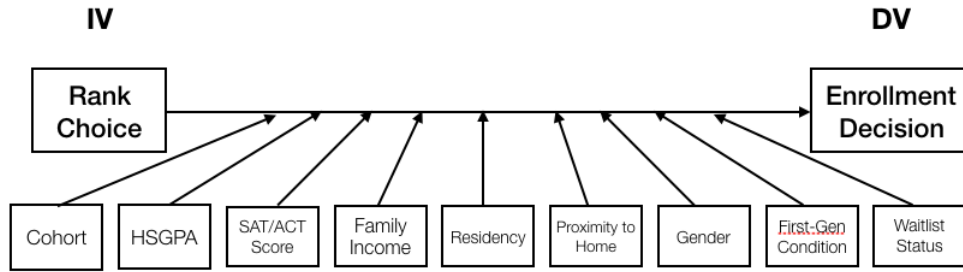

Figure 5. *Path diagram of models for research questions 1, 2, and 3.*

RQ4: Do demographic variables (listed below) affect incoming students' decision to enroll at the University of Oregon?

Figure 6. Path diagram of models for research question 4.

RQ5: Do other variables moderate the effect of the rank of incoming students' choice of university on their enrollment decision?

RQ6: Do other variables moderate the effect of the number of universities' freshman orientations which students attend on their enrollment decision?
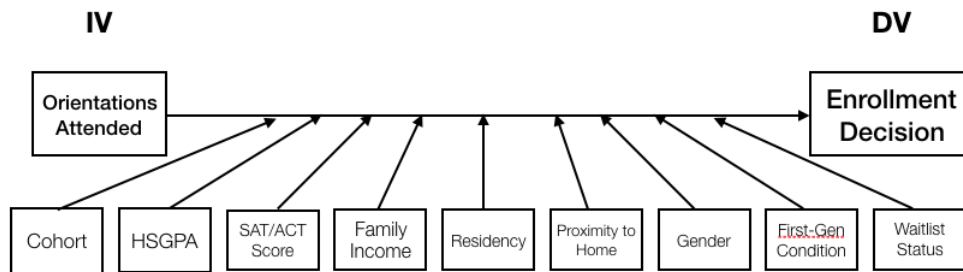

Figure 7. Path diagram of models for research questions 5 and 6.

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CHAPTER III

METHODS

I next describe the methodology I used to answer my research questions. I describe the research design chosen and its justification as well as the variables, instrument, participants, setting, and procedure.

Research Design

I conducted a non-experimental research design using logistic regression of secondary data on college choice. Logistic regression is an appropriate statistical analysis because it allows for the analysis of issues with binary outcomes and multiple dichotomous and/or continuous predictor variables (Huang & Moon, 2013). Students make a binary decision about attending a university or not attending, thus the enrollment decision makes a fitting dependent variable (DV) to explore with logistic regression.

Ordinary least squares (OLS) regression was at one time an acceptable method for testing a binary outcome, yet most researchers today acknowledge OLS has limitations measuring binary outcomes due to affecting model parameter estimates and standard errors (Long, 1997; Peng, Lee, & Ingersoll, n.d.). OLS regression may also produce results less than zero and more than one, which would not make sense in the context of a student's decision to attend college.

Logistic regression allows researchers to predict probabilities based on the maximum likelihood of an outcome given a set of characteristics. For understanding student decision-making about college enrollment, predicting the likelihood of enrollment based on a series of dichotomous and continuous variables presents a practical and advantageous opportunity to address the enrollment unpredictability that I presented in

the problems of practice and the review of literature. Logistic regression also enables interpreting results based on odds and odds ratio, which is a familiar format for practitioners to understand otherwise complex analysis. For example, an enrollment professional not steeped in statistical analysis can interpret when a specific composition of student characteristics suggests an 80% greater likelihood that the student will attend the university.

Student Sample

Students enroll at the University of Oregon from a variety of circumstances and conditions, including via transferring from another institution, from another country, or after taking time off from school and beginning university study in the winter or spring terms. For the purposes of this manuscript, I used the term *freshman* to refer to first-time, full-time, domestic, undergraduate students enrolling for fall term only. This definition represents a common definition of incoming cohorts of new college students shared among higher education institutions (M. E. Clinedinst & Patel, 2018; "Undergraduate Retention and Graduation Rates," 2018). I included UO freshman students only in the sample. Students at the UO come from all 50 states and over 100 countries, and 34% of undergraduate students identify as a domestic ethnic or racial minority ("About the UO," 2018). Approximately 29% of freshman identify as first-generation students, and approximately 37% of freshmen qualify for federal Pell Grants due to financial aid status.

Because I analyzed data post-hoc, with a sample size of 9,266 participants, achieving adequate power from the sample did not cause an issue when interpreting results. However, of the students sampled, only approximately 4% chose not to enroll

after attending their orientation session, which created a visible imbalance in the S-curve once data were plotted and established a possible limitation to the study.

Setting

The University of Oregon is a public, tier-one research institution in the Pacific Northwest. The UO enrolls slightly more than 20,000 undergraduate students, with over 4,500 new freshman students and over 1,000 new transfer students annually ("About the UO," 2018).

One of the primary events designed to support freshmen through their college transition process is new student orientation. Nearly all incoming freshman students attend an orientation session as one of their required tasks prior to matriculation. The UO offers freshman students 14 orientation options throughout the months of June, July, August, and September. Of the 14 session options, four are offered off-campus for out-of-state students whose hometown is a great distance from campus. One of the 14 orientation options takes place in September immediately prior to the start of fall term. In this manuscript I include only data from the survey administered to students who attended the 10 on-campus summer orientation sessions. Programming for the off-campus IntroDUCKtion sessions has changed year-to-year, so including the survey administration at the off-campus sessions may have posed a validity risk. Excluding off-campus IntroDUCKtion participants removes approximately 150 students from the retained sample of 9,266 participants.

Timing. The UO Freshman Survey, described below, was administered on the second day of students' two-day orientation session. Students completed the survey immediately following their academic advising appointment and immediately prior to

course registration. Students took the survey at a computer lab in the UO library, the same site as where they registered for classes. As students waited for an available computer to use for course registration, staff requested their participation in the UO Freshman Survey. The purpose of timing the survey near the timing of course registration was to encourage a high response rate, because nearly all students at orientation visited the computer lab to register for classes. The survey took approximately 7–10 minutes for students to complete.

Instruments

I used data collected from three instruments, the UO application for admission, the CIRP Freshman Survey, and the UO Freshman Survey. I next describe each instrument. Table 6 displays the variables and the instruments from which data were collected by year. Each instrument links participants with the keyed variable of their student ID number, and data were collected based on the variables listed previously in RQ3 and described in detail below.

Table 6

Variables and the Instruments from Which They Came by Year

Variable Name	2014	2015	2016	2017	2018
Rank choice	CIRP	CIRP	CIRP	UOFS	UOFS
Orientations attended	CIRP	CIRP	CIRP	UOFS	UOFS
Family income	CIRP	CIRP	CIRP	UOFS	UOFS
High School GPA	App	App	App	App	App
Proximity to home (residency)	App*	App*	App*	App*	App*
Gender	App*	App*	App*	App*	App*
SAT/ACT composite score	App	App	App	App	App
Waitlist status	App*	App*	App*	App*	App*
First-generation status	App*	App*	App*	App*	App*

Note. CIRP = CIRP Freshman Survey; UOFS = UO Freshman Survey; App = the application for admission. * = data are dichotomous.

Application for admission. The University of Oregon annually collects data from students when they apply for admission to the university. The application for admission collects demographic data and previous academic performance. Students provide information in detail about their characteristics and circumstances as applicants, including demographic details. **Error! Reference source not found.** displays a sample of the UO application for admission. I utilized data from the application for admission to explore RQ4, RQ5, and RQ6 by including the variables of *high school GPA, SAT/ACT composite score, first-generation status, gender, residency*, *waitlist status,* and *family income*. Each of the aforementioned variables are collected from the application for

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admission except the *waitlist status,* which is determined as an outcome of the application for admission. Following students' application for admission, Admissions officers determine the students' application statuses as admitted, denied, or waitlisted. Staff in the UO Office of Admissions then enter data on the determination of students' application to the Banner data system, the data repository where all student demographic characteristics are stored at the University of Oregon. I will later describe in detail the procedure for how data were delievered.

Application format. Students complete the application for admission via one of three formats, via the Common Application, the online UO proprietary application, or the paper UO proprietary application. As described previously in the introduction, the Common Application provides students the option to complete a single application for admission that is then submitted to up to 20 universities (Rickard, 2017). The UO application asks the same questions yet the look and feel of the application is slightly different from the Common Application. The UO paper application mirrors the questions asked by both online versions and is available for the students who do not have access to submit their application online.

Although the instrument format is different, the seven variables I included from the application for admission are universal items without between-format variation. For example, a student's high school GPA remains the same whether they submit it via the Common Application or the UO's proprietary application. All formats of the application for admission require students agree to the truthfulness of their responses under penalty of admission denial should students submit falsehoods. Confidence in the fidelity of the data should therefore remain high despite the multiple formats of the application.

For RQ4, I use the variables taken from the application for admission as the predictor variables. For RQ5 and RQ6, I use the variables taken from the application for admission as the moderator variables.

CIRP freshman survey. The CIRP Freshman Survey is administered nationally via the Higher Education Research Institute (HERI) at the University of California, Los Angeles. The CIRP Freshman Survey has been administered at colleges and universities across the United States since 1971 (Higher Education Research Institute, 2011). Over 1,900 colleges and universities have participated in the CIRP Freshman Survey, and HERI tabulate, report, and share results with participating institutions ("CIRP Freshman Survey," 2018). The UO participated in the CIRP Freshman Survey program for three years, 2014–2016.

I analyzed data for the predictor variables of *rank choice* of the university in RQ1 and RQ5 taken from the CIRP Freshman Survey, and I analyze data for the predictor variables of *orientations attended* in RQ2 and RQ6 taken from the CIRP Freshman Survey. The number of orientations students attended was collected as a supplemental, custom question to the full CIRP Freshman Survey, as that item was not a part of the original item bank provided by HERI. The CIRP Freshman Survey was administered as a paper survey along with a page describing informed consent in compliance with requirements of the UO Institutional Research Board. **Error! Reference source not found.** displays the CIRP Freshman Survey instrument, and questions 15 and 59 display the items of interest.

CIRP freshman survey reliability and validity. The Higher Education Research Institute provides reliability testing of items because it has been administered annually

since 1971 (Higher Education Research Institute, 2011). By administering repeatedly

HERI mitigates random fluctuations of observations, and nearly 90 percent of

participating institutions in the CIRP Freshman Survey are repeat participants

(Stolzenbert, E. B., personal communication, November 14, 2018). To examine the

validity of the CIRP Freshman Survey in measuring certain constructs, previous literature

found CIRP factors held together via measurement of Cronbach's Alpha with most

coefficients in excess of .70 (Astin, 1993; Luo & Jamieson-Drake, 2005).

UO freshman survey. To understand characteristics of the entering class through

the new student orientation and transition process, the University of Oregon administers a

survey to students who enroll at the UO each year. The CIRP Freshman Survey surved as

the tool to collect data on those student characteristics in 2014–2016 at which time the

Office of Enrollment Research switched to the UO Freshman Survey for 2017 and 2018.

The UO Freshman Survey was developed in collaboration among the Office of

Student Orientation Programs and the Office of Enrollment Research (OER) in the

Division of Student Services and Enrollment Management. Staff from the two

departments modeled the UOFS after the CIRP Freshman Survey by omitting and

revising survey items. Two survey items were not revised from the CIRP Freshman

Survey. The *rank choice* and *orientations attended* survey items remained unchanged

from the CIRP format and wording. **Error! Reference source not found.** displays the

UOFS, and questions 1 and 2 display the survey items of interest.

The UO Freshman Survey (UOFS) aids UO enrollment professionals toward a

critical goal—understanding students' commitment to the university. For example, the

survey item that collects student's rank choice of the university illustrates that the student

sees the UO as their top choice or less than top choice for college. As referenced in my theoretical framework, the Theory of Student Departure illustrates how students' institutional commitment fits in their decision-making for staying or leaving a college (Tinto, 1988). Figure 2 illustrates Tinto's theory. The UOFS measures the construct of institutional commitment. Similar to the CIRP Freshman Survey, data include key items related to college choice, such as *rank choice* and *orientations attended.*

The UO Freshman Survey was administered as a paper survey along with a page describing informed consent in compliance with requirements of the UO Institutional Research Board. I worked with staff in the Office of Enrollment Research as we consulted each survey item. Due to many demanding activities during the program schedule of orientation and due to the timing of the survey in the program schedule, I was particularly sensitive to the risk of survey fatigue, so I scrutinized each survey item to limit the duration of the survey. Once OER staff and I agreed on the survey items and the predicted survey duration, staff in OER submitted the instrument for review to the UO Institutional Research Board and obtained approval for use on June 20, 2018. The instrument includes nine numbered items, with a total of 31 sub-scale items as indicated in **Error! Reference source not found.**. I used only data from items 1 and 2 in the analysis. These items from the UOFS mirror items 15 and 59 on the CIRP Freshman Survey.

Procedure

I next describe the procedure by which data were collected and delivered to me for use in this manuscript. I describe the data delivery procedures for each instrument—the application for admission, the UO Freshman Survey, and CIRP Survey. Data were

collected from each instrument and matched to the student-level by the keyed variable of the student ID number.

Application for admission procedure. Students submit their application for admission to the University of Oregon online via the Common Application (Rickard, 2017) or the UO's proprietary application, as shown in Appendix 1. The UO Office of Admission processes data from each student's application for admission by reviewing the responses on each application and storing the data in Banner, the UO's student information system ("Banner Guide: Display a Student's Admission Records," n.d.). Staff in the Office of Enrollment Research hold clearance to access student-level admission data via the UO Student Data Warehouse, which syncs with Banner data in order to provide ad-hoc queries of student data ("Office of the Registrar: Faculty & Staff," 2019). Further sharing of data requires a data-share agreement, reviewed and approved by the Office of the Registrar, the Office of Admissions, and the Office of General Counsel. The data-share agreement for this manuscript can be reviewed in Appendix 4. Staff in the Office of Enrollment Research downloaded the data from the UO Student Data Warehouse as a .csv file and uploaded it as an Excel file via Microsoft OneDrive.

UO freshman survey procedure. Students completed the UO Freshman Survey in-person, via paper survey, while attending new student orientation. The procedure for administration of the CIRP Freshman Survey mirrored that of the UO Freshman Survey. As students prepared to register for their fall term courses, staff in the Office of Student Orientation Programs presented the students with the survey and briefly described its purpose and informed consent parameters. I next describe the training I provided to staff who directly administered the survey.

Survey administration training. I trained 25–28 staff members (depending on the cohort year) in the Office of Student Orientation Procedures during their staff training three days prior to the first orientation session in which the survey was administered. I trained each staff annually. During the training, I presented a sample of the survey instrument for their review as well as the informed consent cover sheet. I made clear during the training that survey completion should be presented to participants as a voluntary activity and that participation should not be coerced or compulsory. I instructed the staff that pencils would be provided to participants yet blue or black ink was permissible for use on the paper survey instrument. I displayed a sample key-locked black metal box and instructed the staff that all survey participants should deposit their completed survey into the slot in the box once complete. I then gave instructions for the staff on where to physically deliver the locked metal box upon the conclusion of each orientation session.

Students submitted their completed UO Freshman Surveys by placing them in the key-locked metal box located in the library where survey administration occured. At the conclusion of the orientation session, staff carried the metal box to staff in the Office of Enrollment Research who had the key to unlock the box and retrieve the surveys. Staff in OER then scanned the paper surveys to .pdf format. Survey responses were automatically coded using Remark Office OMR software ("Remark Office OMR," 2019), manually reviewed for accuracy by OER staff, and exported to a Microsoft Excel spreadsheet file and shared via secure link with me. Student ID and name were used to combine survey responses with selected student data. Electronic data files were subsequently stored on

the Enrollment Management server, the same server used by the Registrar's Office for securely storing all student records.

The director of Enrollment Research then de-identified the data and assigned a randomized identification number which is not linked to the students' original student identification number. He then transferred data to me via a secure online link through Microsoft OneDrive. I kept all data in a password-protected file behind a secondary password vault on a university-owned laptop, which required a username and password or fingerprint verification to login. I kept the laptop in a locked office which is behind two sets of locked doors when outside of regular business hours.

In accordance with the data share agreement, as outlined in APPENDIX , I will return all data within 30 days of the completion of my dissertation, and I will retain no copies. As all data were collected based on administrative rules and standardization with the application for admission and the UO Freshman Survey, fidelity of the data in this study should be considered reliable. I next describe the model specification and each variable in the models.

Model Specification

All factors on students' decisions to enroll or retain at a university may not be observable and therefore measurable. However, the literature is replete with suggested influences measured as predictors for college decision-making. I chose a paramorphic model structure that allows an analysis of input variables and their relationship to the outcome in predicting a decision. Paramorphic models focus on the output, i.e., *which* action a person will choose, not *how* they chose the action (Skořepa, 2011). I chose to focus on a paramorphic model structure to limit the scope of the complexity preceding

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college decision-making. I do not investigate the *process* by which students navigate toward their college decision but the decision itself and which variables relate to the decision. Figures 5–7 display the path diagrams for the models of each research question.

Variables. I next describe the variables grouped into predictors, moderators, and outcomes. The control variables represent the independent variables of interest, and the moderator variables represent unchanging variables that are primarily demographic in nature. The outcome variables represent the dependent variable of interest. Table 7 displays the variable names and groups by variable type. I next describe each variable in detail.

Table 7

Variable Names by Type and Their Role in the Analysis

Variable Name	Variable Type		
	Predictor	Moderator	Outcome
Rank choice	Continuous		
Orientations attended	Continuous		
Family income		Nominal	
High School GPA		Continuous	
Residency		Nominal	
Proximity to home		Continuous	
Gender		Nominal	
SAT/ACT composite score		Continuous	
Waitlist status		Nominal	
First-generation status		Nominal	

Predictor variables. The independent variables of interest were rank choice and number of orientations attended. The rank students assign to universities in their choice set may help explain the variance in their ultimate decision to attend a university. As stated in the theoretical framework section regarding Prospect Theory, ranking behavior plays an important role in general decision-making (Kahneman & Tversky, 1979). If a student ranks the University of Oregon as their top choice or as their third choice, does that rank predict ultimate attendance. I represented rank choice on a four-point ordinal scale where 1 = the UO is the student's first choice college to attend, 2 = the UO is the student's second choice college to attend, 3 = the UO is the student's third choice college to attend, and 4 = the UO is the student's less-than-third choice college to attend.

The number of universities' orientations a student attends may also help explain additional variance in their ultimate decision. As noted in the theoretical framework, Tinto (1987) theorized that institutional commitment determines whether a student chooses to stay or withdraw from a specific college, and attending a college's new student orientation and registering for classes plays a signifier of that commitment. If a student attends two or three universities' orientations, they have also placed deposits to secure their spot in the freshman class, travelled to the campuses, and enrolled in classes at multiple universities. Does such behavior help to explain any variance in the enrollment for freshmen at the University of Oregon? As previously described, the Model of College Choice (Chapman, 1981) lists multiple factors though it does not account for student behavior such as orientation attendance, which may help predict enrollment. I represent the number of university orientations attended on a five-point scale where 1 = a

single orientation attended (the UO's), 2 = two orientations attended, 3 = three orientations attended, 4 = four orientations attended, and 5 = five or more orientations attended.

Moderator variables. Student characteristics such as demographic variables may provide important understanding of group differences. I analyzed if any of the moderator variables explain a statistically significant portion of variance in student decision-making. Moderator variables include cohort, family income, high school grade-point average, standardized test scores, residency, gender, first-generation college student condition, and waitlist status. Chapman (1981) includes the first five moderator variables in the Model of College Choice, so I include them as well. Waitlist status and first-generation status are not included in the Model of College Choice, though are worth exploring further as predictors of college choice. I next describe each moderator variable.

Cohort. Data included five cohorts of students, each cohort defined by an incoming class of first-year college students. By analyzing data by cohort I accounted for possible variation due to systematic differences related to the year of admission. For example, if the university altered its programming of new student orientation during one specific year by adding sessions and thereby increasing the options students and their families have to visit campus, such altered orientation programming may explain a difference in student behavior regarding one of the independent variables. Cohort was represented as an ordinal variable, where 2014 = the year the student was admitted. Cohorts include 2014, 2015, 2016, 2017, and 2018.

Family income. I represented the students' socio-economic status (SES) by the estimated annual family income, which was self-reported by the students on both the

CIRP Freshman Survey and the UO Freshman Survey. Students provided an estimate of their family income via a 14-point ratio scale with "Less than $10,000" listed as the lowest response choice, and "$250,000 or more" listed as the highest response choice. The 14-item response options between the lowest and highest varied incrementally. For example, one item response choice was "$10,000–$14,999" while a higher choice was "$150,000–$199,999." The lower item response options offered students a $5,000 scale of response choices, while the higher response options scaled by $50,000. To produce a scale with equal differences, I collapsed the 14 categories to six with each category representing an equal difference of $50,000. I collapsed the categories by creating a new variable in SPSS and recoding response options, and Table 8 displays the original income options and how I recoded. Collapsing 14 categories to fewer provides convenient groupings for a frequency distribution (Scalise, 2016).

Table 8

Family Income Response Choice Recoding

Original Family Income Item Responses	Recoded Family Income Responses
Less than $10,000	Less than $50,000
$10,000–14,999	Less than $50,000
$15,000–19,999	Less than $50,000
$20,000–24,999	Less than $50,000
$25,000–29,999	Less than $50,000
$30,000–39,999	Less than $50,000
$40,000–49,999	Less than $50,000
$50,000–59,999	$50,000–99,999
$60,000–74,999	$50,000–99,999
$75,000–99,999	$50,000–99,999
$100,000–149,999	$100,000–149,999
$150,000–199,999	$150,000–199,999
$200,000–249,999	$200,000–249,999
$250,000 or more	$250,000 or more

By collapsing item response groups into fewer groupings, I no doubt forfeited a degree of precision that may provide clearer explanation of variance. Collapsing the choice categories, however, provided parsimony of the data and ability to create equally scaled response options. Any aggregate of a variable risks high multicollinearity so results should be interpreted cautiously.

High school grade-point average. College admissions professionals often utilize a measure of students' academic performance in high school as admission criteria. Many

factors affect a student's high school GPA, and ample literature exists on the topic as a valid (or not-so valid) measure of student's actual ability. For example, Smith, et al. (2013) suggests high school GPA as a strong predictor of college access though only at selective universities (p. 251). However, due to the ubiquity, however, of high school GPA in admissions criteria throughout the United States, I included it in the model. High school GPA is a continuous variable converted to a range from 0.0 to 4.0.

Test scores. Like high school grade-point average, standardized test scores play a common role in the admissions criteria of many universities in the United States. Those standardized scores are generally from the SAT or ACT. The University of Oregon Admissions Office creates a composite score to account for scoring differences between the SAT and ACT, in the event students take one or the other or both standardized tests. I represented the SAT/ACT composite score as a continuous variable.

Residency. The proximity of students' home to the university may explain variance in decision-making for many possible reasons. For example, out-of-state status determines a substantial increase in the cost of tuition as well as more complex travel arrangements to get to and from campus. In-state students pay substantially less in tuition and likely grew up with imagery of the University of Oregon present in their schools via teacher influence or admissions counselor visits. Some students want to attend a university in their home state, while others want to venture out farther from home despite non-resident tuition costs. I represent residency as a dichotomous variable where 1 = Oregon resident and 0 = out-of-state student, otherwise known as a non-resident. To address further detail on the influence of proximity, I also included a continuous variable,

proximity, to explore if any variance could be explained by the distance students travel from home to attend the University of Oregon.

 Gender. Decision-making for college by gender may explain variance in the decision-making through an important social construct. For example, one study of the role gender plays in college decision-making revealed a critical difference in the way parents supported or guided their students based on the student's gender (David et al., 2003). Such a difference suggests including gender in the model could explain a portion of variance. I represented gender in the way the data are represented via the application for admission on the Common App, which are dichotomous in nature. A dichotomous representation of the social construct of gender would be more aptly defined as *sex,* not *gender,* however I chose not to analyze data through a physiological characteristic. Doing so would be tantamount to attempting to understand college decision-making by students' height or eye color. No literature suggests that generally students' decision-making for college is influenced by physiological characteristics. However, the physiological designation of sex is closely tied to the social construct of gender, which may indeed explain some variance in student decision-making. Ideally, the Common App would collect students' gender identity instead of students' sex, which would allow for more accurate analysis of gender as a moderator. As an important social construct, I understand a person may identify beyond the binary constraints of man or woman. However, for parsimony in this manuscript I adhere to the category options presented by the instrument from which the data were collected, which are as a dichotomous variable where 1 = female and 0 = male.

First-generation status. Students who are the first in their families to attend college may experience the college choice process differently than those students whose family members did attend college. As an example, one study revealed that first-generation college students experience higher levels of "achievement guilt" that likely affects their student experience unlike their continuing-generation peers (Covarrubias & Fryberg, 2015). To measure if and how first-generation status explains variance in student enrollment decisions, I investigated if first-generation status affects or moderates an effect on enrollment decisions. First-generation status is a dichotomous variable, where 0 = the student is continuing-generation, (i.e., the student's family member(s) attended college) and 1 = the student is a first-generation college student.

Waitlist status. After a student applies for admission to the University of Oregon, the UO notifies the student they have been admitted, denied, or added to the waitlist. After time on the waitlist, some students eventually receive admission. Students' status as formerly waitlisted may explain some of the variance in their ultimate decision to attend the University of Oregon. I represented the waitlist status as a dichotomous variable, where 0 = the student was directly admitted (not waitlisted) and 1 = the student was admitted after time on the waitlist.

Outcome variables. The research questions involve a proximal outcome with the ability to add distal outcomes at a later date for future research, and the proximal outcome presents as a dichotomous variable, whether or not the student enrolled. The students' decision to attend a particular university defines the proximal outcome for five of the six RQs. I represent the outcome as 0 = student chose not to attend the UO, and 1 = student attended the UO. The national best practice for measuring attendance is to conduct a

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university census on a predetermined census date during the fall term, which for the University of Oregon takes place on the Friday of the fourth week of classes ("2018–2019 Survey Materials Frequently Asked Questions," 2018). Therefore, the proximal dependent variable for five of the six research questions is whether or not the student currently attends the University of Oregon through the Friday of the fourth week of classes during their freshman year.

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Analysis

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I analyzed data with descriptive statistics, a test for statistical significance using likelihood ratio test, Spearman's correlation, and binomial logistic regression. I next describe the analyses chosen. I provide descriptive statistics of the sample in Tables 9–19. Following an analysis of the descriptive statistics, I tested assumptions for the propriety of using logistic regression, including a test for linearity using the Box-Tidwell (1962) procedure. I then tested for statistical significance using likelihood ratio and then analyzed data using binomial logistic regression. I next describe the justification for use of Spearman's correlation and logistic regression as the appropriate statistical tests.

Spearman's correlation

I tested if there's a relationship between student's rank order of college choices and the number of orientation attended in RQ3. I used Spearman's correlation to determine a coefficient, r_s, which measures the strength and direction of an association between one continuous and one ordinal variable (Laerd Statistics, 2017). The data must pass three assumptions to use Spearman's correlation.

Assumptions. Spearman's correlation requires two variables that measure as continuous and/or ordinal in scale. In the data I represented the IV of rank order and the

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IV of orientations attended as continuous, so the data pass the first assumption. The second assumption is that the two variables represent paired observations. Both observations pair on the same student, so the variables pass the second assumption. The third assumption for use of Spearman's correlation is the need for a monotonic relationship between the two variables. Based on a visual inspection of the scatterplot, the data passes the third assumption for monotonicity. I next describe logistic regression, the analysis used for RQs one, two, four, five, and six.

Logistic regression

Binomial logistic regression, also simply known as logistic regression, allows for the analysis of data with a binary outcome variable and multiple predictors that can be dichotomous or continuous. The basic requirements of a logistic regression include seven assumptions (Laerd Statistics, 2017), four of which relate to study design and three of which can be statistically tested. I next describe the seven assumptions for a logistic regression.

Assumptions. Logistic regression first assumes one dichotomous dependent variable. Second, logistic regression assumes one or more independent variables measured as continuous or nominal. Table 6 displays a description of variables demonstrating how data pass the first two assumptions necessary for logistic regression. Third, logistic regression assumes independence of observations. The dependent variable represents a mutually exclusive category; students are enrolled on the census date or they are not. Students can not simultaneously be enrolled and not enrolled, therefore the dependent variable passes the assumption of independent obervations. Likewise, the independent variables also maintain mutually exclusive categories. For example, a

student may not have ranked the university as *both* their first and third choice college. Data therefore pass the third assumption for logistic regression. Fourth, logistic regression assumes a minimum of 15 cases per independent variable, and with over 9,000 cases data pass the fourth assumption.

Assumptions five, six, and seven are statistically tested, and I next describe each. Fifth, logistic regression includes the need for a linear relationship between any continuous independent variables and the logit transformation of the dependent variable (Laerd Statistics, 2017). I test for linearity using the two step Box-Tidwell (1962) procedure, which first requires a transformation of continuous IVs to their natural log. I computed a new variable in SPSS for each of the three continuous IVs. I next computed the interaction terms between the continuous IVs and their respective logits. I describe results for the test of linearity in the results section. As the sixth assumption for logistic regression, data should not show multicollinearity, and I inspect multicollinearity using correlation coefficients and tolerance/VIF values, which I provide in the results section. Seventh, data should not include meaningful outliers, which I detect using casewise diagnostics and describe in the results section.

The general logistic regression model is:

$$\ln(Odds) = ln\left(\frac{\pi}{1-\pi}\right) = logit(\pi) = \alpha + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_k X_k$$

where *k* is the number of independent variables, π is the probability of the outcome of interest (i.e., a student deciding to attend the UO), α is the *Y*-intercept, and β is the regression coefficient (Huang & Moon, 2013). After running the binary logistic procedure using SPSS (IBM Corp. Released, 2017), I converted the log odds into probabilities to ease interpretation. I converted the log odds to probabilities using the following formula:

$\pi = (e\alpha/(1 - e\alpha))$, where $e\alpha$ is the fixed constant raised to the power of the log odds and α is

the intercept (Huang & Moon, 2013, p. 198). For RQ5 and RQ6, I conducted independent

tests for moderation based on the results from RQ4.

Alpha-levels. I used an alpha-level of 0.05, which is standard in education and

social science research. However, I used a Bonferroni correction to establish an adjusted

alpha based on the number of individual tests I ran with each independent variable for

RQ4–6 ($m = 11$). The Bonferroni correction compensates for the increased chance of

incorrectly rejecting the null hypothesis (Type I error) due to many tests within a model.

With 11 independent tests, the Bonferroni correction establishes an adjusted alpha of

0.0045 for the models in RQ5 and RQ6.

Model evaluation. R^2 provides the usefulness of the model by measuring its

predictive accuracy (Huang & Moon, 2013). I will measure the proportion of the variance

in the dependent variable predicted by the independent variables using Nagelkerke's

pseudo R^2, which acts similarly to calculating R^2 in linear regression. The Nagelkerke

pseudo R^2 is:

$$R^2 = \frac{1 - \left\{\frac{L(M_{intercept})}{L(M_{full})}\right\}^{2/N}}{1 - L(M_{intercept})^{2/N}}$$

The overall probability will be calculated by dividing the total number of students who

enrolled by the number who did not. The overall probability, however, would be a poor

predictor of likelihood, so instead I took the log of the likelihood of the data and

projected it onto the log of the overall probability. The log of the likelihood of the overall

probability is the log-likelihood of the many student enrollment decisions based on their

choice rank projected onto the overall probability of enrolling.

When the model is a poor fit, the log-likelihood is a relatively large negative value in logistic regression, whereas when the model is a good fit, the log-likelihood is a value close to zero.

Maximum likelihood. The process of determining maximum likelihood occurs by repeatedly estimating the size and direction of the logit coefficient until the log likelihood reaches convergence (Huang & Moon, 2013). In other words, the maximum likelihood method finds the highest likelihood of reproducing the data given the parameters.

Odds. After running the binary logistic procedure using SPSS (IBM Corp. Released, 2017), I converted the log odds into probabilities to ease interpretation. I converted the log odds to probabilities using the formula, $\pi = (e\alpha/(1- e\alpha))$, where $e\alpha$ is the fixed constant raised to the power of the log odds and α is the intercept (Huang & Moon, 2013, p. 198). Odds are ratios of probabilities of an event (π) to the probability the event does not occur (1 - π), or $\pi/(1 - \pi)$ (Huang & Moon, 2013). Importantly, odds and probability are not defined interchangeably.

Missing data. The nature of missing data is that they "hide true values that are meaningful for analysis" (Little & Rubin, 2002, p. 8). Consequently, addressing missing data reduces the chance of losing important meaning. Because data were taken from multiple instruments over five years, I addressed missing data in the sample to reduce bias. To do so, I first identified and coded nonresponses in the data set to determine if data were missing at random or if data are missing systematically. I compared descriptive statistics to investigate patterns and to determine if missingness occurs completely at random or not.

CHAPTER IV

RESULTS

I next present the results of data analysis with descriptive statistics presented for factors and variables, a test of Spearman's correlation including tests of assumptions, a test of statistical significance, and logistic regression.

Descriptive Statistics

Descriptive statistics include general results as well as an analysis of each factor and variable. I then provide descriptive statistics of each moderator variable. Over the course of the five cohort years of data collection, 2014–2018, the University of Oregon enrolled 25,130 first-time, full-time freshman students (Office of Institutional Research, 2019). Of all 25,130 freshman students, 9,266 responded to either the CIRP Freshman Survey or the UO Freshman Survey, depending upon cohort year for an overall response rate of 36.87%. Table 9 displays class size and response rate by cohort year.

Table 9

Frequency Distribution of Freshman Class Size, Response Rate, and Instrument Used by Cohort

Cohort Year	Class Size	Response n	Response Rate	Instrument
2014	5,022	1,960	39.03%	CIRP
2015	5,220	958	18.35%	CIRP
2016	5,120	2,510	49.02%	CIRP
2017	4,834	1,201	24.84%	UOFS
2018	4,934	2,637	53.45%	UOFS
TOTAL	25,130	9,266	36.87%	UOFS

The 2015 cohort experienced a notable dip in response rate (18.35%) by comparison to the other four cohorts (41.59%). Without fully knowing the reason behind this dip in response rate, I suspect it is due to a change in the survey collection site when the site underwent renovation mid-summer. The change in survey collection site included a new way for students to enter the library to register for classes whereby students could enter from doors on multiple sides of the building, only one of which included the survey distribution site. Upon discovering that some students bypassed the survey distribution site, I made operational changes so that all students had the opportunity to receive and complete the survey. Nevertheless, the response rate for the 2015 cohort is notably lower.

Similarly, the 2017 cohort experienced a lower response rate (24.84%) by comparison to the other cohorts. I have no rational explanation or guess for why the 2017 cohort submitted fewer surveys than other cohort years. In other words, based on the non-missing data for 2015 and 2017, I have no reason to believe the students in the 2015 and 2017 cohorts are different from the 2014, 2016, or 2018 cohorts, except that they submitted fewer surveys.

Upon review of the descriptive statistics by cohort, which Table 10 displays, means and standard deviations for the 2015 and 2017 cohort seem consistent with the means and standard deviations from the other three cohorts, therefore I have no indication of a systematic difference among cohorts based on student characteristics. Consequently,

I chose not to exclude the 2015 nor 2017 cohorts' data, and I analyzed data without deleting missing cases. I next present descriptive statistics by variables, beginning with the outcome variable and independent variables of interest—rank choice and orientations attended.

Table 10

Descriptive Statistics for All Variables by Cohort

Variable Name	2014 M (SD)	2015 M (SD)	2016 M (SD)	2017 M (SD)	2018 M (SD)
Enrolled	0.96 (0.2)	0.96 (0.20)	0.97 (0.18)	0.96 (0.21)	0.95 (0.22)
Rank choice	1.53 (0.84)	1.56 (0.85)	1.48 (0.75)	1.54 (0.78)	1.42 (0.75)
Orientations attended	1.28 (0.70)	2.03 (1.28)	1.20 (0.56)	1.23 (0.57)	1.27 (0.67)
Family income	3.01 (1.69)	3.00 (1.67)	2.92 (1.69)	3.60 (1.48)	2.56 (1.35)
High school GPA	3.59 (0.33)	3.66 (0.32)	3.59 (0.33)	3.58 (0.37)	3.61 (0.36)
SAT/ACT score	1197.28 (136.98)	1204.14 (140.00)	1193.59 (142.68)	1198.03 (131.44)	1,197.42 (143.79)
Residency	0.52 (0.50)	0.47 (0.50)	0.51 (0.50)	0.48 (0.50)	0.56 (0.50)
Proximity to home	405.52 (519.33)	506.91 (661.57)	449.70 (585.81)	491.62 (626.32)	394.59 (519.014)
Gender	0.59 (0.49)	0.62 (0.49)	0.59 (0.49)	0.58 (0.49)	0.56 (0.50)
First-gen status	0.30 (0.46)	0.31 (0.46)	0.31 (0.46)	0.28 (0.45)	0.36 (0.48)
Waitlist status	0.03 (0.18)	0.00 (0.06)	0.04 (0.19)	0.01 (0.08)	0.00 (0.07)

Enrollment outcome. Of the students who submitted either a CIRP or UO

Freshman Survey (n = 9,266), 8,401 arrived on campus for classes in the fall term, and

8,252 remained enrolled on the official census day, which is the Friday of the fourth week

of fall term classes. For the purposes of the enrollment outcome, I compared the 8,252

students who submitted a survey and remained enrolled on the census date to the 372

students (4.01%) who submitted a survey but were not enrolled on the census date.

Rank choice. From the total sample of 9,266 participants, 9,081 responded to the

item of rank choice. The rank choice options ranged from one through four, where one

represented the first choice of the student, two represented the second choice of the

student, three represented the third choice of the student, and four represented the less-

than-third choice of the student ($M = 1.49$, $SD = 0.79$). Rank choice was non-normally

distributed with skewness of 1.64 ($SE = 0.03$) and kurtosis of 2.06 ($SE = 0.05$). After

inspecting the distribution for skewness, I transformed the independent variable of rank

choice using the base 10 log transformation. For all logistic regressions, I used the log10

transformation of the rank choice independent variable.

Among the respondents, 5,941 (65.42%) of respondents ranked the University of

Oregon as their top-choice college, while 2,163 (23.82%) of respondents ranked the

University of Oregon as their second-choice college. Those ranking the UO as their third

choice were 626 (6.89%) of respondents while 347 (3.82%) students stated the UO was

less than their third-choice. Four students among the sample marked multiple ranks in

their response, and 185 students did not respond to the survey item. Table 11 displays

descriptive statistics by rank choice.

Table 11

Frequency Distribution of Student's Rank of UO as Their College Choice

Rank of UO in Choice Set	N	%
First choice	5,941	65.42%
Second choice	2,163	23.82%
Third choice	626	6.89%
Less than third choice	347	3.82%
Missing	189	0.04%

Note. M = 1.49, *SD* = 0.79. Rank choice was non-normally distributed with skewness of 1.64 (*SE* = 0.03) and kurtosis of 2.06 (*SE* = 0.05).

Orientations attended. From the total sample of 9,266 participants, 8,288 responded to the item of orientations attended. The item response choices for orientations attended ranged from one through five, where five represented five or more orientations attended (*M* = 1.31, *SD* = 0.73). Orientations attended was non-normally distributed with skewness of 2.88 (*SE* = 0.03) and kurtosis of 8.65 (*SE* = 0.05). After inspecting the distribution for skewness, I transformed the independent variable of orientations attended using the base 10 log transformation. For all logistic regressions, I used the log10 transformation of the independent variable of orientations attended.

Among the respondents, 6,523 (80.37%) stated that the University of Oregon is the only orientation they attended, while 1,060 (13.06%) respondents attended an additional university's orientation as well as the University of Oregon's. Those attending three universities' orientations were 256 (3.15%) respondents, and those attending four orientations were 201 (2.48%) respondents. Seventy-six students (0.94%) stated they attended five universities' orientation sessions. Of the sample, 1,150 students (12.41%)

represent missing data for orientations attended. Table 12 displays descriptive statistics

by orientations attended.

Table 12

Frequency Distribution of How Many Universities' Orientation Sessions Students Attend

Number of Universities' Orientations Students Attended	N	%
1	6,523	80.37%
2	1,060	13.06%
3	256	3.15%
4	201	2.48%
5	76	0.94%
Missing	1,150	12.41%

Note. $M = 1.31$, $SD = 0.73$. Orientations attended was non-normally distributed with skewness of 2.88 ($SE = 0.03$) and kurtosis of 8.65 ($SE = 0.05$)

Estimated family income. Perhaps not surprisingly, fewer students provided

responses to the estimated family income survey item than any other survey item. Of the

total sample, 5,579 students (60.21%) responded with an estimation of their annual

family income. The income categories broke down by $50,000, where one represents an

estimated family incomes less than $50,000. Two represents incomes of $50,000–$99,999.

Three represents incomes of $100,000–$149,999. Four represents incomes of $150,000–

$199,999. Five represents incomes of $200,000–$249,999, and six represents incomes of

$250,000 or more ($M = 3.06$, $SD = 1.67$). The distribution of estimated family incomes

approximated normality with skewness of 0.51 (*SE* = 0.03) and kurtosis of -0.95 (*SE* = 0.07).

The lowest income response choice, less than $50,000, received 1,086 answers (19.47%), and of those 952 remained enrolled on the census date, and 50 students were not enrolled on the census date. The next higher income response choice, $50,000–99,999, received 1,462 answers (26.21%), and of those 1,279 students remained enrolled at the University of Oregon on the census date while 74 were not enrolled. The two lowest income response choices combined suggest nearly half of survey respondents (45.68%) have an estimated family income less than $100,000.

The middle tercile of income response choices represent an additional 31.47% of respondents. Specifically, 1,147 students (20.56%) estimated their family income is $100,000–149,999, and of those, 1,043 remained enrolled at the UO while 21 did not on the census date. Meanwhile 609 students (10.92%) estimated their family income is $150,000–199,999, and of those 542 continued their enrollment on the census date while 22 did not.

The upper tercile of income responses represents those students whose family income is $200,000 or more. With 459 students (8.23%) responding that their family income was $200,000–249,999, 417 of them were enrolled on the census date while 11 were not. The highest income choice, $250,000 or more, received 816 responses (14.63%) with 744 remaining enrolled on the census date and 19 not enrolled. Table 13 displays descriptive statistics, and Figure 8 displays the frequency distribution.

Table 13

Table of Estimated Family Total Income Last Year by Enrollment on Census Date

Estimated Family Income	N	%	Valid %	Not Enrolled	Enrolled
(1) Less than $50,000	1,086	11.72%	19.47%	50	952
(2) $50,000–99,999	1,462	15.78%	26.21%	74	1,279
(3) $100,000–149,999	1,147	12.38%	20.56%	21	1,043
(4) $150,000–199,999	609	6.57%	10.90%	22	542
(5) $200,000–249,999	459	4.95%	8.23%	11	417
(6) $250,000 or more	816	8.81%	14.63%	19	744
Subtotal	5,579	60.21%	100.00%	197	4,489
Missing	3,687	39.79%			
Total	9,266	100.00%			

Note. M = 3.06, *SD* = 1.67. The distribution of estimated family incomes approximated normality with skewness of 0.51 (*SE* = 0.03) and kurtosis of -0.95 (*SE* = 0.07).
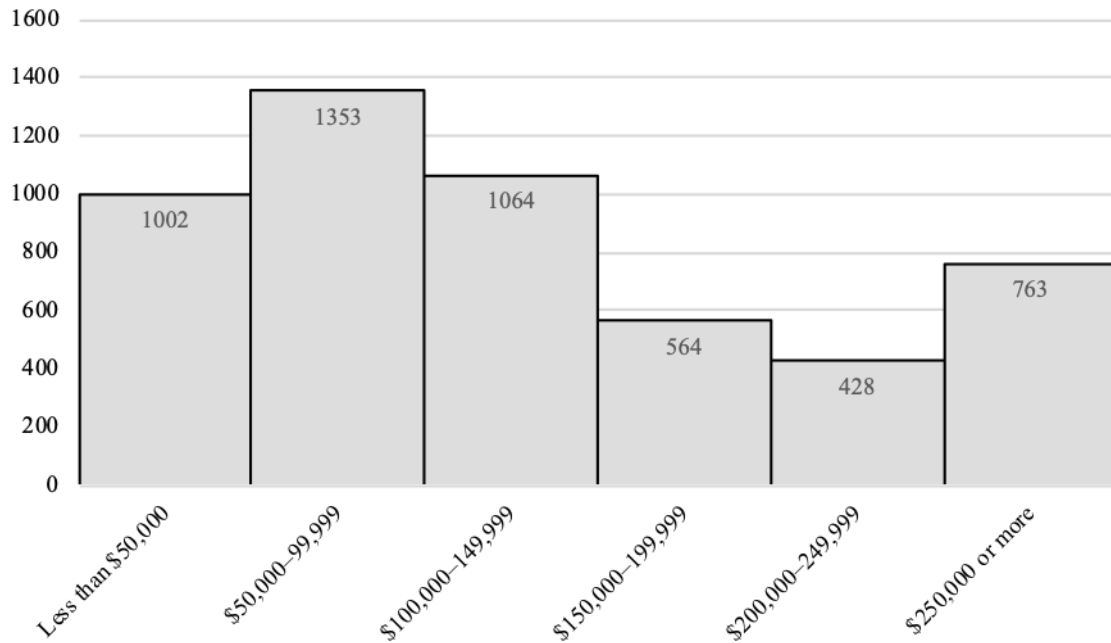
Figure 8. Frequency distribution of student responses by estimated annual family income.

High school GPA. Of the 9,266 survey respondents, I was able to obtain a high school grade-point average for 8,599 students (92.80%) ($M = 3.60$, $SD = 0.35$). The distribution of high school GPAs approximated normality with skewness of -0.10 ($SE = 0.03$) and kurtosis of -0.48 ($SE = 0.05$). Among the students for whom I had high school GPA data, 8,236 students remained enrolled on the census date and had an average high school GPA of 3.61. Meanwhile, 363 students of the 8,599 were not enrolled on the census date, and their average high school GPA was 3.49, a difference of 0.11 GPA between groups. Table 14 displays descriptive statistics.

Table 14

High School Grade-Point Average and SAT/ACT Score by Enrollment Decision

Enrollment	Total sample (*N*)	SAT/ACT composite		HS GPA	
		M	*SD*	*M*	*SD*
No	1,014	1155.35	149.94	3.49	0.36
Yes	8,252	1198.79	139.45	3.61	0.35
Total	9,266	1196.96	140.17	3.60	0.35

Note. For HSGPA, *M* = 3.60, *SD* = 0.35. The distribution of high school GPAs approximated normality with skewness of -0.10 (*SE* = 0.03) and kurtosis of -0.48 (*SE* = 0.05). For SAT-ACT composite, *M* = 1196.96, *SD* = 140.17). The distribution of SAT/ACT composite scores approximated normality with skewness of -0.22 (*SE* = 0.03) and kurtosis of -0.13 (*SE* = 0.05).

SAT/ACT composite score. For students with an SAT/ACT score, 8,580 responded to a survey during orientation (*M* = 1196.96, *SD* = 140.17). The distribution of SAT/ACT composite scores approximated normality with skewness of -0.22 (*SE* = 0.03) and kurtosis of -0.13 (*SE* = 0.05). Among those, 8,219 students remained enrolled on the census date and had an average SAT/ACT score of 1198.79 (SD = 139.45), while 361 were not enrolled on the census date and had an average SAT/ACT score of 1155.35 (SD = 149.94). Between the two groups, students who remained enrolled on the census date had an average SAT/ACT composite score that was 43.44 points higher than those students who were not enrolled on the census date. Table 14 displays descriptive statistics.

Proximity to home and residency. Geographic proximity to the University from students' hometowns could be considered dichotomously as in-state students (residents) or out-of-state students (nonresidents). Such designation defines the students' home states

as well as a their tuition rate. Students designated as residents represent 4,475 (51.89%) of survey respondents while domestic nonresidents represent 4,149 (48.11%) of survey respondents. International students did not receive the surveys. Among in-state students 4,346 respondents remained enrolled on the census date while 129 did not. Put another way, 97.12% of in-state survey respondents ultimately continued taking classes. Among out-of-state students, 3,906 respondents remained enrolled while 243 did not, in otherwords 93.78% of nonresident survey respondents continued taking classes at the university. Table 15 displays descriptive statistics.

Table 15

Table of Residency by Enrollment on Census Date

Residency	N	%	Not Enrolled	Enrolled
Oregon residents	4,475	51.89%	129	4,346
Domestic nonresidents	4,149	48.11%	243	3,906
Total	8,624	100.00%	372	8,252

Proximity from home. While residency represents an important factor due to tuition rate implications, students' actual proximity between the university and their home may offer more precise inferences for explaining variance in the decision-making process when layered on top of the residency factor. Students' home address was collected from the application for admission and distance to campus is measured in miles. Among the respondents I obtained data on proximity from home for 8,375 students ($M = 435.65$, *SD*

= 568.80). The independent variable of proximity from home was non-normally distributed with skewness of 2.23 (*SE* = 0.27) and kurtosis of 5.03 (*SE* = 0.05). After inspecting the distribution for skewness, I transformed the independent variable of proximity using the base 10 log transformation. For all logistic regressions, I used the log10 transformation of the independent variable of proximity.

The average distance from campus for in-state students who responded to the survey was 97.28 miles with a standard deviation of 169.68 miles. Among those in-state students, those who remained enrolled on the census date averaged 97.79 miles from campus, while those who did not enroll averaged 80.50 miles from campus. The average distance between campus and the homes of out-of-state students who responded to the survey was 792.61 miles with a standard deviation of 612.53 miles. Among those out-of-state students, those who remained enrolled averaged 792.19 miles from campus with a standard deviation of 612.86 miles, while those who did not remain enrolled averaged 799.43 miles from campus with a standard deviation of 608.38 miles. Table 16 displays descriptive statistics.

Table 16

Miles from Home by Residency and Enrollment on Census Date

	Enrolled			Not Enrolled			Total		
Residency	n	*M*	SD	n	*M*	SD	n	*M*	SD
Oregon residents	4,346	97.79	171.95	129	80.50	52.96	4,475	97.28	169.68
Domestic nonresidents	3,869	792.19	612.86	236	799.43	608.38	4,105	792.61	612.53
Total	8,252	430.36	566.39	372	552.42	608.96	8,580	444.95	391.10

Note. $M = 435.65$, $SD = 568.80$). The independent variable of proximity from home was non-normally distributed with skewness of 2.23 ($SE = 0.27$) and kurtosis of 5.03 ($SE = 0.05$)

Gender. For this manuscript data on gender are represented dichotomously because one of the data sources, the Common App, asks students to identify their gender dichotomously as male or female. As previously described in the methods section, I maintain that gender is a more apt description of the variable than the physiological dichotomous designation of sex because the social construct may explain variance according to previous literature while physiological designations likely do not (Mansfield & Warwick, 2005).

For students who identified as female, 5,024 (58.26%) responded to the survey, while 3,603 students (41.74%) who identified as male responded to the survey. Among the 5,024 female-identifed students, 4,799 remained enrolled on the census date while 225 did not. Among the 3,600 male-identifed students, 3,453 remained enrolled on the census date while 147 did not. Table 17 includes descriptive statistics.

Table 17

Table of Gender by Enrollment on Census Date

Gender	Not Enrolled	Enrolled	Total
Women	225	4,799	5,024 (58.26%)
Men	147	3,456	3,603 (41.74%)
Total	372	8,255	8,627

First-generation status. Among all survey respondents, 8,050 students provided data on their parents' or guardians' highest level of educational attainment. From those respondents 2,558 students (31.78%) had parents or guardians without a bachelor's

degree or higher, classifying them as first-generation students. On the enrollment census date, 2,345 (91.67%) first-generation students who responded to the survey remained enrolled, while 144 (5.63%) first-generation students did not. Among their continuing-generation counterparts, which represented 5,492 (68.22%) total survey respondents, 5,299 remained enrolled on the census data representing 96.49% of continuing-generation survey respondents. Those not enrolled made up 3.51% (193) of continuing-generation respondents. Table 18 displays descriptive statistics.

Table 18

Table of Generational-Status by Enrollment on Census Date

Generational Status	Not Enrolled	Enrolled	Total
First-gen	144	2,345	2,489 (31.19%)
Continuing-gen	193	5,299	5,492 (68.81%)
Total	337	7,644	7,981

Waitlist status. Between 2014–2018, 176 students responded to the survey after spending time on the university's waitlist before receiving full admission. The distribution of waitlisted students is imbalanced due to enrollment goals year-to-year. In 2014, for instance, 59 previously waitlisted students responded to the survey while only three previously waitlisted students responded the following year in 2015. Then the waitlist again rose in 2016 resulting in 94 previously waitlisted students responding to the survey. Consequently, no pattern exists for waitlist behavior due to enrollment changes. However, among 176 survey respondents who were waitlisted prior to admission, 168

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remained enrolled on the census date while only eight were not enrolled. Table 19

displays descriptive statistics.

Table 19

Table of Waitlisted Students by Cohort and Enrollment on Census Date

Cohort	n	% of Respondents	Not Enrolled	Enrolled
2014	59	3.01%	3	56
2015	3	0.31%	1	2
2016	94	4.75%	3	91
2017	8	0.67%	0	8
2018	12	0.46%	1	11
Total	176	1.90%	8	168

Correlation results. I next examined the nonparametric correlations among the

main effect independent variables and the dependent variable. For the independent

variable rank choice, I ran a Spearman's correlation to determine the relationship between

students' rank choice of university and their ultimate enrollment status. A weak, positive

correlation exists, which was statistically significant ($r_s(8,539) = .022$, $p = .04$). For the

independent variable orientations attended, I similarly ran a Spearman's correlation to

determine the relationship between the number of universities' orientations a student

attends and their ultimate enrollment status. A weak, negative correlation exists, which

was not statistically significant ($r_s(7,730) = -.012$, $p = .29$). Table 20 displays correlation

results.

Table 20

Spearman's Correlations of Rank and Orientation Attendance with Enrollment Status.

Independent Variable	N	Correlation Coefficient
Rank	8,539	.02*
Orientations	7,731	-.01

*. Correlation is statistically significant at the 0.05 level (2-tailed).

Research Question Results

I next provide results for tests addressing RQs 1–6. I used logistic regression to address research questions one and two. I then used Spearman's correlation to address research question three. I returned to logistic regression for research questions 4–6. I first provide results from the tests of assumptions.

Tests of assumptions. Logistic regression assumes a linear relationship between the continuous independent variables and the logit transformation of the dependent variable (Laerd Statistics, 2017). Since RQs 4–6 include continuous independent variables, I testd the assumption that the model is correctly specified using the Box-Tidwell (1962) approach to testing the linear relationship, which assesses whether the continuous independent variables linearly relate to the logit of the dependent variable. The continuous independent variables in the data are high school grade-point average, SAT-ACT test scores, and proximity from home.

I assessed the linearity of continuous variables with respect to the logit of the dependent variable via the Box-Tidwell procedure. I applied a Bonferroni correction using all 11 terms in the model resulting in statistical significance accepted when *p*

< .0045 (Tabachnick & Fidell, 2013). Based on this assessment, I found no interaction terms statistically significant, and therefore all continuous independent variables linearly related to the logit of the dependent variable.

I next tested for outliers, highlighting participants with standardized residuals greater than ±2 standard deviations. There were 229 standardized residuals ranging from -10.425 to -2.527 standard deviations. After review of the outliers, all 229 ultimately were not enrolled on the census date. No other apparent commonality existed among the 229 outliers. I therefore kept all 229 participants in the analysis to try to better understand their circumstances, however I transformed the independent variables using the log base 10 transformation because it is a strong transformation with a major effect on distribution shape (Jason W Osborne & Overbay, 2008). I then re-ran the regressions for the RQ1–2 and RQ4–6 with the newly computed log10 independent variables.

Logistic regression results for RQ1 and RQ2. I performed a binomial logistic regression to address RQ1 and RQ2, whether students' rank choice of college and the number of orientations attended each affect the likelihood that students ultimately enroll at the university. I used the base log10 transformations of the independent variables. The logistic regression model for RQ1 with rank choice as the independent variable was statistically significant, $X^2(1) = 4.601$, $p = .032$. However, the model explained only 0.2% (Nagelkerke R^2) of the variance in enrollment and correctly classified 95.7% of cases. Sensitivity was 0.00%, and specificity was 100.00%.

The logistic regression model for RQ2 with orientations attended as the independent variable was not statistically significant, $X^2(1) = .279$, $p = .597$. Table 21 displays logistic regression results for both RQ1 and RQ2.

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Table 21

Combined Independent Logistic Regression Results Predicting Likelihood of Enrollment based on Rank, then Likelihood of Enrollment based on Orientation Attendance.

	B	SE	Wald	df	p	Odds Ratio	95% CI for Odds Ratio	
							Lower	Upper
Constant	3.03	.06	2,331.74	1	.000	20.66		
Rank	0.64	.31	4.40	1	.036	1.90	1.04	3.45
Constant	3.36	.07	2,309.90	1	.000	28.90		
Orientations	0.22	.41	0.27	1	.602	1.24	0.55	2.80

Note. The log10 transformations of rank and orientation attendance were used as IVs due to extreme skewness.

Spearman's correlation results for RQ3. To address RQ three, whether the independent variables of rank choice and orientations attended relate to one another, I ran a Spearman's correlation test. A statistically significant, weak negative correlation existed between the rank students assigned to the university and the number of orientations attended, $r_s(8,057) = -.032$, $p = .004$. Table 22 displays results.

Table 22

Spearman's Correlation of Rank with Orientation Attendance.

Independent Variables	N	Correlation Coefficient
Rank by orientations	8,059	-.03*

*. Correlation is statistically significant at the 0.05 level (2-tailed).

Logistic regression results for RQ4. In RQ4 I asked if the moderator variables, which are demographic in nature, affect the students' enrollment decisions. To address RQ4, I next present results from the logistic regression. The overall test of statistical significance indicates the logistic regression model fits the data well, $X_2(24) = 130.213$, $p < .0005$. Further the Hosmer and Lemeshow test similarly indicates the model is not a poor fit, $p = .436$. The model explained 16.7% (Nagelkerke R_2) of the variance in whether a student remained enrolled on the census date and correctly classified 98.11% of participants. Sensitivity was nearly 100%, specificity was nearly 0.00%, positive predictive value was 98.11%, and negative predictive value was 100%. Of the 10 moderator variables only two were statistically significant: high school GPA and residency as shown in Table 23. The area under the Receiver Operating Characteristic (ROC) curve was .690, 95% CI [.630, .750], which bordered acceptable discrimination according to Hosmer et al. (2013).

Table 23

Logistic Regression for RQ4 Predicting Likelihood of Enrollment based on High School GPA, SAT-ACT Score, Cohort, Family Income, Residency, Proximity to Campus, Gender, Generational Status, and Waitlist Status.

	B	SE	Wald	*df*	*p*	Odds Ratio	95% CI for Odds Ratio	
							Lower	Upper
Constant	-.639	1.55	.170	1	.681	.528		
Cohort			22.22	3	.507	45.500	6.10	339.47
HSGPA	1.133	.390	8.45	1	.004*	3.106	1.45	6.67
SAT-ACT	.002	.001	2.66	1	.103	1.002	1.00	1.00
Income			16.53	5	.005			
Residency	-1.052	.334	9.92	1	.002*	.349	.181	.67
Proximity	.034	.211	.025	1	.873	1.034	.68	1.56
Gender	.077	.239	.10	1	.747	1.080	.68	1.73
First-gen	.316	.254	1.55	1	.213	1.372	.83	2.26
Waitlist	-.951	.757	1.58	1	.209	.386	.09	1.70

Note. *Statistical significance at the .0045 level according to the Bonferonni adjustment. "Wald" represents the Wald's X_2, a squared standardized z-score.

Logistic regression results for RQ5. In RQ5 I asked if the main effects independent variable of rank choice, along with the moderator variables, affect the students' enrollment decisions. To address RQ5, I performed a binomial logistic regression. The overall test of statistical significance indicates the logistic regression model fit the data well, $X_2(16) = 136.39$, $p < .0005$. Further, the Hosmer and Lemeshow test indicates the model was not a poor fit, $p = .468$. The model explained 17.6%

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(Nagelkerke R_2) of the variance in whether a student remained enrolled on the census date and correctly classified 98.13% of participants. Sensitivity was nearly 100%, specificity was nearly 0.00%, positive predictive value was 98.13%, and negative predictive value was 100%. Of the 10 moderator variables only three were statistically significant: high school GPA and residency (as shown in Table 24).

Table 24

Logistic Regression for RQ5 Predicting Likelihood of Enrollment based on Rank Choice, High School GPA, SAT-ACT Score, Cohort, Family Income, Residency, Proximity to Campus, Gender, Generational Status, and Waitlist Status.

	B	SE	Wald	*df*	*p*	Odds Ratio	95% CI for Odds Ratio	
							Lower	Upper
Constant	-0.63	1.56	0.17	1	.684	0.53		
Rank	-0.03	0.63	0.00	1	.965	0.97	0.29	3.32
Cohort			9.73	3	.051			
HSGPA	1.15	0.39	8.64	1	.003*	3.17	1.47	6.84
SAT-ACT	0.001	0.001	2.17	1	.140	1.00	1.00	1.00
Income			15.83	5	.007			
Residency	-1.04	0.34	9.68	1	.002*	0.35	0.18	0.68
Proximity	0.05	0.21	0.05	1	.815	1.05	0.69	1.59
Gender	0.06	0.24	0.07	1	.789	1.07	0.67	1.71
First-gen	0.35	0.26	1.89	1	.169	1.42	0.86	2.34
Waitlist	-0.94	0.76	1.54	1	.215	0.39	0.09	1.72

Note. *Statistical significance at the .0045 level according to the Bonferonni adjustment. "Wald" represents the Wald's X_2, a squared standardized z-score. The rank choice IV and proximity moderator IV were calculated using the base log 10 transformation due to skewness.

Logistic regression results for RQ6. For RQ6 I asked if the main effects independent variable of orientations attended, along with the moderator variables, affect the students' enrollment decisions. To address RQ6, I performed a binomial logistic regression. The overall test of statistical significance indicates the logistic regression model fits the data well, $X^2(16) = 118.469$, $p < .0005$. The Hosmer and Lemeshow test similarly reveals the model is not a poor fit, $p = .735$. The model explained 16.1% (Nagelkerke R^2) of the variance in whether a student remained enrolled on the census date and correctly classified 97.97% of participants. Sensitivity was 100%, specificity was 0.00%, positive predictive value was 97.97%, and negative predictive value was 100%, though notably, the model predicted zero cases would not be enrolled. Of the 10 predictor variables only one variable was statistically significant: residency (as shown in Table 25).

Table 25

Logistic Regression for RQ6 Predicting Likelihood of Enrollment based on Orientations Attended, High School GPA, SAT-ACT Score, Cohort, Family Income, Residency, Proximity to Campus, Gender, Generational Status, and Waitlist Status.

	B	SE	Wald	*df*	*p*	Odds Ratio	95% CI for Odds Ratio	
							Lower	Upper
Constant	-0.89	1.57	0.32	1	.573	0.41		
Orientations	0.14	0.82	0.03	1	.862	1.15	0.23	5.72
Cohort			7.41	3	.060			
HSGPA	1.07	0.40	7.22	1	.007	2.92	1.34	6.38
SAT-ACT	0.002	0.001	3.67	1	.055	1.00	1.00	1.00
Income			15.17	5	.010			
Residency	-1.01	0.34	9.06	1	.003*	0.36	0.19	0.70
Proximity	0.04	0.21	0.03	1	.857	1.04	0.68	1.58
Gender	-0.01	0.24	0.001	1	.975	0.99	0.62	1.60
First-gen	0.29	0.26	1.22	1	.269	1.33	0.80	2.22
Waitlist	-0.91	0.76	1.44	1	.230	0.40	0.09	1.78

Note. *Statistical significance at the .0045 level according to the Bonferonni adjustment. "Wald" represents the Wald's X_2, a squared standardized z-score. The oreintation IV and proximity moderator IV were calculated using the base log 10 transformation due to skewness.

CHAPTER V

DISCUSSION

As the literature on decision-making and college choice suggested, the choice of which college to attend embodies a complex, multi-stage process (Chapman, 1981). The results of the binomial logistic regressions seem to confirm such complexity. I next discuss the results by statistically significant and non-significant outcomes.

Statistically Significant Results

The logistic regressions provided statistically significant results for rank, residency, and high school GPA, though the effects varied. I next discuss the statistically significant results from RQ1 and RQ4–6.

Rank affects enrollment. The results of model one indicate the rank a student places on each of the colleges in their choice set does play a role in their ultimate enrollment decision. This would seem to confirm an element of Kahneman and Tversky's Prospect Theory (1979) wherein a reference point is set during the decision-making process, and decision-makers compare subsequent options to the reference point. In a competition among multiple decision options, Prospect Theory suggests that the advantage goes to the reference point. In the competition among colleges, the advantage goes to a student's top ranked option. Heuristically, it makes sense that the likelihood a student attends a specific college increases when a student ranks it higher among their choice set. Results from model one suggest the odds of a student enrolling after attending an institution's orientation session are 1.90 times greater every rank higher the university climbs in students' choice set.

However, such an outcome is not always the case. Students do not always attend the university ranked highest among their choice set. Model one includes no moderator variables, and when moderators add to the model, as in model five, rank no longer plays a statistically significant predictor in the likelihood of enrollment ($p = .965$). The simplicity of model one should give readers caution or risk overinterpretation of the results. When looking at more complex models, the college choice process, as Chapman (1981) and Tinto (1987) theorized, becomes more complex.

GPA and residency affect enrollment. Of the 10 variables in models four, five, and six, only residency and high school grade-point-average added significantly to the model prediction of the likelihood of students' enrollment. However, despite the statistically significant findings for both residency and high school GPA, the effect appears minimal.

High school GPA. For high school GPA, the odds of a student enrolling after attending an institution's orientation session are approximately three times greater for every one grade-point increase in high school GPA, which holds true in all three logistic regression models that included high school GPA. Put another way and more precisely, for every one-tenth of a GPA increase, the odds a student enrolls after attending an institution's orientation session increase by approximately 20%.

Residency. For residency, the effect was similar. The odds of a student enrolling at the institution are approximately 0.35 times greater for in-state students than for out-of-state students. Odds for residency were similar for all three logistic regression models that included the variable of residency. In a practical application for enrollment professionals, the effect described by the results for high school GPA and residency,

while statistically significant, are practically little better than a coin toss at predicting a student's likelihood of enrolling.

Statistically Non-Significant Results

The Model of College Choice (Chapman, 1981) does not account for student behavior which may indicate institutional commitment. I identified college orientation attendance as a student behavior that may provide such an indication. Model two, however, suggests orientation attendance does not have statistical significance in students' enrollment decision ($p = .602$). When adding moderators, as in model six, the lack of statistical significance remains ($p = .862$). Attending an orientation session therefore should not be a predictor of the likelihood of enrollment.

Beyond the main effects of orientations attended and rank choice, moderator variables of cohort, estimated family income, SAT-ACT score, proximity to home, gender, first-generation status, and waitlist status did not provide statistically significant results and therefore should not be interpreted as predicting the likelihood of enrollment for students after their orientation session. Each of the aforementioned moderator variables were not statistically significant in all three regression models, four, five, and six.

Limitations

All research experiences threats to validity, and this study is no different. I next acknowledge existing threats to internal validity using the framework from Shadish, Cook, and Campbell (2002).

Selection. The sample of respondents may pose a selection bias threat because those students who attended an orientation and volunteer to complete a survey may not accurately reflect the response of those students who did not attend an orientation or

opted-out of completing a survey. The literature is unclear on the effect of orientation on matriculation, but attending an orientation session may constitute selection bias.

Instrumentation. From 2014–2018 the survey items relating to the IVs of research questions did not change, however the instrument did. Table 8 displays the instruments and years of use. In 2014–2016, the instrument used was the CIRP Freshman Survey, and in 2017–2018, the instrument used was the UO Freshman Survey. The UO Freshman Survey was a shorter survey with fewer items than the CIRP. It is unknown if the change of the instrument affected responses to unchanged items.

Resentful demoralization. Although usually affecting an interaction between a control group and experimental group, resentful demoralization may have taken effect in participants of the Freshman Surveys due to the survey administration's proximity to students' academic advising sessions. For example, if students attend an academic advising session in which they receive negative news, such as their math placement test scores not qualifying them for a certain desired major, then students may enter the survey demoralized about the prospect of the University of Oregon being their top ranked college. Contextual, environmental factors, not accounted for in the model, may have altered the results.

Experimenter bias. Social acceptability may pose a threat to the validity of responses because students may have provided survey responses intended to impress the staff administering the survey. For example, if a student believed that ranking the UO as their top choice on a survey may somehow affect their admission or financial aid status during orientation, they may have inaccurately ranked the UO as their top choice. Such bias within student responses may not be likely but is certainly possible.

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Missing data. The amount of missing data within the dataset may pose a risk to the generalization and interpretation of results, specifically among the family income variable, which students reported at lower levels than other data. Missing data may insert estimation bias into the study (Stevens, 2004). The dataset contained enough data to successfully perform the regressions, however data on self-reported family income were missing more often than other variables. More data on student income may boost the generalization of results, though it is unknown if more data would alter the fundamental conclusions of how income affects the models.

CHAPTER VI

CONCLUSIONS AND IMPLICATIONS

Predicting the likelihood of enrollment is critical for university operations, but it's not simple. Predicting any behavior for students who are typically 17–18 years old poses a challenge for researchers, and predicting their college enrollment is no different. Critically, the time immediately prior to the start of classes must receive further examination. A clear explanation remains elusive for why some students may attend their new student orientation session but not arrive on day one.

Implications for Practitioners

For enrollment professionals wanting to maximize their recruitment efforts as the first day of school approaches, the results suggest slightly more attention could be given to nonresident students and those with relatively mid-to-lower high school GPAs. With the odds of enrollment changing by approximately 20% by residency and by every one-tenth of a GPA point, giving more attention to non-residents and those with lower GPAs may yield only slight advantages in accomplishing enrollment goals. That said, practically, a 20% chance of rain seems little different from a 30% chance of rain when getting dressed in the morning. Similarly, when looking at all students who have attended an orientation session, focusing more on students with a 2.7 GPA than students with a 2.8 GPA because the 2.7 student is 20% less likely to enroll seems too granular of an effort for not much better odds.

One element of contextual framework that may help practitioners lies within the understanding of students' rank choice. Generally, most admissions professionals likely have a concept of choice sets, and whether their particular university is a students top

choice or safety school. What admissions professionals may benefit more from, however, is understanding with precision how the odds improve for every rank improvement. As stated in the results, the odds of a student enrolling at a university improve by 90% for every rank improvement among the student's choice set. As an example, if an admissions counselor is in conversation with a prospective student, and through the course of the conversation learns that the student ranks their respective university third among the universities considered, by improving that rank from third to second in the student's mind improves the likelihood the student will enroll by 90%. Such improvement may not prove meaningful, especially if the starting likelihood is low, but admissions practitioners may benefit from more precision when considering how to prioritize their efforts with prospective students.

Practitioners could apply the knowledge learned from these results by working to identify nonresident students from resident students and applying unique marketing and experiences based on their residency classification. For example, during admissions receptions, administrators may benefit from knowing the home state of the students and families with whom they are in conversation. A simple indicator on nametags or some other indicator of residency that would be easily recognizable may provide admissions professionals the quick additional information that could help inform their conversations.

Practitioners may also benefit from understanding more about specific student behaviors that may be indicators of institutional commitment. In this manuscript I only explored one student behavior, orientation attendance, however many more behaviors could be investigated for explaining variance. For example, a student attending a campus tour may indicate a higher level of institutional commitment or interest than a student

who does not tour. Tracking tour attendance and linking such attendance to other student behaviors in the recruitment process may help explain additional variance in the decision-making process. Explaining variance based on such student behavior requires that practitioners apply meticulous data collection methods, beginning with tracking attendance.

Suggested Future Research

For scholars of higher education and college choice, much remains unknown about how students make their decisions of which university to attend. Future research could help add to the literature and better explain the college choice phenomenon. Chapman (1981) suggested significant persons played an important role in the college choice process, and future researchers should consider better understanding the effect of parents, family members, and significant others on students' college choice. As a correlary to the effect of significant persons, future research could specifically analyze the effect of legacy status on students. For continuing-generation college students, where their family members attended may (or may not) affect students' college choice.

As previously mentioned in the implications for practitioners, future research may benefit from better understanding specific student behaviors which may indicate institutional commitment, such as attending a campus tour and/or admissions events. Other student behaviors that could provide interest for future research could include interactions that are not in-person, such as engagement via social media. Such digital behaviors are tracked algorithmically across multiple industries such as retail, and digitally tracking student behavior may violate philosophical boundaries of academia, so

future researchers should tread carefully when considering digital tracking of students in order to explain decision-making.

One consideration to better understand the decision-making about college choice may be to examin a counterfactual sample. While it may prove difficult to ascertain the decision-making of students who choose *not* to enroll at a university, their decision-making may reveal more than analyzing students who *did* enroll. In addition to studying a counterfactual sample of the population, future researchers could focus on a different setting or time as an explanation of the college choice. For example, what do the variables analyzed in this manuscript explain about the downstream effects on college retention and completion? Colleagues who study student success may benefit from understanding the pre-college variance between and among the students with whom they work. Future research could run the models with different dependent variables, such as retention to sophomore year or graduation instead of enrollment on the census date. For all future research about college choice, the inertia of change across the landscape of college admissions unfortunately belies much confidence in predicting student decision-making.

Changing Landscape of College Admissions in the United States

Further research must seek out more explanation, though future recruitment of college students may only get more unpredictable with recent changes to the higher education practices and perspectives nationwide. Among the changes in higher education include the rising costs that for many institutions currently outpace inflation. College is getting more and more expensive. If students identify cost and debt-aversion as important factors in their decision-making, other factors, previously ranked as important, may lose

influence as economic considerations crowd out social or academic considerations when students decide their college options.

Among admissions practices, just as search engines revolutionized the college search process in the 1990's, social media and algorithmic marketing push the boundaries of influence on students' college choices. Enrollment professionals may not have the resources for data mining like those in other private industries, yet the application of such resources may not live far in the future, and enrollment professionals must grapple with the ethical boundaries of privacy, behavior predictability, and market forces of competition. Political perspectives may also influence professionals' perspective of those boundaries. The value of higher education in America seems to adjust based on political polarization and as such, who applies to college (or specific colleges) may limit the ability for universities to diversify their student bodies, which is often listed among the goals of universities. When the pool of diverse applicants is low universities wrestle with who to admit by adjusting admissions practices. Federal courts, including the Supreme Court of the United States, have issued rulings on affirmative action as recently as the fall of 2019, suggesting the practice of deciding who to admit to college remains contested in America.

Other trends in enrollment practices that may also provide unpredictability in the future of admissions include the increasing trend of eliminating standardized test scores from admissions criteria, the increasing trend of students applying to college with mental health concerns, and the decreasing trend of international students applying to college in the United States. Each of these trends represent a concern that may shake the admissions landscape in a way that substantially reduces enrollment predictability. Some of the

aforementioned concerns may not respond to influences from higher education professionals themselves, however those professionals may enact polices and practices to mitigate their effect. In a recent collective decision by admissions professionals in the United States, policies and practices were adjusted and the unpredictability of enrollment based on that decision is yet to be seen.

Admissions code of ethics changes.

On September 28, 2019, the Assembly for the National Association for College Admission Counseling (NACAC) voted to change its Code of Ethics and Professional Practice (CEPP) that establishes the agreed-upon professional conduct for admission practices at universities across the United States ("NACAC's code of ethics and professional practices," 2019). The Assembly voted to remove three provisions from the CEPP that the United States Justice Department claimed to stifle competition among colleges and therefore violate antitrust laws (Jaschik, 2019). One of the removed provisions prohibited the recruitment of first-year undergraduate students who have committed to another college. Without this provision, colleges and universities may continue to recruit students, offering scholarships or incentives, all the way until classes begin.

As mentioned previously in the problems of practice, limited time that a student previously had to decide from which college to accept admission created a cost on the decision-maker (Loewenstein, 2000). Students have a limited time in which to build affinity and belonging with the college they choose, which is one of the necessary components of their retention (Tinto, 1987). The NACAC vote may very well provide students more time in the decision-making process so that they may make more-informed

and fitting decisions about their college choice. However, allowing colleges to continue to recruit students after they committed to another university may also pose an enormous challenge to the decision-making process because competing marketing efforts and influential external people may cause students to second-guess their decision (Tillery, 1973).

Moreover, the problem of practice for universities magnifies as the upredictability of enrollment could increase due to delayed decision-making. The NACAC decision rewrites the expectations of conduct for the national admissions landscape. Higher education professionals may not fully understand the outcome of such policy changes for years, though I predict the students applying to colleges this year will understand swiftly as they will be the first cohort to apply to college under the new admissions practices.

In this manuscript I attempted to identify indicators of student decision-making for college choice, their rank choice and the number of orientations attended among demographic factors, and one difficulty was attempting to measure why students choose not attend a college so close to the start of classes. It is tantamount to trying to understand why four-percent of people running a marathon may run the first 26 miles and choose not to complete the final 50 feet of the race. Such a research agenda is important and would make a substantial contribution to social science, however, based on the changing landscape of admissions, the research may be quite difficult. Perhaps an important addition to the metaphor of trying to understand why some college applicants choose not to complete the final 50 feet of the admissions marathon should include that the race

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takes place during an earthquake. Enrollment researchers try to predict the decision-

making and behavior of 17- and 18-year-olds while the ground shifts beneath our feet.

APPENDIX A

PORTIONS OF UNIVERSITY OF OREGON'S APPLICATION FOR ADMISSION

UNIVERSITY OF OREGON

2017–18 APPLICATION FOR ADMISSION

Either a nonrefundable $65 (U.S.) fee or a fee-waiver form must accompany this application

Paid by ☐ Check — *Make check payable to University of Oregon and put student's name and birth date on check.*

☐ VISA ☐ MasterCard Exp. date_____ CVC (three digits)_____

Credit card number_____

Signature of cardholder_____

Name (exactly as it appears on card)_____

For office use only

☐ PD
☐ NF
☐ FD

Please use blue or black ink. Mark boxes with an X.

1. Legal name_____
   Last (family name)   First   Middle
   Preferred first name_____

2. Other names that may appear on your academic records_____
   Last (family name)

3. Social security number_____—_____—_____ Please read the UO Social Security Number Statement on page 19.

4. Application for (one only) ☐ Fall (September)_____ Year ☐ Winter (January)_____ Year ☐ Spring (March)_____ Year ☐ Summer (June)_____ Year

5. Intended major_____ Professional objective_____

6. Have you previously applied to or attended the UO? ☐ Yes ☐ No

If yes, date of last application: Term_____ Year_____ Last term attended: Term_____ Year_____ UO ID#_____

7. Parent's education level (optional) Highest level of education achieved by either of your parents. ☐ Middle school or junior high ☐ Some high school

☐ High school diploma or GED ☐ Some college ☐ Associate's degree ☐ Bachelor's degree ☐ Other (specify)_____

8. Mailing address_____
   Number and street or P.O. box

| City | State or Province | ZIP | Home telephone (include area code) |
| County | Nation | | Other telephone (include area code): ☐ Cell ☐ Work |

9. Permanent address_____
   Number and street or P.O. box

| City | State or Province | ZIP | Home telephone (include area code) |
| County | Nation | | Other telephone (include area code): ☐ Cell ☐ Work |

10. E-mail address_____ ☐ Yours ☐ Other

11. Gender (optional)_____ Date of birth_____ Month — Day — Year

12. Ethnicity and race To comply with federal statistical reporting requirements, the University of Oregon must seek to identify the racial and ethnic background of applicants. You are encouraged to supply this information, but your application will be given the same consideration whether or not you do so. Please answer both the Hispanic or Latino and race questions. For more information, see page 2.

Hispanic or Latino Are you Hispanic or Latino? ☐ Yes ☐ No

What is your race? (check one or more) ☐ American Indian or Alaska Native ☐ Asian ☐ Black or African American

☐ Native Hawaiian or Other Pacific Islander ☐ White Racial or ethnic subgroup_____

13. Citizenship classification (check one) ☐ US citizen ☐ US permanent resident; list alien registration number_____

☐ Nonimmigrant student using F or J visa ☐ Other; list your immigrant status while in US_____

If you are a US permanent resident, attach a copy of visa or front and back of US immigrant-status card

14. Tuition equity If you are an undocumented student **living in Oregon**, you may qualify for an exemption from nonresident tuition and fees based upon House Bill 2787. You can read more about this opportunity by going to admissions.uoregon.edu/te. If you would like to be considered for in-state tuition based upon this law, answer the question below. Please note that answering "Yes" does not automatically qualify you for this program.

I wish to be considered for a waiver of out-of-state tuition under the Oregon Tuition Equity bill (HB 2787) and am willing to submit the appropriate paperwork to support this status.
☐ Yes ☐ No

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16. Academic information Request official transcripts showing courses through at least your junior year. Send final transcripts after graduation. Attach an explanation if your record has been affected by unusual circumstances.

Name of high school_____ City_____ State_____

HS CEEB Code____ ___ ___ ___ ___ ___ Date of graduation___ – ___ – ___
                                         Month Day Year

Rank_____ in a class of_____ If precise rank is not available, indicate rank to nearest decile_____ (first decile is top 10 percent)

GPA_____ Cumulative through semester: ☐ six ☐ seven ☐ eight

Is GPA based on weighted grades? ☐ Yes ☐ No   If yes, attach a copy of your weighted grading policy.

GED students. Date you took or plan to take the GED examination___ – ___ – ___ Score_____
                                                      Month Day Year

17. Test scores Report the highest score on a single test date for each of the tests you took. See page 4 for details.

SAT (old): Reading and Writing_____ Mathematics_____ Writing_____ Date taken_____

SAT (new): Critical Reading_____ Mathematics_____ Date taken_____

ACT: English_____ Mathematics_____ Writing_____ Composite_____ Date taken_____

SAT Subject Test: Subject_____ Score_____ Subject_____ Score_____ Date taken_____

18. High school counselor signature (optional)

I certify that the test scores in section 18 have been verified and are accurate. **Counselor's phone number**_____ · _____ · _____

▸ **Counselor's signature**_____ **Print name**_____

COLLEGE ATTENDANCE REQUIRED FOR TRANSFER AND FRESHMEN APPLICANTS WITH CREDITS FROM A COLLEGE

19. Colleges attended List every college you have attended, are attending, or from which you will receive credit (including the UO). Failure to list all colleges attended may result in denial of admission or disciplinary action. Send official transcripts from all schools other than the UO to the Office of Admissions. Attach a separate sheet of paper to list more colleges. Indicate below whether you will earn an Associate of Arts Oregon Transfer (AAOT) or Associate of Science Oregon Transfer in business (ASOT) degree from an Oregon community college or an Oregon Transfer Module (OTM) from any public two-year or four-year institution in Oregon.

School	Location (city, state)	Dates attended		Credits completed	Degree received or will receive
		from	to		

Courses in progress	College, location	Total credits

Courses planned	Term	College, location	Total credits

Transfer Applicants TRANSFER APPLICANTS MUST ANSWER THE QUESTIONS BELOW

20. College level course requirements List courses taken or planned that meet the published requirements. Official transcripts must be sent to the UO for verification. See page 4 for details. Determine if your course is college level at admissions.uoregon.edu/collegelevel.

Writing_____
       Course number and title   College   Term   Year

Math_____
       Course number and title   College   Term   Year

Second language_____
       Course number and title   College   Term   Year

High school graduation year_____ High school attended_____

If you graduated from high school spring 1997 or later, check all that apply:

☐ I have completed two years of the same second language in high school. Specify language _____

☐ I have completed two terms of the same second language in college. Specify language _____

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21. Personal Statement/Essay (500 words maximum) Use this space to tell us, in your own unique voice, something about you we cannot find elsewhere on your application. We purposefully do not prescribe any one topic for the personal statement, because we want you to share what's important to you. If you need some direction, though, a few topics you may consider include your future ambitions or goals, a significant experience that is integral to your personal identity, or a special talent or unique interest that sets you apart from your peers.

22. Second Essay (optional) See page 4 for details.

23. Special Circumstances Statement (if applicable) See page 1 for details.

Residency FAILURE TO ANSWER ALL QUESTIONS WILL CAUSE YOU TO BE CLASSIFIED AS A NONRESIDENT

Additional documentation may be required to substantiate residency

If you are a nonresident of Oregon or you are going to apply for Tuition Equity under HB 2787, skip the residency section. If you are an enrolled member of a federally recognized tribe of Oregon or a tribe with historical ties to Oregon you might be eligible to be classified as an Oregon resident, for tuition purposes, regardless of your state residence. For more information, visit **admissions.uoregon.edu/tribalmembers.**

24. Tuition Classification

For tuition purposes, do you consider yourself a resident of Oregon? ☐ Yes ☐ No

Are you a citizen, permanent resident of the US, or have a specific visa that qualifies

  you to be considered an Oregon resident for tuition purposes? ☐ Yes ☐ No

Have you resided in Oregon for 12 consecutive months? ☐ Yes ☐ No

  If Yes, when did your most recent continuous presence in Oregon begin? (mm/yy) _____ / _____

Did you earn your high school diploma or GED in Oregon? ☐ Yes ☐ No

  If Yes, what was your graduation or completion year? _____

Student Information

Dates of military service, if applicable (mm/yy) from___ / ___ to___ / ___

Did you enter the military service as a resident of Oregon?* ☐ Yes ☐ No

If you answer Yes to *any* of the three questions below, you *must* complete the parent or guardian information section.

Did a parent or legal guardian claim you as a dependent in the prior tax year? ☐ Yes ☐ No

Did a parent or legal guardian provide at least half of your support in the past 12 months? ☐ Yes ☐ No

Are you younger than 24 years old at the time of this application? ☐ Yes ☐ No

Note: If you are providing residency information for a parent or legal guardian, you must also provide contact information for that person. Failure to provide parent or legal guardian contact information under Contact Information on page 14 will cause you to be classified as a nonresident.

Parent or Guardian Information

This information is for my ☐ Mother ☐ Father ☐ Guardian

Legal state of residence of my parent or guardian is _____

Has the parent or guardian listed above resided in Oregon for 12 consecutive months? ☐ Yes ☐ No

  If Yes, when did their most recent continuous presence in Oregon begin? (mm/yy) _____ / _____

Dates of military service, if applicable (mm/yy) from___ / ___ to___ / ___

Did you enter the military service as a resident of Oregon?* ☐ Yes ☐ No

* Note: If you were discharged from military service, you must send us a copy of the DD-214 form.

2014 CIRP FRESHMAN SURVEY INSTRUMENT

2014 CIRP FRESHMAN SURVEY

CIRP

PLEASE PRINT IN ALL CAPS YOUR NAME AND PERMANENT/HOME ADDRESS (one letter or number per box).

FIRST   MI   LAST

NAME:

When were you born?

ADDRESS:

Month (01-12)   Day (01-31)   Year

CITY: STATE: ZIP: PHONE: —   —

STUDENT ID# *(as instructed):*   EMAIL *(print letters carefully):*

SERIAL #

MARKING DIRECTIONS
- Use a black or blue pen.
- Fill in your response completely. Mark out any answer you wish to change with an "X".

CORRECT MARK   INCORRECT MARKS

A   B

Group Code

1. Your sex: ○ Male   ○ Female

2. How old will you be on December 31 of this year? (Mark one)

16 or younger . ○   21-24 .... ○
17.................. ○   25-29 .... ○
18.................. ○   30-39 .... ○
19.................. ○   40-54 .... ○
20.................. ○   55 or older . ○

3. Is English your native language?
○ Yes   ○ No

4. In what year did you graduate from high school? (Mark one)

2014.......... ○   Did not graduate but
2013.......... ○   passed G.E.D. test. ○
2012.......... ○   Never completed
2011 or earlier ○   high school........... ○

5. Are you enrolled (or enrolling) as a: (Mark one)
Full-time student .... ○
Part-time student .... ○

6. How many miles is this college from your permanent home? (Mark one)
5 or less ○   11-50 ○   101-500 ○
6-10 ○   51-100 ○   Over 500 ○

7. What was your average grade in high school? (Mark one)
A or A+ ○   B ○   C ○
A– ○   B– ○   D ○
B+ ○   C+ ○

8. What were your scores on the SAT I and/or ACT?

SAT Critical Reading ....

SAT Mathematics ....

SAT Writing ....

ACT Composite ....

9. From what kind of high school did you graduate? (Mark one)
○ Public school (not charter or magnet)
○ Public charter school
○ Public magnet school
○ Private religious/parochial school
○ Private independent college-prep school
○ Home school

10. Prior to this term, have you ever taken courses for credit at this institution?
○ Yes   ○ No

11. Since leaving high school, have you ever taken courses, whether for credit or not for credit, at any other institution (university, 4- or 2-year college, technical, vocational, or business school)?
○ Yes   ○ No

12. Where do you plan to live during the fall term? (Mark one)
With my family or other relatives........... ○
Other private home, apartment, or room . ○
College residence hall........................... ○
Fraternity or sorority house .... ○
Other campus student housing .... ○
Other... ○

13. To how many colleges other than this one did you apply for admission this year?
None ○   1 ○   4 ○   7-10 ○
○   2 ○   5 ○   11 or more ○
3 ○   6 ○

14. Were you accepted by your first choice college?   ○ Yes   ○ No

15. Is this college your: (Mark one)
First choice............ ○   Less than third
Second choice....... ○   choice .... ○
Third choice.......... ○

16. Citizenship status:
○ U.S. citizen
○ Permanent resident (green card)
○ International student (F-1 or M-1 visa)
○ None of the above

17. Please mark which of the following courses you have completed:
Ⓨ Ⓝ Algebra II
Ⓨ Ⓝ Pre-calculus/Trigonometry
Ⓨ Ⓝ Probability & Statistics
Ⓨ Ⓝ Calculus
Ⓨ Ⓝ AP Probability & Statistics
Ⓨ Ⓝ AP Calculus

18. During high school (grades 9-12) how many years did you study each of the following subjects? (Mark one for each item)

	None	1/2	1	2	3	4	5 or more
English......................	○	○	○	○	○	○	○
Mathematics	○	○	○	○	○	○	○
Foreign Language	○	○	○	○	○	○	○
Physical Science	○	○	○	○	○	○	○
Biological Science	○	○	○	○	○	○	○
History/Am. Gov't.	○	○	○	○	○	○	○
Computer Science......	○	○	○	○	○	○	○
Arts and/or Music	○	○	○	○	○	○	○

19. Have you had, or do you feel you will need, any remedial work in any of the following subjects? (Mark all that apply)

	Have Had	Will Need
English...	○	○
Reading	○	○
Mathematics	○	○
Writing	○	○

20. At this institution, which course placement tests have you taken in the following subject areas:
Ⓨ Ⓝ English
Ⓨ Ⓝ Reading
Ⓨ Ⓝ Mathematics
Ⓨ Ⓝ Writing

21. Are your parents: (Mark one)
Both alive and living with each other..... ○
Both alive, divorced or living apart .... ○
One or both deceased........................... ○

22. Do you consider yourself: (Mark Yes or No for each item)

	Yes	No
Pre-Med....................................	○	○
Pre-Law....................................	○	○

23. Please indicate your intended major using the codes provided on the attached fold out.

24. Please indicate your intended career as well as the careers of your parents, using the codes provided on the attached fold out.

Your intended career

Your mother's career

Your father's career

25. Current employment status:
(Mark one in each row)

	Employed	Unemployed	Retired
Your mother	○	○	○
Your father	○	○	○

26. How much of your first year's educational expenses (room, board, tuition, and fees) do you expect to cover from each of the sources listed below? (Mark one answer for each possible source)

	None	Less than $1,000	$1,000 to 2,999	$3,000 to 5,999	$6,000 to 9,999	$10,000+
Family resources (parents, relatives, spouse, etc.)	○	○	○	○	○	○
My own resources (savings from work, work-study, other income)	○	○	○	○	○	○
Aid which need not be repaid (grants, scholarships, military funding, etc.)	○	○	○	○	○	○
Aid which must be repaid (loans, etc.)	○	○	○	○	○	○
Other than above	○	○	○	○	○	○

27. What is your best estimate of your parents' total income last year? Consider income from all sources before taxes. (Mark one)

- ○ Less than $10,000
- ○ $10,000-14,999
- ○ $15,000-19,999
- ○ $20,000-24,999
- ○ $25,000-29,999
- ○ $30,000-39,999
- ○ $40,000-49,999
- ○ $50,000-59,999
- ○ $60,000-74,999
- ○ $75,000-99,999
- ○ $100,000-149,999
- ○ $150,000-199,999
- ○ $200,000-249,999
- ○ $250,000 or more

28. Do you have any concern about your ability to finance your college education? (Mark one)

- None (I am confident that I will have sufficient funds) ○
- Some (but I probably will have enough funds) ○
- Major (not sure I will have enough funds to complete college) ○

29. Current religious preference:
(Mark one in each column)

	Yours	Father's	Mother's
Baptist	Y	F	M
Buddhist	Y	F	M
Church of Christ	Y	F	M
Eastern Orthodox	Y	F	M
Episcopalian	Y	F	M
Hindu	Y	F	M
Jewish	Y	F	M
LDS (Mormon)	Y	F	M
Lutheran	Y	F	M
Methodist	Y	F	M
Muslim	Y	F	M
Presbyterian	Y	F	M
Quaker	Y	F	M
Roman Catholic	Y	F	M
Seventh-day Adventist	Y	F	M
United Church of Christ/Congregational	Y	F	M
Other Christian	Y	F	M
Other Religion	Y	F	M
None	Y	F	M

30. What is the highest academic degree that you intend to obtain?
(Mark one in each column)

	Highest Planned	Highest Planned at This College
None	○	○
Vocational certificate	○	○
Associate (A.A. or equivalent)	○	○
Bachelor's degree (B.A., B.S., etc.)	○	○
Master's degree (M.A., M.S., etc.)	○	○
Ph.D. or Ed.D.	○	○
M.D., D.O., D.D.S., or D.V.M.	○	○
J.D. (Law)	○	○
B.D. or M.DIV. (Divinity)	○	○
Other	○	○

31. For the activities below, indicate which ones you did during the past year. If you engaged in an activity frequently, mark Ⓕ. If you engaged in an activity one or more times, but not frequently, mark Ⓞ (Occasionally). Mark Ⓝ (Not at all) if you have not performed the activity during the past year. (Mark one for each item)

	Frequently	Occasionally	Not at All
Attended a religious service	Ⓕ	Ⓞ	Ⓝ
Was bored in class	Ⓕ	Ⓞ	Ⓝ
Demonstrated for a cause (e.g., boycott, rally, protest)	Ⓕ	Ⓞ	Ⓝ
Tutored another student	Ⓕ	Ⓞ	Ⓝ
Studied with other students	Ⓕ	Ⓞ	Ⓝ
Was a guest in a teacher's home	Ⓕ	Ⓞ	Ⓝ
Smoked cigarettes	Ⓕ	Ⓞ	Ⓝ
Drank beer	Ⓕ	Ⓞ	Ⓝ
Drank wine or liquor	Ⓕ	Ⓞ	Ⓝ
Felt overwhelmed by all I had to do	Ⓕ	Ⓞ	Ⓝ
Felt depressed	Ⓕ	Ⓞ	Ⓝ
Performed volunteer work	Ⓕ	Ⓞ	Ⓝ
Asked a teacher for advice after class	Ⓕ	Ⓞ	Ⓝ
Voted in a student election	Ⓕ	Ⓞ	Ⓝ
Socialized with someone of another racial/ethnic group	Ⓕ	Ⓞ	Ⓝ
Came late to class	Ⓕ	Ⓞ	Ⓝ
Used the Internet for research or homework	Ⓕ	Ⓞ	Ⓝ
Performed community service as a part of a class	Ⓕ	Ⓞ	Ⓝ
Discussed religion	Ⓕ	Ⓞ	Ⓝ
Discussed politics	Ⓕ	Ⓞ	Ⓝ
Worked on a local, state, or national political campaign	Ⓕ	Ⓞ	Ⓝ
Skipped school/class	Ⓕ	Ⓞ	Ⓝ
Publicly communicated my opinion about a cause (e.g., blog, email, petition)	Ⓕ	Ⓞ	Ⓝ
Helped raise money for a cause or campaign	Ⓕ	Ⓞ	Ⓝ
Fell asleep in class	Ⓕ	Ⓞ	Ⓝ
Failed to complete homework on time	Ⓕ	Ⓞ	Ⓝ
Used an online instructional website (e.g., Khan Academy, Coursera)			
As assigned for a class	Ⓕ	Ⓞ	Ⓝ
To learn something on your own	Ⓕ	Ⓞ	Ⓝ

32. How would you rate yourself in the following areas:
(Mark one for each item)

	A Major Strength	Somewhat Strong	Average	Somewhat Weak	A Major Weakness
Ability to see the world from someone else's perspective	○	○	○	○	○
Tolerance of others with different beliefs	○	○	○	○	○
Openness to having my own views challenged	○	○	○	○	○
Ability to discuss and negotiate controversial issues	○	○	○	○	○
Ability to work cooperatively with diverse people	○	○	○	○	○

33. What is the highest level of formal education obtained by your parents?
(Mark one in each column)

	Father	Mother
Junior high/Middle school or less	○	○
Some high school	○	○
High school graduate	○	○
Postsecondary school other than college	○	○
Some college	○	○
College degree	○	○
Some graduate school	○	○
Graduate degree	○	○

34. How often in the past year did you?
(Mark one for each item)

	Frequently	Occasionally	Not at All
Ask questions in class	Ⓕ	Ⓞ	Ⓝ
Support your opinions with a logical argument	Ⓕ	Ⓞ	Ⓝ
Seek solutions to problems and explain them to others	Ⓕ	Ⓞ	Ⓝ
Revise your papers to improve your writing	Ⓕ	Ⓞ	Ⓝ
Evaluate the quality or reliability of information you received	Ⓕ	Ⓞ	Ⓝ
Take a risk because you feel you have more to gain	Ⓕ	Ⓞ	Ⓝ
Seek alternative solutions to a problem	Ⓕ	Ⓞ	Ⓝ
Look up scientific research articles and resources	Ⓕ	Ⓞ	Ⓝ
Explore topics on your own, even though it was not required for a class	Ⓕ	Ⓞ	Ⓝ
Accept mistakes as part of the learning process	Ⓕ	Ⓞ	Ⓝ
Seek feedback on your academic work	Ⓕ	Ⓞ	Ⓝ
Work with other students on group projects	Ⓕ	Ⓞ	Ⓝ
Integrate skills and knowledge from different sources and experiences	Ⓕ	Ⓞ	Ⓝ

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35. Are you: (Mark all that apply)

- White/Caucasian .... ○
- African American/Black .... ○
- American Indian/Alaska Native ... ○
- Asian American/Asian .... ○
- Native Hawaiian/Pacific Islander. ○
- Mexican American/Chicano .... ○
- Puerto Rican............................. ○
- Other Latino.............................. ○
- Other.. ○

36. How would you characterize your political views? (Mark one)

- ○ Far left
- ○ Liberal
- ○ Middle-of-the-road
- ○ Conservative
- ○ Far right

37. In deciding to go to college, how important to you was each of the following reasons?
(Mark one answer for each possible reason)

	Very Important	Somewhat Important	Not Important
To be able to get a better job.........	Ⓥ	Ⓢ	Ⓝ
To gain a general education and appreciation of ideas............	Ⓥ	Ⓢ	Ⓝ
To make me a more cultured person	Ⓥ	Ⓢ	Ⓝ
To be able to make more money	Ⓥ	Ⓢ	Ⓝ
To learn more about things that interest me	Ⓥ	Ⓢ	Ⓝ
To get training for a specific career .	Ⓥ	Ⓢ	Ⓝ
To prepare myself for graduate or professional school	Ⓥ	Ⓢ	Ⓝ

38. Rate yourself on each of the following traits as compared with the average person your age. We want the most accurate estimate of how you see yourself.
(Mark one in each row)

	Highest 10%	Above Average	Average	Below Average	Lowest 10%
Academic ability	○	○	○	○	○
Artistic ability	○	○	○	○	○
Competitiveness....................	○	○	○	○	○
Computer skills	○	○	○	○	○
Cooperativeness...................	○	○	○	○	○
Creativity.............................	○	○	○	○	○
Drive to achieve...................	○	○	○	○	○
Emotional health..................	○	○	○	○	○
Leadership ability	○	○	○	○	○
Mathematical ability.............	○	○	○	○	○
Physical health	○	○	○	○	○
Popularity............................	○	○	○	○	○
Public speaking ability.........	○	○	○	○	○
Risk-taking..........................	○	○	○	○	○
Self-confidence (intellectual).	○	○	○	○	○
Self-confidence (social)	○	○	○	○	○
Self-understanding	○	○	○	○	○
Spirituality	○	○	○	○	○
Understanding of others	○	○	○	○	○
Writing ability	○	○	○	○	○

39. Think about your current abilities and tell us how strong or weak you believe you are in each of the following areas:
(Mark one for each item)

	A Major Strength	Somewhat Strong	Average	Somewhat Weak	A Major Weakness
General knowledge	○	○	○	○	○
Knowledge of a particular field or discipline.......................	○	○	○	○	○
Knowledge of people from different races/cultures..............	○	○	○	○	○
Understanding of the problems facing your community.......	○	○	○	○	○
Understanding of national issues......................................	○	○	○	○	○
Understanding of global issues...	○	○	○	○	○
Critical thinking skills..	○	○	○	○	○
Problem-solving skills..	○	○	○	○	○
Ability to manage your time effectively..............................	○	○	○	○	○
Foreign language ability	○	○	○	○	○
Interpersonal skills..	○	○	○	○	○

40. Mark one in each row:

① Disagree Strongly
② Disagree Somewhat
③ Agree Somewhat
④ Agree Strongly

Racial discrimination is no longer a major problem in America	④	③	②	①
Same-sex couples should have the right to legal marital status.........................	④	③	②	①
Federal military spending should be increased.................	④	③	②	①
Students from disadvantaged social backgrounds should be given preferential treatment in college admissions................	④	③	②	①
Addressing global climate change should be a federal priority............................	④	③	②	①
The chief benefit of a college education is that it increases one's earning power..	④	③	②	①
Undocumented immigrants should be denied access to public education............	④	③	②	①
The death penalty should be abolished..............................	④	③	②	①
Through hard work, everybody can succeed in American society......................	④	③	②	①

41. Below are some reasons that might have influenced your decision to attend this particular college. How important was each reason in your decision to come here?
(Mark one answer for each possible reason)

	Very Important	Somewhat Important	Not Important
My parents wanted me to come here...	Ⓥ	Ⓢ	Ⓝ
My relatives wanted me to come here	Ⓥ	Ⓢ	Ⓝ
My teacher advised me	Ⓥ	Ⓢ	Ⓝ
This college has a very good academic reputation...........................	Ⓥ	Ⓢ	Ⓝ
This college has a good reputation for its social activities	Ⓥ	Ⓢ	Ⓝ
I was offered financial assistance	Ⓥ	Ⓢ	Ⓝ
The cost of attending this college	Ⓥ	Ⓢ	Ⓝ
High school counselor advised me	Ⓥ	Ⓢ	Ⓝ
Private college counselor advised me	Ⓥ	Ⓢ	Ⓝ
I wanted to live near home	Ⓥ	Ⓢ	Ⓝ
Not offered aid by first choice	Ⓥ	Ⓢ	Ⓝ
Could not afford first choice	Ⓥ	Ⓢ	Ⓝ
This college's graduates gain admission to top graduate/professional schools ...	Ⓥ	Ⓢ	Ⓝ
This college's graduates get good jobs..	Ⓥ	Ⓢ	Ⓝ
I was attracted by the religious affiliation/orientation of this college	Ⓥ	Ⓢ	Ⓝ
I wanted to go to a school about the size of this college..................	Ⓥ	Ⓢ	Ⓝ
Rankings in national magazines	Ⓥ	Ⓢ	Ⓝ
Information from a website	Ⓥ	Ⓢ	Ⓝ
I was admitted through an Early Action or Early Decision program	Ⓥ	Ⓢ	Ⓝ
The athletic department recruited me	Ⓥ	Ⓢ	Ⓝ
A visit to this campus	Ⓥ	Ⓢ	Ⓝ
Ability to take online courses..	Ⓥ	Ⓢ	Ⓝ
The percentage of students that graduate from this college..............	Ⓥ	Ⓢ	Ⓝ

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42. During your last year in high school, how much time did you spend during a typical week doing the following activities?

Hours per week:	None	Less than 1 hour	1-2	3-5	6-10	11-15	16-20	Over 20
Studying/homework	○	○	○	○	○	○	○	○
Socializing with friends	○	○	○	○	○	○	○	○
Talking with teachers outside of class	○	○	○	○	○	○	○	○
Exercise or sports	○	○	○	○	○	○	○	○
Partying	○	○	○	○	○	○	○	○
Working (for pay)	○	○	○	○	○	○	○	○
Volunteer work	○	○	○	○	○	○	○	○
Student clubs/groups	○	○	○	○	○	○	○	○
Watching TV	○	○	○	○	○	○	○	○
Household/childcare duties	○	○	○	○	○	○	○	○
Reading for pleasure	○	○	○	○	○	○	○	○
Playing video/computer games	○	○	○	○	○	○	○	○
Online social networks (Facebook, Twitter, etc.)	○	○	○	○	○	○	○	○

43. Military Status: (Mark one)
- ○ None
- ○ ROTC, cadet, or midshipman at a service academy
- ○ In Active Duty, Reserves, or National Guard
- ○ A discharged veteran **NOT** serving in Active Duty, Reserves, or National Guard

44. How would you describe the racial composition of the high school you last attended and the neighborhood where you grew up? (Mark one in each row)

	Completely non-White	Mostly non-White	Roughly half non-White	Mostly White	Completely White
High school I last attended	○	○	○	○	○
Neighborhood where I grew up	○	○	○	○	○

45. How many years do you expect it will take you to graduate from this college?
- ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6+
- ○ Do not plan to graduate from this college

46. Do you have any of the following disabilities or medical conditions? (Mark Yes or No for each item)
- Ⓨ Ⓝ Learning disability (dyslexia, etc.)
- Ⓨ Ⓝ Attention deficit hyperactivity disorder (ADHD)
- Ⓨ Ⓝ Autism spectrum/Asperger's syndrome
- Ⓨ Ⓝ Physical disability (speech, sight, mobility, hearing, etc.)
- Ⓨ Ⓝ Chronic illness (cancer, diabetes, autoimmune disorders, etc.)
- Ⓨ Ⓝ Psychological disorder (depression, etc.)
- Ⓨ Ⓝ Other

47. Please indicate the importance to you personally of each of the following: (Mark one for each item)

Ⓝ Not Important
Ⓢ Somewhat Important
Ⓥ Very Important
Ⓔ Essential

Becoming accomplished in one of the performing arts (acting, dancing, etc.)	Ⓔ	Ⓥ	Ⓢ	Ⓝ
Becoming an authority in my field	Ⓔ	Ⓥ	Ⓢ	Ⓝ
Obtaining recognition from my colleagues for contributions to my special field	Ⓔ	Ⓥ	Ⓢ	Ⓝ
Influencing the political structure	Ⓔ	Ⓥ	Ⓢ	Ⓝ
Influencing social values	Ⓔ	Ⓥ	Ⓢ	Ⓝ
Raising a family	Ⓔ	Ⓥ	Ⓢ	Ⓝ
Being very well off financially	Ⓔ	Ⓥ	Ⓢ	Ⓝ
Helping others who are in difficulty	Ⓔ	Ⓥ	Ⓢ	Ⓝ
Making a theoretical contribution to science	Ⓔ	Ⓥ	Ⓢ	Ⓝ
Writing original works (poems, novels, etc.)	Ⓔ	Ⓥ	Ⓢ	Ⓝ
Creating artistic works (painting, sculpture, etc.)	Ⓔ	Ⓥ	Ⓢ	Ⓝ
Becoming successful in a business of my own	Ⓔ	Ⓥ	Ⓢ	Ⓝ
Becoming involved in programs to clean up the environment	Ⓔ	Ⓥ	Ⓢ	Ⓝ
Developing a meaningful philosophy of life	Ⓔ	Ⓥ	Ⓢ	Ⓝ
Participating in a community action program	Ⓔ	Ⓥ	Ⓢ	Ⓝ
Helping to promote racial understanding	Ⓔ	Ⓥ	Ⓢ	Ⓝ
Keeping up to date with political affairs	Ⓔ	Ⓥ	Ⓢ	Ⓝ
Becoming a community leader	Ⓔ	Ⓥ	Ⓢ	Ⓝ
Improving my understanding of other countries and cultures	Ⓔ	Ⓥ	Ⓢ	Ⓝ
Adopting "green" practices to protect the environment	Ⓔ	Ⓥ	Ⓢ	Ⓝ

48. What is your best guess as to the chances that you will: (Mark one for each item)

Ⓝ No Chance
Ⓛ Very Little Chance
Ⓢ Some Chance
Ⓥ Very Good Chance

Change major field	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Change career choice	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Participate in student government	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Get a job to help pay for college expenses	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Work full-time while attending college	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Join a social fraternity or sorority	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Play club, intramural, or recreational sports	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Play intercollegiate athletics (e.g., NCAA or NAIA-sponsored)	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Make at least a "B" average	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Need extra time to complete your degree requirements	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Participate in student protests or demonstrations	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Transfer to another college before graduating	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Be satisfied with your college	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Participate in volunteer or community service work	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Seek personal counseling	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Communicate regularly with your professors	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Socialize with someone of another racial/ethnic group	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Participate in student clubs/groups	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Participate in a study abroad program	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Have a roommate of a different race/ethnicity	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Discuss course content with students outside of class	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Work on a professor's research project	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Get tutoring help in specific courses	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Take courses from more than one college simultaneously	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Take a leave of absence from this college temporarily	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Take a course exclusively online: At this institution	Ⓥ	Ⓢ	Ⓛ	Ⓝ
At a different institution	Ⓥ	Ⓢ	Ⓛ	Ⓝ
Vote in a local, state, or national election	Ⓥ	Ⓢ	Ⓛ	Ⓝ

The remaining ovals are provided for questions specifically designed by your college rather than the Higher Education Research Institute. If your college has chosen to use the ovals, please observe carefully the supplemental directions given to you.

49. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	53. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	57. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	61. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	65. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
50. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	54. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	58. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	62. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	66. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
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52. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	56. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	60. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	64. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ	68. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

THANK YOU!

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Data Recognition Corp.-6G4144-14590-54321

Please respond to questions 49 through 58 using a scale of *Strongly Agree to Strongly Disagree* on the separate CIRP survey form. If the question does not apply, you may leave the answer blank.

		Strongly Agree				Strongly Disagree
		A	B	C	D	E
49	IntroDUCKtion met my expectations.					
50	All of the questions I had prior to IntroDUCKtion have been answered.					
51	The Student Orientation Staff (SOS) contributed to my current excitement for attending the UO.	A. Strongly Agree (fill in A)	B. Agree (fill in B)	C. Neutral (fill in C)	D. Disagree (fill in D)	E. Strongly Disagree (fill in E)
52	I feel confident in navigating the campus setting.					
53	My academic advising session met my expectations.					
54	I am excited about my class schedule.					
55	My interest in the UO increased with the events I attended hosted by the University of Oregon.					
56	The University of Oregon physical (paper) mailings influenced my decision to attend the UO.					
57	The University of Oregon emails influenced my decision to attend the UO.					
58	After completing my application, communications from the UO about my admissions status were clear.					

Please respond to questions 59 through 68 by filling in the appropriate choice on the separate CIRP survey form. If the question does not apply, you may leave the answer blank.

59. How many summer new student orientation programs have you attended or do you plan to attend hosted by any college campus, Including IntroDUCKtion?
    a. 1
    b. 2
    c. 3
    d. 4
    e. 5 or more

60. How many times have you visited the University of Oregon campus, including IntroDUCKtion?
    a. 1
    b. 2
    c. 3
    d. 4
    e. 5 or more

61. I attended the following events hosted by the University of Oregon. (select one)
    a. Campus tour – with university guide
    b. Off campus reception
    c. Both a campus tour and an off campus reception
    d. I did not attend either event

62. I attended the following events hosted by the University of Oregon. (select one)
    a. Duck Preview – fall
    b. Duck Days – spring
    c. Both Duck Preview and Duck Days
    d. I did not attend either event

63. I most prefer to receive UO communications in the form of (select one):
    a. Email
    b. Print
    c. Website
    d. Social media
    e. Text

64. What is your greatest source of stress?
    a. Interpersonal relationships with friends, family, co-workers, others
    b. Finances
    c. Managing time and/or commitments
    d. Academic concerns
    e. None of the above

65. How often are you able to handle your stress well?
    a. Almost never
    b. Sometimes
    c. Half of the time
    d. Often
    e. Almost always

66. I decided to enroll at the University of Oregon…
    a. Before I was a junior in high school
    b. When I was a junior in high school
    c. In the fall of my senior year in high school
    d. In the spring of my senior year in high school
    e. After high school

67. How did the University of Oregon's athletic program factor into your decision to attend the UO?
    a. Athletics was not a factor at all.
    b. Athletics was not a factor in my decision, but raised my awareness of UO as a college choice.
    c. Athletics was a factor in my decision, but not a major one.
    d. Athletics was a major factor in my decision.

68. There are experiences outside the classroom where students can develop their skills (for example: leadership and interpersonal skills, etc.). How interested are you in developing your skills outside the classroom?
    a. Not at all interested
    b. Slightly interested
    c. Somewhat interested
    d. Very interested
    e. Extremely interested

OPTIONAL:
We are always interested in improving the application and admission process for our students. Please share any experiences with us where either (1) we performed above your expectations, or (2) we might not have done our best and you see possibility for improvement.

Please note that the optional response will not be tied to the rest of your survey.
If you would like any follow up please leave your email address in your response.

2018 UO Freshman Survey

First Name

Last Name

Student ID:

`9` `5`

Fill in answers completely.
Use pencil, or blue or black ink.

① Disagree Strongly
② Disagree Somewhat
③ Agree Somewhat
④ Agree Strongly

1. **How many summer new student orientation programs have you attended or do you plan to attend, including IntroDUCKtion?**

   ① ② ③ ④ ⑤

   Ⓓ Did not attend

2. **Is the University of Oregon your:**
   (Mark one)

   ① First choice
   ② Second choice
   ③ Third choice
   Ⓛ Less than third choice

3. **I decided to enroll at the University of Oregon:** (Mark one)

   Ⓐ Before my junior year of high school
   Ⓑ During my a junior of high school
   Ⓒ Fall of my senior year in high school
   Ⓓ Spring of my senior year in high school
   Ⓔ After high school

4. **Mark one in each row:**

   All questions I had prior to IntroDUCKtion have been answered .... ④ ③ ② ①
   My Student Orientation Staff member (SOSer) was knowledgeable .... ④ ③ ② ①
   My SOSer was personable .... ④ ③ ② ①
   I enjoyed my flock experience. .... ④ ③ ② ①
   I feel confident in navigating the campus setting................................ ④ ③ ② ①

   Academic Advising Session:

   I had enough time with my Academic Advisor................................ ④ ③ ② ①
   I am excited about my class schedule .... ④ ③ ② ①
   My Academic Advisor was able to answer my questions .... ④ ③ ② ①

   SOSer name: _____

5. **In deciding to go to college, how important to you was each of the following reasons?**
   (Mark one answer for each possible reason)

   Ⓝ Not Important
   Ⓢ Somewhat Important
   Ⓥ Very Important

   To be able to get a better job.. Ⓥ Ⓢ Ⓝ
   To gain a general education and appreciation of ideas........................... Ⓥ Ⓢ Ⓝ
   To make me a more cultured person .... Ⓥ Ⓢ Ⓝ
   To be able to make more money .... Ⓥ Ⓢ Ⓝ
   To learn more about things that interest me... Ⓥ Ⓢ Ⓝ
   To get training in a specific career.. Ⓥ Ⓢ Ⓝ
   To prepare myself for graduate or professional school .... Ⓥ Ⓢ Ⓝ

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6. What is your best estimate of your parents'/guardians' total income last year? Consider income from all sources before taxes. (Mark one)

- Ⓐ Less than $24,999
- Ⓑ $25,000 - 49,999
- Ⓒ $50,000 - 74,999
- Ⓓ $75,000 - 99,999
- Ⓔ $100,000 - 199,999
- Ⓕ $200,000 or more

7. How would you characterize your political views? (Mark one)

- Ⓐ Far left
- Ⓑ Liberal
- Ⓒ Middle-of-the-road
- Ⓓ Conservative
- Ⓔ Far right

① Disagree Strongly
② Disagree Somewhat
③ Agree Somewhat
④ Agree Strongly

8. Mark one in each row:

	④	③	②	①
I know at least 1 faculty/staff person at the UO I can go to if I have questions	④	③	②	①
I have already made at least 1 friend at UO to hang out with during the year	④	③	②	①
I make an effort to be culturally sensitive to people from all identities	④	③	②	①
I respect people whose beliefs contradict my own	④	③	②	①
I will discuss sexual boundaries with partners before sexual encounters	④	③	②	①
I would stop a situation in which I suspected someone was being pressured into sex	④	③	②	①
I sometimes feel that people at the UO will not accept me	④	③	②	①
UO's athletic program raised my awareness of UO as a college choice	④	③	②	①
UO's athletic program was a factor in my decision to enroll at UO	④	③	②	①
I am ready to start college	④	③	②	①

What can be changed to improve IntroDUCKtion?

If you would like any follow up please leave your email address in your response.

APPENDIX D

DATA USE AND NON-DISCLOSURE AGREEMENT

University of Oregon Data Use and Non-Disclosure Agreement
Graduate Dissertation Benefitting the University of Oregon

Pursuant to this University of Oregon Data Use and Non-Disclosure Agreement ("Agreement") between the University of Oregon and the undersigned individual, it is the undersigned individual's intent to perform research that will benefit the University of Oregon ("University" or "UO") using the agreed upon de-identified Research Dataset ("University Data"), as those data are further defined below in Section 1 of this Agreement. This will provide me access to individual-level de-identified student data related to a specific policy or interest that is important to the University of Oregon. The data I am receiving does not contain any personally identifiable information as defined by the Family Educational Rights and Privacy Act (FERPA). I am aware of restrictions on the use of such data specified by FERPA, Oregon Revised Statutes Chapters 326 and 352, and University of Oregon policies applicable to these data and I hereby agree to abide by such laws and policies.

I agree to fulfill my responsibilities in performing this research in accordance with the requirements and limitations of FERPA as well as state law and UO policies governing student data. In addition, I agree to the following terms:

1. **University Data.** For purposes of this Agreement, University Data includes:
   De-identified student-level data from the UO freshman survey for 2014-2018. Specifically,
   1. Number of universities' orientations students attended (question #1)
   2. Choice rank of the UO (question #2)
   3. Family income (question #6)
   4. Faculty/staff connection (question #8.1)
   5. Friends made (question #8.2)
   6. Perception of acceptance (question #8.7)
   7. Perception of readiness (question #8.10)

   De-identified student-level data from the application during admission for fall 2014 through fall 2018 students who confirmed their intent to register as new freshmen. Note that where a student responded to the UO freshman survey we will connect that to the above survey data (as allowed by the IRB-approved protocol) before de-identifying the student data:
   1. Term
   2. Residency
   3. High school GPA
   4. SAT/ACT high test score
   5. Waitlist Flag
   6. First generation categorical description
   7. Gender
   8. Permanent address distance from UO in miles (rounded to nearest 10 miles)

   De-identified student-level enrollment data for fall 2014 through fall 2018 students who confirmed their intent to register as new freshmen. Note that where a student responded to the UO freshman survey we will connect that to the above survey data (as allowed by the IRB-approved protocol) before de-identifying the student data:
   1. Enrollment (yes or no) on day 1 of first term
   2. Full-time enrollment (yes or no) at week 4 of first term
   3. 2nd-year retention (at week 4 of first term of second year)

2. **University Data is Confidential Information.** I acknowledge and agree that the University Data is confidential and proprietary information of the University. I will take all reasonable precautions to protect

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University Data in accordance with state and federal law and University policies, and I will keep all student-level, de-identified data in a private, secure, password-protected format that only I can access.

3. **Permitted Use.** I will use the University Data only for the research purposes agreed upon in writing with the Dissertation Department at the University of Oregon. I will not attempt to identify individuals, families, or households connected to the University Data. In the event that the identity of an individual, family, or household is discovered inadvertently, I will (a) make no use of this information; (b) inform my Dissertation Chair of the discovery; and (c) safeguard or destroy any identifiable information as advised by my Dissertation Chair, as directed by the University after consultation with the Dissertation Chair, the Office of the Registrar, and the Office of the General Counsel. Any assignment, report, post, or publication using data from this Research Dataset will be provided to the Dissertation Chair no later than the time it will be shared with any other group or individual.

4. **Prohibition on Disclosure.** When data is produced for any use including dissertation, any table with a cell value less than 10 will be recategorized or suppressed. I will not report any results of my research in a way that could permit inadvertent disclosure of an individual. The only document that is permissible to publish to an audience outside the University using University Data is a final dissertation. I will provide dissertation manuscripts to my Dissertation Chair, the UO Director of SSEM Research and Assessment, and the University Registrar at least ten days prior to publish. This will allow University officials to evaluate materials to determine that no personally identifying information will be revealed through publication.

   I will not otherwise disclose University Data or publish the results of my research analysis to any third party, except for (a) use in online discussion boards where membership is restricted to UO faculty/staff who have been authorized to receive such data (e.g., with a legitimate business or educational need to know as defined by the applicable law and University policy); (b) where the University Data has been previously publicly disclosed without a breach of this Agreement; (c) where the University Data that is known to or independently developed without access to University Data by the employee or third party prior to disclosure by me; or (d) if I am required by law or court order, provided the I use diligent reasonable efforts to limit disclosure and have allowed the University to seek a protective order.

5. **Ownership of University Data.** I acknowledge that University Data is the exclusive property of the University.

6. **Return of University Data.** Within 30 days of the completion of the dissertation for which University Data is used, or immediately upon termination, suspension, or expiration of this Agreement, I agree to: return all University Data to the University via my Dissertation Chair, including all documents and media containing University Data, through a secure file transfer approved by University. I will not retain copies of any University Data. Unless otherwise prohibited by law, if any University Data is in a form incapable of return or has been copied or transcribed into another document, it shall be destroyed or erased, as appropriate. In addition to returning all University Data as set forth above, I will also delete all unit-level data, temporary files, and any research output related to the University Data with cell sizes of less than 10.

7. **Warranties.** The University makes no representation or warranty as to the accuracy or completeness of its University Data.

8. **University's Discretion to Disclose.** I understand that nothing in this Agreement requires the University to disclose any University Data. The University will disclose University Data, if at all, solely at the University's option.

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9. **Family Educational Rights and Privacy Act.** I will protect the confidentiality of student education records, in compliance with the Family Educational Rights and Privacy Act of 1974 ("FERPA") and its implementing regulations, specifically 20 U.S.C. § 1232g, 34 C.F.R. § 99.1 et seq., and University Policy III.05.03.

10. **Waiver.** Any failure by the University to enforce its rights under this Agreement at any time for any period will does constitute a waiver of such rights.

11. **Severability.** If any term or provision of this Agreement is declared by a court of competent jurisdiction to be illegal or in conflict with any law, the validity of the remaining terms and provisions will not be affected.

12. **Merger.** This Agreement constitutes the entire agreement between the parties regarding the University Data. There are no other understandings, agreements, or representations, oral or written, regarding the University Data not specified in this Agreement. No amendment, consent, or waiver of terms of this Agreement will bind the parties unless in writing and signed by both parties.

13. **Governing Law.** This Agreement will be governed by the laws of the State of Oregon. Any claim, action, or suit between University and I will be brought and conducted solely and exclusively in the Circuit Court for Lane County for the State of Oregon.

I understand that the above described requirements are binding upon me during and after completion of the above-described research using the University Data, and I understand that if I do not comply with the terms of this Agreement, I will lose access to the University Data The University's remedies under this Agreement include any remedy available to it in law or equity.

Name:	Keith Frazee		
Signature:		Date:	11/5/18
Name of Dissertation Department:	Educational Methodology, Policy, & Leadership		
Name of Dissertation Chair:	Keith Zvoch		
Projected Dissertation Defense Date:	June 2019		

Please submit a digital image or scan of completed forms to Jonathan Jacobs at SSEM Research and Assessment: jsj@uoregon.edu

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REFERENCES CITED

2018–2019 Survey Materials Frequently Asked Questions. (2018). Retrieved October 19, 2018, from https://surveys.nces.ed.gov/ipeds/VisFaqView.aspx?mode=reg&id=3#795

About the UO. (2018). Retrieved October 27, 2018, from https://www.uoregon.edu/about

Astin, A. W. (1993). *What matters in college?: Four critical years revisited* (1st ed.). San Francisco: Jossey-Bass.

Banner Guide: Display a Student's Admission Records. (n.d.). Retrieved June 2, 2019, from https://bg.uoregon.edu/content/display-a-students-admission-records-sqaadms

Box, G. E. P., & Tidwell, P. W. (1962). Transformation of the independent variables. *Technometrics*, *4*. doi:10.1080/00401706.1962.10490038

Bruni, F. (2015). *Where you go is not who you'll be: An antidote to the college admissions mania*. New York: Grand Central Publishing.

Carnevale, A. P., & Van Der Werf, M. (2017). The 20% solution: Selective colleges can afford to admit more pell grant recipients. Retrieved from https://cew.georgetown.edu/cew-reports/pell20/#full-Report

Chapman, D. W. (1981). A model of student college choice. *The Journal of Higher Education*, *52*, 490–505. https://doi.org/10.2307/1981837

CIRP Freshman Survey. (2018). Retrieved October 22, 2018, from https://heri.ucla.edu/cirp-freshman-survey/

Clinedinst, M. E., & Koranteng, A.-M. (2017). State of college admission 2017. Retrieved from https://www.nacacnet.org/globalassets/documents/publications/research/soca17final.pdf

Clinedinst, M. E., Koranteng, A.-M., & Nicola, T. (2015). State of college admission 2015. Retrieved from https://www.nacacnet.org/news--publications/publications/state-of-college-admission/

Clinedinst, M. E., & Patel, P. (2018). State of college admission 2018. Retrieved from https://www.nacacnet.org/globalassets/documents/publications/research/2018_soca/soca18.pdf

Covarrubias, R., & Fryberg, S. A. (2015). Movin' on up (to college): First-generation college students' experiences with family achievement guilt. *Cultural Diversity and Ethnic Minority Psychology*, *21*, 420–429. https://doi.org/10.1037/a0037844

David, M. E., Ball, S. J., Davies, J., & Reay, D. (2003). Gender issues in parental involvement in student choices of higher education. *Gender and Education*, *15*(1), 21–37. Retrieved from http://libproxy.uoregon.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ667283&site=ehost-live&scope=site

Dawis, R. V., & Lofquist, L. H. (1964). A theory of work adjustment. *Minnesota Studies in Vocational Rehabilitation*, *15*.

Dunnett, A., Moorhouse, J., Walsh, C., & Barry, C. (2012). Choosing a university: A conjoint analysis of the impact of higher fees on students applying for university in 2012. *Tertiary Education and Management*, *18*, 199–220.

Eagan, M. K., Stolzenberg, E. B., Ramirez, J. J., Aragon, M. C., Suchard, M. R., & Rios-Aguilar, C. (2016). The American freshman: Fifty-year trends, 1966–2015. Retrieved from https://www.heri.ucla.edu/monographs/50YearTrendsMonograph2016.pdf

Elliott, D. C. (2016). The impact of self beliefs on post-secondary transitions: The moderating effects of institutional selectivity. *Higher Education: The International Journal of Higher Education Research*, *71*, 415–431.

Galotti, K. M. (1995). A longitudinal study of real-life decision making: Choosing a college. *Applied Cognitive Psychology*, *9*, 459–484. https://doi.org/10.1002/acp.2350090602

Gigerenzer, G., & Selten, R. (Eds.). (2002). *Bounded Rationality: The Adaptive Toolbox*. Cambridge, MA: The MIT Press.

Griffith, A., & Rask, K. (2007). The influence of the US News and World Report collegiate rankings on the matriculation decision of high-ability students: 1995–2004. *Economics of Education Review*, *26*, 244–255.

Gu, M., & Magaziner, J. (2016). The Gaokao: History, reform, and rising international significance of China's national college entrance examination. *World Education News & Reviews (WENR)*, 1–8.

Hanoch, Y., Wood, S., & Rice, T. (2007). Bounded rationality, emotions and older adult decision making: Not so fast and yet so frugal. *Human Development*, *50*, 333–358. https://doi.org/10.1159/000109835

Higher Education Act of 1965, Pub. L. No. 89–329, § 1001 *et seq.* 79 Stat. 1219 (1965).

Higher Education Research Institute. (2011). *1971-2011 CIRP Freshman Survey Trends Item List*. Los Angeles. Retrieved from https://heri.ucla.edu/instruments/

Homans, G. (1961). *Social behavior: Its elementary forms*. Retrieved from http://search.proquest.com/docview/37730326/

Hosmer, D. W., Lemeshow, S., & Sturdivant, R. X. (2013). *Applied logistic regression.* (Third ed.). Hoboken, New Jersey: Wiley.

Huang, F. L., & Moon, T. R. (2013). What are the odds of that? A primer on understanding logistic regression. *Gifted Child Quarterly*, *57*, 197–204. https://doi.org/10.1177/0016986213490022

IBM Corp. Released. (2017). IBM SPSS Statistics for Macintosh (Version 24) [software]. Armonk, NY: IBM Corp.

Jaschik, S. (2019). Department of Justice probes admissions ethics code. Retrieved September 14, 2019, from https://www.insidehighered.com/news/2018/01/10/department-justice-investigating-antitrust-issues-regard-nacacs-ethics-code

Kahneman, D. (2014). Thinking Fast and Slow. *Igarss 2014*, (1), 1–5. https://doi.org/10.1007/s13398-014-0173-7.2

Kahneman, D., & Tversky, A. (1979). Prospect theory : An analysis of decision under risk. *Econometrica*, *47*, 263–292.

Kaminer, A. (2017, November 15). Applications by the dozen, as anxious seniors hedge college bets. *The New York Times*. Retrieved from https://www.nytimes.com/2014/11/16/nyregion/applications-by-the-dozen-as-anxious-students-hedge-college-bets.html

Krumboltz, J. D. (1992). The wisdom of indecision. *Journal of Vocational Behavior*, *41*, 239–244. https://doi.org/10.1016/0001-8791(92)90025-U

Laerd Statistics. (2017). Binomial logistic regression using SPSS Statistics. *Statistical Tutorials and Software Guides.*, 1–14. Retrieved from https://statistics.laerd.com/

Little, R. J. A., & Rubin, D. B. (2002). *Statistical analysis with missing data* (2nd ed.). Hoboken, NJ: Wiley.

Liu, A. (2011). The admission industrial complex: Examining the enterpreneurial impact of college access. *Journal of College Admission*, (210), 8–19. Retrieved from http://search.proquest.com/docview/853876708/

Loewenstein, G. (2000). Is more choice always better? *National Academy of Social Insurance*, 1–15. Retrieved from https://www.andrew.cmu.edu/user/gl20/GeorgeLoewenstein/Papers_files/pdf/too_much_choice.pdf

Long, J. S. (1997). *Regression models for categorical and limited dependent variables*. Thousand Oaks: Sage Publications.

Luo, J., & Jamieson-Drake, D. (2005). Linking student precollege characteristics to college development outcomes: The search for a meaningful way to inform institutional practice and policy. *Association of Institutional Research*, *7*.

Mansfield, P. M., & Warwick, J. (2005). Gender differences in students' and parents' evaluative criteria when selecting a college. *Journal of Marketing for Higher Education*, *15*(2), 47–80.

NACAC's code of ethics and professional practices. (2019). Retrieved from https://www.nacacnet.org/advocacy--ethics/NACAC-Code-of-Ethics/

National Center for Education Statistics. (2018). Retrieved from https://nces.ed.gov

Office of Institutional Research. (2019). Detailed enrollment. Retrieved on June 6, 2019, from https://ir.uoregon.edu/detailenroll

Office of the Registrar: Faculty & Staff. (2019). Retrieved June 6, 2019, from https://registrar.uoregon.edu/faculty-staff

Oliveira, A. (2007). A discussion of rational and psychological decision-making theories and models : The search for a cultural-ethical decision-making model. *Journal of Business Ethics*, *12*, 1478–1482. https://doi.org/10.1111/j.1572-0241.1998.00467.x

Osborne, J. W., & Overbay, A. (2008). Best practices in data cleaning: How outliers and "fringeliers" can increase error rates and decrease the quality and precision of your results. In J. W. Osborne (Ed.), *Best practices in quantitative methods* (205–213). Thousand Oaks, CA: SAGE Publications. https://doi.org/10.4135/9781412995627

Pascarella, E. T., Terenzini, P. T., & Wolfle, L. M. (1986). Orientation to college and freshman year persistence/withdrawal decisions. *The Journal of Higher Education*, *57*, 155–175. https://doi.org/10.2307/1981479

Peng, C. J., Lee, K. L., & Ingersoll, G. M. (2002). An introduction to logistic regression analysis and reporting, *The Journal of Educational Research 96*(1), 3–14.

Remark Office OMR. (2019). Retrieved June 10, 2019, from
https://remarksoftware.com/products/office-omr/

Rickard, J. (2017). The common application. Retrieved June 12, 2017, from
https://www.commonapp.org

Scalise, K. (2016). EDLD 560: Measurement and Assessment, week 3 notes [PowerPoint
slides].

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference.* Boston, MA: Houghton,
Mifflin and Company.

Simon, H. A. (1955). A behavioral model of rational choice. *The Quarterly Journal of
Economics*, *69*(1), 99–118. https://doi.org/10.2307/1884852

Simon, H. A. (1956). Rational choice and the structure of the environment. *Psychological
Review*, *63*(2), 129–138. https://doi.org/10.1037/h0042769

Simon, H. A. (1957). *Models of man: Social and rational*. New York: Wiley.

Simon, H. A. (1959). Theories of decision-making in economics and behavioral science.
American Economic Review, *49*, 253–283.

Skořepa, M. (2011). *Decision-making : A behavioral economic approach*. Basingstoke.
New York: Palgrave Macmillan.

Smith, J., Pender, M., & Howell, J. (2013). The full extent of student-college academic
undermatch. *Economics of Education Review*, *32*, 247–261.
https://doi.org/10.1016/j.econedurev.2012.11.001

Soo, K. T. (2013). Does anyone use information from university rankings? *Education
Economics*, *21*(2), 176–190.

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Boston:
Pearson Education.

Tillery, D. (1973). *Distribution and differentiation of youth: A study of transition from
school to college*. Cambridge, MA: Ballinger.

Tinto, V. (1987). A theory of individual departure from institutions of higher education.
Leaving College: Rethinking the Causes and Cures of Student Attrition, 84–137.

Tinto, V. (1988). Stages of student departure: Reflections on the longitudinal character of
student leaving. *Journal of Higher Education*, *59*, 438–455.
https://doi.org/10.2307/1981920

Undergraduate Retention and Graduation Rates. (2018). Retrieved May 19, 2019, from https://nces.ed.gov/programs/coe/indicator_ctr.asp