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College Choice Decisions: An Analysis of University Honors Students

Thomas Tyler Clark
Western Kentucky University, thomas.clark@wku.edu

COLLEGE CHOICE DECISIONS:
AN ANALYSIS OF UNIVERSITY HONORS STUDENTS

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Thomas Tyler Clark

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Date Recommended 2020 06 25

Cobane, Craig
Digitally signed by Cobane, Craig
Date: 2020.06.25 12:17:07 -05'00'

Craig T. Cobane, Chair

Anne Rinn

Anne Rinn

Julia Link Roberts
Digitally signed by Julia Link Roberts
DN: cn=Julia Link Roberts, o=Western Kentucky University, ou=School of Teacher Education, email=julia.roberts@wku.edu, c=US
Date: 2020.06.25 12:30:59 -05'00'

Julia Link Roberts

Daniel Super
Digitally signed by Daniel Super
Date: 2020.06.25 12:42:16 -05'00'

Daniel Super

Cheryl D Davis
Digitally signed by Cheryl D Davis
Date: 2020.06.25 13:36:53 -05'00'

Dean, The Graduate School Date

I dedicate this dissertation to Dr. Barbara Burch and Dr. Craig T. Cobane. The support they both provided as my dissertation chairs made completing this research possible. The lessons they have taught me will continue to inspire my future work.

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Directed by: Craig T. Cobane, Anne Rinn, Julia Link Roberts, and Daniel Super

The Faculty of the Department of Educational Leadership, Administration, and Research

Western Kentucky University

The purpose of this research was to analyze the importance of various institutional attributes in the college-choice process of honors students. The study surveyed honors students (N = 279) currently enrolled in an honors college at one university. Students rated 51 items on the degree of importance in their college decision. An exploratory factor analysis was used to determine the underlying factors in the college-choice process.

The results indicated that cost was the most important issue students considered when determining an institution to attend. Cost of attendance and financial assistance offered were followed by quality of course instruction, safety on campus, and the opportunity to meet friends. When examining the exploratory factor analysis, six factors emerged, namely social, academic, career aspects, honors, inclusion, and external influences. Differences in responses by gender were also analyzed. There were significant differences between males and females on academics, social life, honors, and inclusion.

CHAPTER I: INTRODUCTION

The National Center for Education Statistics (2017a) showed 19,841 degree-granting institutions in the United States in 2016 with an estimated fall 2018 enrollment of 19.9 million students, a decrease of approximately 1.1 million students since 2010 (NCES, 2018). This decrease in student enrollment makes it increasingly important for universities to comprehensively examine how students are being recruited and what can be done to lead to a higher and more quality yield of matriculants. Whereas universities once operated on a product orientation model taking the mindset that "If we build it (offer it) they will come" (Warwick & Mansfield, 2003, p. 102), a different approach is necessary for survival of higher education institutions. This alternate approach takes the market into account to understand what students want.

Though research has been popular in examining the educational aspirations of students, a review of student college choice processes first began receiving attention from sociologists in the 1970s (Bradshaw et al., 2001). This line of research became more important to universities in the 1980s and 1990s when they realized a need to segment their marketing strategies. Litten (1991) suggested that students do not examine institutions in isolation; rather, they compare multiple universities on items of particular importance to them. Understanding how students make their college choices and what universities can do to encourage students to include a specific institution in the student's college choice set is paramount for creating an effective plan for enrolling more students, specifically students who have a high likelihood of persisting to graduation.

Statement of the Problem

As universities develop plans for recruiting students, they must examine methods

for marketing to specific subgroups of students. With state funding models being revised to use performance measures in calculations (Burke & Modarresi, 2001; Kentucky Council on Postsecondary Education, 2016; Furtwengler, 2015), strategies for recruiting and retaining students are becoming even more crucial for universities to consider. Despite some research being conducted, there is still a lack of understanding of how students make enrollment decisions (Hurwitz, 2012). Moreover, of the research already conducted, some subgroups of students have been neglected in the review. High-ability students compose a subgroup that requires additional attention, a group that Litten (1982) noted is highly pursued in the recruitment phase. Some evidence suggests these students have a higher likelihood of persisting and graduating in a timely manner (Campbell, 2005). Some have argued that high-ability students are more likely to enroll in selective universities (Hearn, 1984; Rinn, 2007; Singell & Tang, 2012).

However, Korn (2019) reported that many elite colleges have been extending their college deadlines to encourage more applications and enrollment. One example Korn noted was that Fordham University's enrollment yield has decreased by 6% over the past decade to 11%. By extending their 2019 deadline by nine days, the university received 1,900 additional applications. Recruitment strategies are essential for convincing students to attend postsecondary institutions, and the strategies used for specific subgroups may not be as effective with other groups of students. Not only are elite institutions having to rethink their recruitment processes, but public universities are also seeing challenges.

Several public institutions have created honors programs and colleges to offer a unique experience for high-ability students that serve as an alternative to elite institutions (Cobane, 2011; Plominski & Burns, 2018; Powell, 2017; Seifert et al., 2007; Weiner,

2009). From a university public affairs standpoint, Goodstein and Szarek (2013) indicated that honors programs and colleges are typically accepting students based on the same criteria used in college rankings, such as the *U.S. News and World Report*. Thus, being able to recruit these higher-performing students to the university may serve to help increase the institution's rankings. Moreover, Rinn and Plucker (2019) highlighted that talent development of high-ability students does not stop upon graduating high school, yet research reviewing this group of students is lacking.

Purpose of the Study

The purpose of this study was to begin the initial instrument development of a survey to examine the underlying factors involved in honors students' selecting a particular institution. There is a wealth of research available, particularly exploring college choice factors for students attending college; however, literature is scarce that explores the same questions specific to honors students. This information will help illuminate the primary factors honors students are considering when choosing a college to attend. The data will be useful to admissions personnel in creating more targeted marketing and recruitment plans to encourage students to apply and enroll in honors colleges. Cook and Zallocco (1983) asserted that there is evidence that studying student views on specific attributes related to a college can help understand college choice preferences. This argument justifies studying characteristics of colleges to understand particular choice factors.

Research Questions

The study specifically examined the following questions:

1. Which attributes are most important to honors students when considering

enrollment decisions, and how do these students view the importance of specific components of an honors education?

2. To what extent do the college-choice decisions of honors college students match the factors outlined by Douglas et al. (1983) (i.e., academic quality of the institution, special institutional features, social life of the institution, and socioeconomic forces)?
3. How does gender impact the importance of college-choice factors?

Definitions

The list below defines important terms specific to this research.

1. *Honors College/Program* – An entity at a higher education institution designed to provide for the needs of high-ability students
2. *High-Ability Students* – A student who has obtained either of the following two criteria:
    a. Minimum 27 ACT/1210 SAT AND a high school GPA greater than 3.6; or
    b. Minimum 29 ACT/1290 SAT AND a high school GPA greater than 3.2.

The definition above came from the specific admissions requirements of the honors college used in this study.

3. Honors education

    an honors college, program, institute, or equivalent descriptor, as the academic unit on a collegiate campus responsible for devising and delivering in-class and extracurricular academic experiences that provide a distinctive learning

environment for selected students. The honors college or program provides opportunities for measurably broader, deeper, and more complex learning-centered and learner-directed experiences for its students than are available elsewhere in the institution; these opportunities are appropriately tailored to fit the institution's culture and mission and frequently occur within a close community of students and faculty. In most cases, the honors community is composed of carefully selected teachers and students who form a cross- or multi-disciplinary cohort dedicated to achieving exceptional learning and personal standards. The National Collegiate Honors Council recognizes "departmental honors" as educational experiences that are similar but restricted to cohorts of students pursuing the same field of academic study. (National Collegiate Honors Council, 2013, p. 1)

4. *Honors Student* – A student enrolled in an honors college/program at a higher education institution and receiving components of honors education
5. *Institution* – A college or university

Methodology

One way to look at college-choice processes involves administering a Likert survey to students and conducting an exploratory factor analysis (EFA) to create a factor structure. This factor structure can help administrators better understand what students are exploring when looking at a college. Douglas et al. (1983) conducted such a study, in which the 29-item Higher Education Orientation Inventory (HEOI) was administered to high school students. The EFA conducted in the study gave rise to four factors: (1) Academic Quality of the Institution, (2) Special Institutional Features, (3) Social Life of

the Institution, and (4) Socioeconomic Forces. The current study used several reworded items from the HEOI as well as items from more recent literature and items specific to honors education, as discussed by the National Collegiate Honors Council (2013) and other literature related to honors education. Methods for developing a survey were taken from DeVellis' (2003) survey development process with modifications as suggested by Worthington and Whittaker (2006). Additionally, factor scores were calculated to analyze gender differences in college choice.

Summary

The current research contributed information to the literature on college choice, specifically as it relates to honors students. For institutions to attract students to apply and enroll, they must understand which attributes are most important to prospective students. The questions that were answered help understand the underlying factors important to honors students as well as the importance of individual characteristics to those students.

CHAPTER II: REVIEW OF THE LITERATURE

Introduction

At this stage in the evolution of the field of higher education, the literature is rich with studies that have reviewed the college-choice process of traditional undergraduate students. To a smaller degree, several authors have written about the college choice process of high-ability students. This literature review will provide an overview of honors students and college choice as it relates to this specific subset of students.

There is not a global or national consensus on the definition of what it means to be "gifted" or "high ability." Indeed, Smedsrud (2020) argued that the idea of giftedness is "inherently vague" (p. 94) and cannot and should not be classified using a single definition. While some use the term "gifted," others use "high-ability" or "high-achiever." It is important to note the difference between high-achieving and high-ability. High-achieving students are those who have demonstrated their ability through performance. However, it is possible that students have increased ability levels but have not had the opportunity to demonstrate or develop those abilities (Lohman, 2005) or are underachieving (Davis et al., 2011; Neihart, 2006). For more inclusivity, it is sometimes preferable to use "high-ability" instead of "high-achieving."

The first federal definition in the United States was established in 1972 in the Marland Report that defined giftedness as:

> Children capable of high performance include those with demonstrated achievement and/or *potential ability* [emphasis added] in any of the following areas, singly or in combination: (a) General specific ability, (b) Specific academic aptitude, (c) Creative or productive thinking, (d) Leadership ability, (e) Visual and

performing arts, (f) Psychomotor ability. (Marland, 1972, p. 10)

Inclusion of psychomotor ability was removed from the revised definition in 1978 (Jolly & Robins, 2018). The current federal definition is quite similar to the original; however, there continues to be no mandate that requires states to adopt the federal definition nor to specify its own definition. In fact, the National Association for Gifted Children (2018) indicated that New Hampshire, Massachusetts, and South Dakota have no state definition.

Most states, however, have created their own definition as compiled by the National Association for Gifted Children (2018). Kentucky's regulation defined them this way:

> "Gifted and talented student" means a pupil identified as possessing demonstrated or potential ability to perform at an exceptionally high level in general intellectual aptitude, specific academic aptitude, creative or divergent thinking, psychosocial or leadership skills, or in the visual or performing arts.

Tennessee defined "intellectually gifted" in the following way. "'Intellectually Gifted' means a child whose intellectual abilities and potential for achievement are so outstanding the child's educational performance is adversely affected. 'Adverse affect' means the general curriculum alone is inadequate to appropriately meet the student's educational needs. . . ." For this literature review, a broad conceptualization of giftedness and high ability was used with no set definition limiting the available literature.

Not only do definitions differ from state to state, but funding levels, policies, and procedures related to gifted identification and services also vary. According to the 2015 "State of the States" report, 32 of the responding states included a mandate for gifted and talented education (National Association for Gifted Children, 2015). These mandates

varied from the specific state law to special education authority guidelines. Of the states reporting a mandate, 28 required both identification and services for gifted students. Four states mandated identification but not services. Funding also varied from the mandates' being fully funded at the state level (4 states) to partial funding of the mandate (20 states) to no funding for the mandate (8 states).

While funding and mandates vary across states, there are many strategies that can be used throughout various grade levels to ensure that high-ability students receive the challenge necessary for them to fulfill their potential (Rinn, 2007). Acceleration (Assouline et al., 2015) and enrichment opportunities (Robinson et al., 2007) are two examples of appropriate strategies. Stephens (2018) highlighted that enrichment is planned purposefully to meet the learning needs of students. These opportunities must be used to extend learning and are not meant to be more of the same work, busy work, or unstructured. Enrichment opportunities could include pull-out programs, field trips, mentorships, clubs, commercial programs and curriculum, competitions, and summer programs, among other opportunities.

Honors Education

Gifted and high-ability individuals do not lose their unique characteristics when they graduate from high school. These traits continue to persist as students enroll in college, gain employment, and continue through life (Kotinek, 2018). They still may have specific psychosocial and intellectual characteristics that make them different than the rest of the student population (Noldon & Sedlacek, 1998; Plominski & Burns, 2018). One way these students are served in postsecondary education is through honors education. Otero (2005) summarized this view as:

> Honors students are curious and learn early on to make the best possible use of the resources available while becoming fully responsible for their own learning. They have a real passion for knowledge. They want to understand, and, for the most part, they want to make a difference. They are willing to test themselves, go beyond expectations, and run real or metaphorical marathons that will benefit others as well as themselves. (p. 53)

While these students tend to have a passion for learning both in and out of the classroom, they want and need good classes and professors, support from the university, social/cultural activities, and components descriptive of honors education (McClung & Stevenson, 1988). Honors education is an important structure for ensuring high-ability students continue to reach their potential and explore their interests.

Harte (1994) compared honors and non-honors students to provide insight for designing courses for honors and non-honors students. Harte highlighted that when designing courses for honors students, a qualitative approach should be taken rather than a quantitative approach. That is, the differences between honors and non-honors courses is not about "how much more work honors students must do, but instead . . . how much different their work is" (p. 12). He noted that honors students are by nature more intellectually and academically able than non-honors students, allowing for assignments that go more in depth with the topics. However, honors students are not completely different from other students. First, just because students are in honors does not mean they have developed all of the skills they need to be successful in a course. Like non-honors students, they may have challenges expressing themselves in written communication or have social challenges. Being aware of how students compare can help

with designing a course.

Pascarella (2006) proposed that research on students in college is perhaps the largest area of research in higher education. However, fewer of these studies specifically examine impacts of college on students, though it is a growing area of interest. Even a smaller subset of that research focuses on honors students. Long and Lange (2002) asserted that more empirical research needed to be conducted about honors students, including how they differ from non-honors students and programmatic implementations to help the students realize their potential, whether pedagogical, curricular, or otherwise.

To better understand the research regarding high-ability college students, Rinn and Plucker (2004) conducted a review of the literature related to high-ability college students. They noted that, although there has been considerable research exploring learning needs for high-ability K-12 students, this trend has not been followed with high-ability university students. The first section of the literature review focused on research examining talented undergraduate students. The main topics covered throughout the literature fell into six different categories: (a) factors in college choice, (b) learning, (c) multipotentiality, (d) personality characteristics, (e) success in college, and (f) special populations. The second part of the review looked at articles exploring specific programming options for high-ability college students. They found papers focusing on honors colleges, early entrance, college, career counseling, and personal counseling. Unfortunately, the authors noted a lack of research specifically relating to high-ability college students and called for more literature.

Rinn and Plucker (2019) conducted a follow-up review of the literature to analyze the work that had been done specifically with current high-ability honors students since

their last review. While their first review found few articles predating their study, they found 52 empirical studies conducted since their 2004 review. From their 2019 review, they group the articles into two themes, namely "characteristics and experiences of high-ability students" and "effects of honors programming on student outcomes" (p. 190 – 191).

In the first theme, the articles typically centered on social, emotional, and psychological perspectives. For example, some of the articles reviewed perfectionism; self-perceptions; motivation; and psychosocial factors related to enrollment, retention, and graduation rates. These papers generally reviewed high-ability students at the collegiate level regardless of whether they were enrolled in the honors college/program at their institution. The second theme focused on comparisons between honors students and non-honors students. Topics covered included GPA, retention and graduation rates, cognitive/intellectual outcomes, and social and emotional outcomes.

Though Rinn and Plucker (2019) described an increase in the number of empirical studies conducted on high-ability college students, they noted that, on average, the increase equated to approximately four articles per year. Of the studies reviewed, 16 used qualitative methods and 36 used quantitative methods. Moreover, many of the studies used small samples, typically used descriptive or correlational research designs (for quantitative studies), and typically did not include generalizable results. They argued that the areas of gifted education and honors education could benefit from having expanded empirical studies that increase the scope of the studies. With this, they recommended that researchers need to replicate studies to determine the generalizability of results as well as conduct studies on different samples with diverse characteristics.

Honors Education: Definition and Characteristics

As "giftedness" is difficult to define in the K-12 school setting, it is also challenging to define at the university level (Rinn & Plucker, 2004). While "gifted" takes on various meanings, it refers to specific students who have been identified under state or local provisions (Rinn & Cobane, 2009). Being identified as gifted is not a requirement to being admitted to an honors program or college, though. While it is possible that many of the students enrolled in honors education were identified as gifted (Miller & Speirs Neumeister, 2017), other students with high ability who were not formally identified could enroll in honors education. For this reason, many researchers have recommended not interchangeably using the terms "gifted," "high-achieving," "honors," (Kotinek, 2018) or "high-ability."

Guzy (2018) argued that our conceptualization of honors education should be broad to "more fully embrace intellectual diversity" (p. 14). Many honors programs and colleges use a combination of SAT or ACT scores, high school grade point averages, extracurricular activities, and/or letters of recommendation (Mathiasen, 1985; Plominski & Burns, 2018). National Collegiate Honors Council (2016) data indicated that approximately two-thirds of National Collegiate Honors Council members required a minimum ACT or SAT score for admission. The average minimum ACT or SAT score was 26.1 and 1196, respectively (Cognard-Black et al., 2017). The National Collegiate Honors Council (2013), recognizing institutional differences, summarized it this way:

> Honors education is characterized by in-class and extracurricular activities that are measurably broader, deeper, or more complex than comparable learning experiences typically found at institutions of higher education. Honors

> experiences include a distinctive learner-directed environment and philosophy, provide opportunities that are appropriately tailored to fit the institution's culture and mission, and frequently occur within a close community of students and faculty. (p. 1)

The National Collegiate Honors Council further compiled details about characteristics of an honors college (National Collegiate Honors Council, 2014a) and an honors program (National Collegiate Honors Council, 2014b). An honors program should have clear admissions criteria that match with target student population and have a mission statement that outlines objectives and responsibilities as well as details about where the program is in the academic organization chart. From an academic standpoint, the honors program should include specific curriculum based on the program mission that meets the need of students and includes "special courses, seminars, colloquia, experiential learning opportunities, undergraduate research opportunities, or other independent-study options" (National Collegiate Honors Council, 2014b, p. 1). Additionally, at least 15% of the undergraduate courses should be within the honors curriculum, with a target goal of 20%–25%. On the other hand, an honors college should fulfill the principles of an honors program with some additional requirements. The leader of the honors college should be operating at a dean level and be a fulltime, 12-month employee. From a financial standpoint, budgeting for the honors college should be commensurate with other colleges on the campus. At least 20% of the undergraduate degree program for college students should be honors. Additionally, students should be required to complete a thesis or capstone project.

It is common for honors programs to transition into honors colleges (Cobane,

2008). One such example was examined by Achterberg (2004) at Penn State. Several changes were highlighted. Each of the aspects of an honors program was maintained during the transition (e.g., cultural events, faculty advisory committee, honors advisors, etc.). Some of the aspects of the honors program were increased (an additional honors medal ceremony was added during the year and additional senior awards were given). Other activities were newly created (e.g., external advisory board, alumni society, budget, diversity planning, fundraising, travel abroad opportunities, etc.). Moreover, the new vision, mission, and goals of the honors college allowed the administration to shift focus from just managing admissions to creating student programming across campus. For these changes to occur, the honors program had to shift to a different structure allowing more autonomy within the unit as well as adding additional resources to achieve goals.

Of course, not every honors college across the country will include all of the same characteristics. On a more general level, Sederberg (2005) described the findings of a review conducted by a task force created by the National Collegiate Honors Council to develop characteristics of an honors college. The study surveyed 35 different honors colleges. The majority of the honors colleges were at comprehensive universities (91%). The average enrollment of these institutions ranged from fewer than 10,000 students to more than 30,000. Similarly, the honors college enrollments ranged from 150–2,700 students. Some of the institutions noted that the motivation for creating the college was to recruit students, improve overall campus academic quality, improve the quality of honors educational opportunities, and raise the profile of honors within the institution.

When reviewing resource allocation, the per capita budgets ranged from $83 to $1,855 with an average allocation of $596 per student. This funding covered activities

such as student travel, student research, publications, student council activities, honors course enrichment, and senior thesis expenses. Most of the institutions also reported special residence arrangements for students enrolled in the honors college.

Scott and Frana (2008) suggested that honors is becoming more "integrative" (p. 30) with specific interdisciplinary courses for honors students. Sederberg (2005) examined some of the curricular offerings specific to honors students. The courses available to students varied from general education honors sections to independent studies to research courses. While some colleges reported fewer than 25 honors courses per semester, others reported more than 100 courses. As the institution to which these honors colleges belonged ranged in characteristics, the author presented the concept of the "Index of Opportunity" (p. 130). This index is calculated by dividing the honors college total enrollment by the number of honors courses offered each semester. The analysis noted that approximately 60% of the institutions were offering an appropriate number of courses for their institution size; however, some of the institutions, including some of the larger ones, were not.

This report is quite important in the establishment and development of honors colleges across the United States, as it laid the foundation to better understand whether certain characteristics are commonly present at various institutions within the country. It also provided the impetus for the Executive Committee of the National Collegiate Honors Council to adopt the document outlining characteristics of honors colleges that were mentioned above (National Collegiate Honors Council, 2014a). This adoption created more quality control to ensure that purported honors colleges provided appropriate opportunities to students.

Scott et al. (2017) reviewed honors education at institutions across the nation to determine how prevalent certain honors curricular features were. They found that a majority (95.1%) of responding institutions had courses that fulfilled general education requirements. Moreover, 90.8% reported separate courses for honors students. They also found that research-intensive honors courses were popular among institutions with 80.4% responding their curriculum included these opportunities. Though less common, several institutions also included study abroad courses (54.7%), service-learning courses (48.7%), thesis requirements (46.4%), and capstone courses (44.8%).

In 2014, the National Collegiate Honors Council launched the "Admissions, Retention, and Completion Survey" (ARC) to better understand differences between honors institutions throughout the United States. Cognard-Black et al. (2017) analyzed the results from the 2014 ARC. They found that honors colleges/programs at research/doctoral universities tended to have higher enrollments than other institution types. The first-year students at these institutions also had a higher average ACT/SAT score than other institutions. Master's institutions were less likely than research/doctoral institutions to have an invited speaker/guest series. Baccalaureate institutions were less likely than master's and research/doctoral programs to have honors-specific housing available. Moreover, when comparing student enrollment sizes, they found that honors colleges tended to have on average 2.5 times the enrollment of honors programs.

Benefits of Honors Education

There is limited research on the benefits of honors education for high-achieving students (Seifert et al., 2007). Pascarella (2006) asserted that the first project to use longitudinal methods to standardized measures of cognitive development studying impact

of honors education on college students was in 2005. McClung and Stevenson (1988) surveyed students attending honors programs in the Southern Region of the National Collegiate Honors Council to determine how they viewed their participation in honors. On a 5-point scale, where five indicated *very worthwhile*, the average response was a 4.7. Moreover, students were asked to report three advantages they saw in participating in an honors program. Their responses were sorted into themes of challenging classes/unique class experience, small class advantages, academic environment, intellectual commonality, quality professors, honors recognition/prestige, and friends/camaraderie/cohesiveness, in descending order of percentage of students including the item in their top three. Similarly, disadvantages were reviewed. The students report no disadvantages, heavy workload/time, stereotype/elitist image, high expectations/demands, isolation, academic requirements, and pressure/stress/anxiety.

More recently, Kotschevar et al. (2018) surveyed alumni of the honors college at South Dakota State University to understand their perspectives. They constructed an instrument using the student learning outcomes as described by the honors college. Students were then asked to respond to how those skills were learned through the honors college and how these skills have impacted them. Many students responded that they valued each of the skills in either a personal setting, professional setting, or both. Moreover, they rated interactions with honors faculty (M = 4.78) and interactions with honors students (M = 4.21) as being helpful for their professional endeavors. Many of the other facets of the honors college were also ranked as useful to them in various parts of their future including the independent study experiences, being challenged in honors courses, etc. The students also indicated that if they were entering undergraduate studies

again, they would still work to graduate from the honors college (M = 4.79).

A study conducted by Miller and Dumford (2018) analyzed responses to the National Survey of Student Engagement (NSSE) to better understand how high-achieving students enrolled in honors colleges engaged at the university. The data were analyzed using 20 hierarchical linear models to predict each of 10 engagement indicators on the NSSE including (a) higher order learning, (b) reflective and integrative learning, (c) quantitative reasoning, (d) learning strategies, (e) collaborative learning, (f) discussions with diverse others, (g) student-faculty interaction, (h) effective teaching practices, (i) quality of interactions, and (j) supportive environment. For freshmen participating in honors, they found significant relations for six of the ten indicators. Faculty-student interaction had the strongest impact with these impacts shown less for seniors in the sample analyzed. The only indicator with a statistically significant impact was faculty-student interactions.

The authors explained several possible reasons for these results. Freshmen honors students are typically primarily enrolled in core courses, many times in specific sections of the course dedicated to honors students. These honors sections tend to have components that make them more engaging than other sections, lending several elements characteristic of enrichment programs in the K-12 school system. Honors students who were identified for gifted services before enrolling in college would likely have had exposure to enrichment programs through their school district, making them more familiar and comfortable with these learning environments. Miller and Dumford argued that students desiring an enrichment-based university experience would be well served through honors education; however, students desiring a more acceleration-based

experience may not find honors education the best match for their goals.

Differences Between Honors Education and General Education

One of the main characteristics that typically is seen to set honors students apart from non-honors students is academic ability. Carnicom and Clump (2004) surveyed students at a small university that had just started an honors program. The Inventory of Learning Processes (ILP) was administered to 17 honors students and 28 non-honors students to better understand learning style differences between the two groups. The instrument included four subscales: (a) methodical study, (b) fact retention, (c) elaborative processing, and (d) deep processing.

The study concluded that honors students were significantly higher in deep processing skills than were non-honors students. This subscale is closely related to the concept of critical thinking, indicating honors students come into college with better skills at taking information and thinking about it critically. However, the authors did not find statistically significant differences in the other three subscales. This would suggest that honors students did not necessarily have better study skills, process information by way of fact alone, nor personalize and apply information better than non-honors students. This last finding gives rise to a suggestion for honors programming to provide opportunities for honors students to engage in elaborative processing to help them be able to apply new information to their lives.

However, Davenport (2019) recently argued that professors should provide learning environments that allow students to consider their own values and how the course content interacts with those values. The author drew a connection between this and transformative learning defined in the following way:

> [Transformative learning] involves the most significant learning in adulthood, that of communicative learning, which entails the identification of problematic ideas, beliefs, values, and feelings; critically assessing their underlying assumptions; testing their justification through rational discourse; and striving for decisions through consensus building. (Taylor, 2011, p. 3)

Davenport noted that a transformative learning approach will help to engage the entire student in the course content. One way to do this is through critical reflection, a process in which students self-reflect on the material, how it connects with their values, and the ethical implications. Critical reflection is not a natural process and would require specific learning opportunities designed by honors faculty for students to be able to develop. Pinti (2005) echoed the sentiment that honors education should foster reflection for students to come to better self-understanding and not just "solipsism" (p. 44).

Mathiasen (1985) surveyed 17 students in the honors program at the University of Nebraska at Omaha. When comparing the results to norms of college students in general, several significant differences were found. First, honors students reported procrastinating less frequently than the general norms indicated. The honors students also had a high need for achievement. Moreover, they were diligent in their education and "believed that some pressure (facilitating anxiety) was needed to perform well in school" (p. 173). Though some of these findings echo those of Carnicom and Clump (2004), caution should be taken due to low sample sizes in both studies.

Long and Lange (2002) surveyed honors and non-honors students at a large regional university in the Midwest. They found that honors students scored significantly higher on conscientiousness and openness to experience. Moreover, students reported

asking questions in class, discussing academic content with faculty, discussing with faculty outside of class, and participating in art or guest speaker sessions more than their non-honors counterparts.

More recently, Cognard-Black and Spisak (2019) found similar results from analyzing responses from the 2018 administration of the *Student Experience in the Research University Survey*. Their findings indicated students enrolled in honors programs differed from those who were not. Honors students tended to have higher SAT/ACT scores and high school GPAs. Honors students were also more likely to do more work than required in courses of interest or discuss topics further with professors outside of class.

These high impact practices (National Survey of Student Engagement, 2018) are common across honors education (Cobane & Jennings, 2017). Cognard-Black and Spisak (2019) found that honors seniors responding to their survey reported participating on average in 5.39 high impact practices (HIPs) (e.g., capstone/thesis project, study abroad, leadership program, etc.), while non-honors students indicated they participated in 3.75 such HIPs). Cobane and Jennings (2017) outlined the benefits of "scholar development plans (SDPs)" (p. 40). These plans are used throughout a student's undergraduate career to create short-term goals leading to longer term aspirations. A key component to each of these plans is the use of various high impact practices to help with moving towards the long-term goal.

Another common characteristic of honors education is specific residence halls. Scott et al. (2017) noted that 56% of the institutions they surveyed had specific housing for honors students. Some authors have suggested that honors college housing may be

beneficial for honors students. For example, Cross et al. (2018) suggested that honors housing may provide a "social niche" (p. 244) where students have similar experiences and expectations. Rinn (2004) reviewed the impacts of students living in honors residence halls. She speculated that honors students living in the same environment would facilitate students encouraging and helping one another to achieve. However, one potential drawback to such living environments is the risk that honors students will self-segregate, limiting their interaction from the rest of the student body on the campus.

College Choice

Sample College Choice Models

Various models have been presented regarding how students choose which college to attend. Alfattal (2017) used a "marketing mix" (p. 931) approach, which analyzes choices from various overarching aspects. The model used was the 7Ps model (Kotler & Fox, 1995), which accounts for (a) program, (b) place, (c) promotion, (d) price, (e) process, (f) physical facilities, and (g) people. Program refers to the programs and services available for students. Place refers to availability of education across time and geographic location. Promotion refers to how the institution communicates with their prospective students. Price refers to the cost of education and the assistance students receive. Process refers to how the institution facilitates enrollment as well as learning at the institution. Physical facilities refer to the physical infrastructure at the institution. Last, people refer to the individuals at the institution who work with and help students.

Another approach was developed by Hossler and Gallagher (1987). The conceptualization included a three-phase model for the college-choice process. The first phase, called the "predisposition phase," is the stage at which students determine whether

they will continue their education or not after high school. The second phase, for students who determine they will attend college, is called the "search phase." Students begin exploring options during this stage and begin to make a "choice set" (Jackson, 1982, p. 239). That is, students make a list of universities for which they will apply. The last phase is called the "choice phase." In this stage, students determine which school they will actually attend. Table 1 outlines the three phases as well as factors influencing each phase and the associated student outcomes.

Table 1
College Choice Mode.

Phase	Model Dimensions	Influential Factors		Student Outcomes
		Individual Factors	Organizational Factors	
1	Predisposition	Student Characteristics, Significant Others, and Educational Activities	School Characteristics	College Options and Search for Other Options
2	Search	Student Preliminary College Values, and Student Search	College and University Search Activities	Choice Set and Other Options
3	Choice	Choice Set	College and University Courtship Activities	Choice

Note. Adapted from "Studying Student College Choice: A Three-Phase Model and the Implications for Policymakers" by D. Hossler and K. S. Gallagher, 1987, *College and University*, *62*(3).

Perna (2006) provided an overview of research in college access in choice. Based on the model outlined by Hossler and Gallagher (1987), she analyzed research trends in each of the three stages. Research on college choice originally focused on sociological

and economic conceptualizations; however, Perna argued that updates should be made to include additional perspectives such as social and cultural capital. From the literature, Perna created a new model of student college choice consisting of four layers: (1) habitus; (2) school and community context; (3) higher education context; and (4) social, economic, and policy context.

Hossler and Gallagher College Choice Model

The model outlined by Hossler and Gallagher (1987) has been one of the most prevalent models used. This model was used to conceptualize the current project. They noted that universities are not typically directly involved in each of the three steps of the college-choice process. The authors discussed that positive influences on phase one include "attending high-quality high schools, positive attitudes toward education, and early information on financial aid, as well as institutional costs" (p. 209). Litten (1982) surveyed 219 students at a large Midwestern research institution to determine their top reasons for deciding to attend college. The authors administered a 28-item survey based on a 5-point Likert scale, finding that the top five reasons for choosing to attend college, in descending order, included (a) Possibility of achieving a personal career goal upon the completion of college (M = 4.87), (b) To earn a college degree is a personal goal (M = 4.82), (c) Possibility of getting a better job upon the completion of college (M = 4.80), (d) Possibility of making more money upon the completion of college (M = 4.77), and (e) Parents' encouragement to attend (M = 4.31). Of particular note is that these items were in the top five for all students independent of race.

Jung (2013) also studied students in the predisposition phase. In this study, 349 students in Grades 10–11 in Sydney, Australia were surveyed. Whereas much of the

research conducted focuses on economic and sociological methods (Perna, 2006), this project approached the topic from a psychological standpoint. Specifically, the study was grounded in self-determination theory and expectancy-value theory. Findings suggested that family encouragement could help minimize amotivation for students to attend college. Additionally, students may be reminded about particular successes they have had in school previously, interact with successful college students/graduates, become more aware of university campuses, and so on.

The second phase, search, is when universities can initiate a proactive search for quality students and develop strategies to recruit them. This search phase has been a less frequent focus of research than the other two phases (Perna, 2006). Students have begun to request more information about institutions when in the search phase. As such, it would indicate that the choice-process of students is multi-faceted (Briggs, 2006). To better understand these factors, Briggs studied accounting and engineering first-year students enrolled in six Scottish universities. The authors found that the top five factors in choosing a college included (a) academic reputation (M = 6.4), (b) distance from home (M = 5.2), (c) location (M = 5.1), (d) own perception (M = 4.6), and (e) graduate employment (M = 4.2). Additional factors reviewed included social life nearby, entry requirements, teaching reputation, quality of faculty, information supplied by university, and research reputation. Upon conducting an exploratory factor analysis, the authors found five underlying factors of which they described as reputation factor, institution features factor, information factor, demographic factor, and employment factor.

Another study in this phase took a utility approach to study how students decide which institution(s) to apply to in their choice set (Weiler, 1994). The research analyzed

data from the Student Descriptive Questionnaire administered when students took the SAT. The findings suggested that the decision to apply to a particular institution in the choice set is "based primarily on the fit between the characteristics that they desire in the insitutiton they attend and the studied school" (p. 644). Two other important findings were highlighted. First, students wishing to attend a college close to home are more likely to apply to those institution(s) in their choice set that are closest to them. Second, students seemingly compared their SAT scores to the average for students at the institutions in their choice set. That is, students with SAT scores below the average for a particular institution were less likely to apply to the institution, while students with SAT scores above the average were more likely to apply.

Absher and Crawford (1996) explored the factor structure of variables involved in the college choice of students attending community college. A survey of 29-items was given to 675 students attending four different community colleges to ascertain the reasons involved in students selecting to attend a particular community college. An exploratory factor analysis was conducted on the results and found five underlying market segments: (1) practical-minded, (2) advice-seekers, (3) campus magnets, (4) goodtimers, and (5) warm friendlies. Practical-minded students sought a good academic experience without a high cost. Advice-seekers tended to rely on a variety of people in their lives to help them make college decisions. Campus magnet students looked toward college recruiters, advertisements, as well as the school's specific interest in them. The goodtimers focused on the social aspects of the school. Lastly, the warm friendlies wanted smaller schools and class sizes. The geographic location was also important to these students.

Other studies have used the Freshman Survey to better understand college-choice

decisions (Eagan et al., 2015; Stolzenberg et al., 2017). The 2015 survey reported differences between students who were Pell-eligible and who were not. While comparable percentages of students from both groups were admitted to their first-choice institution, only 51.2% of students receiving Pell grants enrolled in their top choice, while 61.4% of other students did. A large part of this discrepancy had to do with finances. Indeed, 92.9% of students receiving Pell noted that an offer of financial assistance from the college they chose to attend was either somewhat or very important in their decision. Over time, the importance of using academic reputation has become more important with 63.8% of students ranking it very important in 2012 to 69.7% of students in 2015. Whether graduates are admitted to reputable graduate or professional schools after graduation (4.8-point increase) and graduates obtaining good jobs (4.2-point increase) have gained more importance during the same time frame. The 2017 survey found that approximately half of students found campus visits important (Stolzenberg et al., 2017); however, the visit was more important for females than males. Students with higher GPAs were also more likely to find the campus visit important.

The third phase, choice, is another time in which actions by universities are not as impactful. The National Postsecondary Education Cooperative (2007) noted that the progression through these phases may not be linear, and students may shift their focus among the three different phases based on new information or experiences. Indeed, Iloh (2018) proposed a revised model suggesting flexibility among three "bidirectional forces" (p. 235) called information, time, and opportunity.

Search Phase

The search phase of the college-choice model is where universities have the most

influence, and they must target their strategies to maximize the efficiency of their recruitment campaigns. Litten (1982) noted:

> The specification of how the college selection process differs for various types of students is essential if administrators are to make economically efficient decisions regarding student recruitment. A basic marketing principle says that the segmentation of marketing activities provides the greatest return on effort. (p. 384)

In the United States, many studies have been conducted reviewing factors involved in the college-choice process. Hoyt and Brown (1999) reviewed 22 such studies and found that surveys administered ranged from 11 items to 32 items. Chen and Hsiao (2009) applied market segmentation theory to recruitment of students to technical and vocational schools in Taiwan. A survey of 944 students from six schools in three different regions was analyzed. The purpose of the study was to determine why students chose a particular school. There were four factors found to influence a student's choice in school: reputation and quality, function and convenience, emotion and meaning, and scale and structure (in decreasing order of average responses on the survey). The conclusion of the study was that "what really attracts students to going to a particular school is (1) career opportunities after graduation; (2) the school able to offer employment opportunities, reduce miscellaneous fees, and provide scholarships" (p. 41). These findings do not match what the authors noted is generally emphasized in marketing campaigns for schools. To maximize recruitment efforts, Chen and Hsiao suggested that schools first conduct a survey to see the needs and characteristics of its students before creating recruitment strategies.

Though many studies have explored importance of various aspects of an institution on college-choice, there is not a consistent instrument used throughout the literature to lend for easy comparison. One study conducted by Warwick and Mansfield (2003) sought to understand the top search criteria for students and parents. They surveyed students attending private, religiously affiliated schools throughout five states. The survey was completed by 192 students and 66 parents. Top criteria noted by students included academics, tuition, friendly atmosphere, scholarships, and financial aid (in decreasing order). Parents, on the other hand, cited academics, financial aid, tuition, security/safety, and friendly atmosphere as being most important. Of the 19 items, both parents and students included weather, size, cultural diversity, marriage prospects, and athletics in the five least important criteria.

In response to shrinking numbers of students enrolling in colleges in the northeast, Canale et al. (1996) administered a survey to students to determine which college characteristics were most important to them when considering a college. The results found that excellent teachers (76%), areas of study (73%), teachers' availability outside of class (61%), cost (61%), and academic reputation (60%) were rated as very important characteristics. On the other hand, a large student population (58%), within commuting distance (48%), small student population (38%), teachers with diverse backgrounds (38%), and sports/extracurricular programs (25%) were rated as not important.

While the two aforementioned studies did not use the same survey, some comparisons can be made. Canale et al. (1996) ranked excellent teachers as the most important criterion. However, the study by Warwick and Mansfield (2003) ranked

professors as the 12th most important for students (M = 4.03) and 10th for parents (M = 4.36) on a scale where five indicated *very* important (p. 118). Overall, both groups found professors to be important in the process. Tuition was included relatively high in the list for both students (second most important; M = 4.43) and parents (fourth most important; M = 4.65). Lastly, academics were important with students ranking it first (M = 4.51) and parents ranking it second (M = 4.74). These commonalities provide justification that these attributes may be very important in the college choice process.

Another survey asked students who had been admitted to Hofstra University but who did not enroll (Metlay et al., 1974). The researchers compiled a 37-item survey that was designed with six factors in mind: (a) academic, (b) location, (c) financial, (d) social activities, (e) external advice, and (f) mixed. Findings from this study found similar important factors as Canale et al. (1996) and Warwick and Mansfield (2003). The study reviewed factors that were listed as not important across student-groups studied. These factors included not difficult courses, grading systems, proximity to New York City, intercollegiate sports, among others. They also found that students who did not enroll had high perceptions for Hofstra University as well as the institution they chose to attend.

Joseph et al. (2005) conducted focus groups at a small liberal arts college to determine reasons that encouraged students to attend the college. From the focus group, items were generated for a survey that was administered to 439 students. Many differences were found in the responses between males and females. For example, females noted that a safe campus, cost, up-to-date computer labs, accessible advisors, among others were more important than did males. Additionally, females rated accessible and informed advisors as the most important category (M = 4.846), closely followed by

campus is safe, (M = 4.772) administrative staff is approachable/informed (M = 4.772), and academic staff is approachable and informed (M = 4.707). On the other hand, males rated providing multiple scheduling for classes (M = 5.145) as the most important. The authors also conducted a factor analysis, giving rise to eight factors: university staff, recreational activities, facilities, campus environment, reputation, cost, family/friends, and size/schedule.

Mansfield and Warwick (2006) also examined gender differences in the college-choice process. Females were more likely to find financial, physical, and functional aspects more important than males. Though the mean for females was higher for the social and psychological aspects, these differences were not statistically significant. The physical factor included such items as size and security/safety, the functional factor included academics and professors, and the psychological factor included reputation of school and reputation of degree.

Taking a more specific approach, Wozniak (2011) conducted a study to examine how an undergraduate research program impacts recruitment at Northern Michigan University (NMU), a public university with approximately 9,000 undergraduate students. The program provides at most $1,000 for up to 40 incoming freshmen to conduct research with faculty members. Essential recruitment components include the financial contribution, demonstrating the academic quality of the university, allowing admissions officers to showcase the unique program, and participants sharing information in their hometowns. A unique part of this undergraduate research opportunity is that participants are accepted into the program before they commit to the university. This allowed for the researchers to better understand whether acceptance into the program was a contributing

factor to the decision to attend the university.

Wozniak conducted an online survey of current and past participants and received 78 responses from the 129 participants. Of the responses, 32.9% of the participants viewed research opportunities as important for deciding which institution to attend, and 35.5% indicated being accepted into the program was important to their decision to attend the university. A survey of admissions officers at the university noted that "establishing a personal connection with students, encouraging campus visits, stressing the quality-to-cost benefit ratio, demonstrating the options for involvement, and . . . the opportunities for access to the natural environment" (p. 11) were important recruitment strategies. However, they indicated the research opportunity was helpful when talking with "students identified as high achieving or interested in STEM program of study" (p. 11).

Cognard-Black and Spisak (2019) reported that honors students were more likely than non-honors students to engage in research or creative projects. Whereas 47.3% of honors students reported working with a faculty member on these projects, only 19.2% of non-honors students did. Analogously, 25.6% of honors students indicated they participated in their own research project or creative work without guidance from a faculty member while 16.6% of non-honors students reported the same. Hence, it seems that honors students are more likely to engage in these types of activities, making it reasonable that they would be interested in research opportunities when talking with admissions officers. In a different study, Briggs (2006) found that the research reputation was not a particular influence to students in accountancy and engineering programs when choosing a college. In fact, it was the 10th most influential factor with a mean of 1.9 out of 10.

When reviewing economic positioning in the long term, a stage three decision may be just as important as a stage one decision (Baker et al., 2018). That is, *where* a student decides to enroll plays a factor in future economic impacts as well as deciding to attend college in general (Scott-Clayton, 2016). As such, Baker et al. (2018) conducted a study to determine trends in achievement gaps of diverse students. The authors found that, gaps between the Black-White and Hispanic-White enrollment in more selective universities decreased between 1986 and 2014. However, there remains a relatively sizable gap with White students attending more selective institutions than Black and Hispanic students, on average.

In university honors education, diversity has been a concern as well (Cognard-Black & Spisak, 2019). The National Collegiate Honors Council compiled statistics of member institutions (National Collegiate Honors Council, 2019). The data from 52 of these institutions indicated a wide gap between the number of minority students enrolled. Table 2 illustrates the average percentage of students enrolled in the 52 National Collegiate Honors Council member institutions by race/ethnicity. Moreover, Cognard-Black and Spisak (2019) reviewed data from 16 R1 (Research Universities) institutions and found that Black students and Hispanic students composed a smaller portion of the honors cohort than the non-honors cohort by 2.15 and 3.79 percentage points respectively. Essentially, this equates to Black students being approximately half as likely (.52) to be enrolled in honors than not enrolled in honors.

Table 2
Race/Ethnicity Percentages Across 52 Honors Colleges

Race/Ethnicity	Percentage
White	66.96
Black	11.2
Latino/Hispanic	8.95
Asian	5.91
Native Hawaiian or Pacific Islander	0.27
American Indian or Alaska Native	0.63
Two or More Races	2.24
Nonresident Aliens	1.74
Unknown	2.1

Note. Adapted from "Descriptive Statistics for Selected Variables from the 2014 - 2015 NCHC Admissions, Retention, and Completion Survey of Member Institutions" by the National College Honors Council, 2015 (https://cdn.ymaws.com/nchc.site-ym.com/resource/resmgr/research/ARC_Summary_Table_of_Selecte.pdf).

High-Ability Students and College Choice

Wozniak's (2011) study illustrated an important point about high-ability students. The admissions officers in the study noted that information about the research opportunity was only helpful when recruiting high-ability students. This finding is an example of a point admissions officers need to segment the market to directly provide the best information to interest their target students. Understanding how high-ability students differ in the college search process is important to cater marketing strategies to this group of students. Griffith and Rask (2007) noted that much work has been conducted on the first phase of college choice (see Table 1); however, less emphasis has been placed on phases two and three. Scott and Frana (2008) suggested that universities would need to move to a model of "active outreach" (p. 32) rather than just selecting the top applicants. These students may not choose to enroll in a specific honors college without being actively recruited.

Two of the three studies reviewed by Litten (1982) found that high-ability students begin thinking about college sooner and make their decisions earlier than other students. Moreover, high school counselors have a larger influence on college choice for higher ability students than for other students. Additionally, specific information about the academic programs was more important to high-ability students than other students. Litten noted, "The competition is most fierce for higher ability students" (p. 398).

Kerr and Colangelo (1988) also examined these differences by using results from the ACT exam taken during the 1985-1986 academic year. There were 76,951 juniors and seniors included in the survey and they were separated into three groups based on academic ability with the cut-offs being the 80th (control group), 95th (moderately talented students), and 99th (highly talented students) percentiles. Responses from the student profile section were used to determine differences in the groups. The authors found that not many of the moderately or highly talented students were interested in majoring in a liberal arts area but were interested in engineering and health sciences. Moreover, students scoring in lower percentiles were less certain about college majors. Highly talented students were very interested in extracurricular activities at the university, such as departmental clubs, special interest groups, and intramural sports. Though moderately talented students also showed an interest in these activities, it was a lower interest than the highly talented students. The authors concluded,

> Academically talented individuals as a group are somewhat narrow in their academic major choices but broad in their extracurricular interests, and that they are uninterested in personal counseling but demanding of career help, independent study, and honors opportunities. . . . the patterns of the academic major choices,

extracurricular interests, and desire for academic services were similar for the two groups, but the highly talented group showed more extreme results. (p. 46)

Douglas et al. (1983) surveyed 165 high school seniors in the Tucson Unified School District who had been identified as gifted. The authors developed the Higher Education Orientation Inventory (HEOI), which was an adaption of the Graduate Student Satisfaction Questionnaire developed by (Feild & Giles, 1980). The HEOI consisted of two parts. The first part collected demographic questions and the second part contained 29 Likert items on a 6-point scale measuring the importance of various aspects of choosing a college. An exploratory factor analysis was conducted, and four underlying factors were found. The factors, in decreasing order of importance, were (a) Academic Quality of the Institution (M = 4.64), (b) Special Institutional Features (M = 3.83), (c) Social Life of the Institution (M = 3.83), and (d) Socioeconomic Forces (M = 2.59). The mean of the last factor indicates that, overall, students did not find items on this factor to be important in choosing a college.

Douglas and Powers (1985) conducted a similar study using the HEOI. The authors analyzed surveys from 185 college students who had attended the University of Arizona (UA) Precollege Program for Gifted and Talented Students or the UA Outstanding Junior Day during 1981 and 1982. An exploratory factor analysis suggested the same four factors as the study conducted by Douglas et al. (1983). The six most influential items for students surveyed were *quality of course instruction*, *professional competence of professors*, *overall training*, *intellectual stimulation provided by training*, *superior programs in one's intended major*, and *opportunity for professor-student discussion in courses*. The primary difference between the two studies is that training in a

student's career interest was included as the second most important factor in the 1983 study, whereas, it is not included in the top six reasons in the 1985 study.

Wilson and Adelson (2012) also conducted a survey of 275 high-ability juniors and seniors from four high schools in North Texas to understand how they chose which college to attend. For this study, students were considered to be high ability if they were enrolled in Advanced Placement (AP) or International Baccalaureate (IB) courses. On the survey, students were asked to identify up to five colleges they wished to apply. Additionally, students were asked to choose their main reason for interest in each university from a list of eight preselected choice factors. Table 3 outlines the number of responses by choice factor. Kerr (1991) noted that the view of parents often plays a role in viewing ivy league universities as an extension of the gifted services provided by the school. However, Wilson and Adelson (2012) found that the data in Table 3 did not match the universities these students decided to attend. For example, the majority of students chose a university that was *close to home*, when only 9.6% of the students noted this was the number one factor for choosing a particular university. The authors noted this may be because students are most familiar with universities nearest to them and that "choosing a college for prestige and availability of programs and scholarships are socially acceptable answers" (p. 48). Additionally, this study was conducted in Texas and many of the students were likely guaranteed admission to a public college or university in Texas through the Texas Higher Education Opportunity Project (THEOP). THEOP guarantees admission to a public university in the state of Texas for students in the top 10% of a Texas high school.

An alternate explanation for dissonance in perceived and actual college factors is

provided by Berger (2014). The author notes that gifted students should begin planning for college as early as seventh grade and that their college lists may change from one extreme to another as they learn more. Additionally, similar to the argument presented by Kerr (1991), students may become conflicted by opinions expressed by family, friends, educators, and others about where they should attend, making it difficult for students to separate the opinion of others from their own feelings. Berger also noted that multipotentiality is a confounding factor in college choice for gifted students. Some of these students have advanced abilities in multiple areas and determining which of these areas to focus on becomes difficult for the student. Contrary to this point, Milgram and Hong (1999) more recently found that multipotentiality is not a major concern for the majority of gifted students. The issue of multipotentiality continues to be debated in the literature (Rinn & Plucker, 2004).

Table 3
College Choice Factors

Choice Factor	*n*	%
Highly Selective or Prestige of School	321	34.3
Availability of Scholarships	157	16.8
Availability of Special Programs	150	16.0
Likely to be Accepted	112	12.0
Location Close to Home	90	9.6
Family Legacy	52	5.6
Friends or Social Activities	37	4.0
Religious Affiliations	13	1.4

Note. Adapted from "College Choices of Academically Talented Secondary Students" by H. E. Wilson and J. L. Adelson, 2012, *Journal of Advanced Academics*, *23*(1).

The top attribute found by Wilson and Adelson (2012) matches that found in an analysis of data from the High School Longitudinal Study (NCES, 2018). This study asserted that the top factors for students in choosing an institution included academic quality/reputation, having a desired program of study, and job placement. Table 4 below

represents the percentage of students who indicated each factor was very important and somewhat important.

Table 4
Factors Influencing College Choice

Factor	% Very Important	% Somewhat Important	% Not at all Important
Academic quality/reputation	74	23	2
Desired program of study	74	24	3
Job placement	73	25	2
Cost of attendance	67	29	3
Graduate school placement	58	37	5
Good social life	52	*39*	8
Sports teams/school spirit	33	43	24
Being close to home	26	46	27
Opportunity to play sports	24	39	37
Family/friend recommendations	24	57	19
Being far from home	12	41	47
Family legacy	9	29	62

Note. Adapted from "Factors that Influence Student College Choice" by U.S. Department of Education, 2018 (https://nces.ed.gov/pubs2019/2019119.pdf).

A study conducted by Bradshaw et al. (2001) provided additional insight into why students may enroll in a different college than their original plans. The qualitative study used semi-structured interviews of 16 high-achieving students who had been accepted into a Carnegie Research I (CRI) institutions in the west. Only six of the participants had seriously considered attending the university when developing a choice set, but eleven ultimately enrolled. Each of the students interviewed indicated they used college rankings to generate a choice set and they ultimately were looking for colleges with reputable academic programs. Though each student had a choice set of at least five colleges, three students indicated that proximity to CRI would allow them to live at home and save money. Additionally, all students noted their teachers, counselors, and peers encouraged

them to attend more prestigious universities out-of-state. When deciding whether to attend CRI, the students called the departments on campus, toured campus and lab facilities, and gathered additional information to justify their decision to attend the institution to themselves and those pressuring them to attend a prestigious institution.

The students indicated they began receiving recruitment materials from colleges as early as sophomore year. Though they initially read through the materials, after a point, it became overwhelming receiving a large quantity of promotional materials. From a stage model of college choice, the students indicated they always knew they would attend college. Moreover, the students indicated their parents had little, if any, influence on their decision to attend college or their decision on which college to attend.

Each student interviewed alluded to the desire or need to attend graduate school. They also indicated that a strong undergraduate program would be necessary to prepare them for such endeavors. Both of these reasons impacted the universities they looked at from a financial standpoint. The students asserted they believed loans may need to be taken out for graduate school and did not want to attend a school that would require large loans for undergraduate education. Each of the students who enrolled in CRI noted that they would not have done so without the merit scholarship offering at the institution.

The authors suggested that universities should create specialized orientation programs and cohorts for high achieving students to feel more comfortable and valued on the campus.

> They wanted to attend good colleges that would challenge them academically and prepare them for graduate or professional school. Thus, those students who rejected 'Ivy League' schools do not appear to have avoided them due to fear of

failure or because of added pressure. (p. 18)

Pinti (2005) also mentioned the desire for first-year student seminars to get honors students acclimated to the university and honors program. However, the resources required for offering this seminar are not always in place to make the desire a reality.

Johnson et al. (1991) were interested in when students begin thinking about their college choice set and how school counselors interact with the process. They administered a survey to 3,708 freshmen at a midwestern university. They found that 38% of the students began planning for college before their junior year, 44% in their junior year, 13% in the summer before their senior year, and 5% in the first half of their senior year. The top pieces of information students reported using in their choice process were college students (80% females, 72% males), friends (73% females, 69% males), and high school counselor (73% females, 67% males). Counselors were reported as an important part of the process more frequently by Black students (78%) than White students (70%). However, the reverse was true for family members with Black students and White students reporting they used family members in their college choice process at 47% and 62%, respectively.

In addition to independent choice factors, students often use annual rankings of universities such as the US News and World Report's (USNWR) *America's Best* Colleges. Griffith and Rask (2007) conducted a survey of approximately 1,200 high-ability high school students to determine the impact of USNWR rankings. The results indicated that higher USNWR rankings increased the likelihood of students wishing to attend the institution. To better understand how offers of financial aid impacted decisions, students receiving at least partial financial aid were included in one group and students

receiving no financial aid were included in a separate group. The data suggested that students who did not receive aid were more likely to attend a school with a higher USNWR ranking even if it was just slightly higher ranked. Though the results for the group of students receiving partial aid were not as extreme, the students in this group still looked more closely at the higher ranked institutions.

As indicated in Table 3, high-ability students also use non-academic reasons for a basis for making college decisions. Reichert (2007) conducted a survey through the National Council for Honors College listserv to determine the impact of honors housing on students. Though the emphasis was on student success and community development, recruitment was included as one of the questions. Of the 43 responses, 58% of the respondents thought honors housing was very important to recruitment with another 8% noting it is important. One respondent noted they had noticed a marked increase in interest in their honors college since including an Honors Village on campus. Another commented,

> [Honors housing is] a powerful recruitment tool. When the parents and students know that we have Honors housing, they are very excited. They tour the residence, which has a common lounge, and an academic lounge with computers (4), a copier, conference tables, fridge and microwave, and our administrative offices. The average SAT in Honors has risen every year, by 22 points last year and 64 points this year…. (p. 117)

Cost is another major factor impacting the college choice of high-ability students. Goodstein and Szarek (2013) asserted that many universities advertise that their honors program will save the students money by having their academic needs met at a cheaper

institution. They also noted that many of these students intend to further their education through graduate school and that pointing this out to students helps them understand the financial benefits of attending a cheaper institution for their undergraduate degree.

Like Bradshaw et al. (2001), Rinn (2005) provided support for the argument that many of the honors students intended to pursue additional education. The study surveyed 298 students at an honors program at a large, midwestern university to determine retention patterns of gifted students at the college level. She found that the majority of students, regardless of class (i.e., freshman, sophomore, junior, senior), aspired to obtain a doctoral degree. However, a spike occurred during the junior year. Freshmen, sophomores, juniors, and seniors reported wanting to obtain a doctoral degree with percentages 48, 43, 81.3, and 48, respectively.

Nichols and Chang (2013) reviewed the level of influence various aspects had on their decision to enroll in the honors college at South Dakota State University. Some of the most important factors included competitive advantage (M = 4.292), small class size (M = 4.262), prestige associated with honors college enrollment (M = 4.069), and connections with faculty (M = 4.048). They also examined differences in responses by gender. Females had higher mean responses on parents, peers, prestige, competitive advantage, connections with faculty, supplemental opportunities, and opportunities for deeper learning. Males had higher means on teachers and small class sizes. However, the differences were not found to be statistically significant.

Noldon and Sedlacek (1998) also studied gender differences for academically talented freshmen students enrolled in a university. They found that females were more likely to expect to find a mentor on campus and to get to know at least one faculty

member well in their first year. Males were more likely to expect they would be able to get the classes they wanted. For extracurricular activities, females were more likely than males to think that each student should volunteer and to plan to do community service work. Males, on the other hand, were more likely to expect to play intramural sports, follow at least one university athletic teams, and to prefer to commute. Last, females tended to expect opportunities to engage in individual creative opportunities on campus and that a course on race relations should be offered more than males did. Males were more interested in seeking counseling services and were not as concerned about personal safety on campus.

Race and ethnicity have impacts on the college choice decisions of students. Contreras et al. (2018) surveyed African American students who had been accepted to the University of California (UC) beginning in Fall 2015 but ultimately decided to not enroll. There were 710 surveys competed as well as 74 interviews with students and eight interviews with parents of students interviewed. Many of the parents indicated they began talking with their children about college early and visited campuses with them. Thirty-two percent of the survey respondents noted they began talking with their parents about college in elementary or middle school, while 21% indicated it was in 9th grade, and 39% noted it was in 10th or 11th grade.

Each of the parents emphasized the importance of attending college for furthering financial and social standing. “Parents connected their child’s individual success to issues of race and racism because they realized the multiple barriers associated with being African American and not securing a bachelor’s degree” (p. 37). Many of the students indicated an important factor when choosing colleges was that the campus be diverse.

They also were interested in seeing a sizable population of African American students. Though parents were also interested in this, they also wanted to ensure the college saw their child as an individual and would cater to his/her unique needs. Additionally, many of the parents tried to create a network for the child in the area where the college was. They reached out to relatives, friends, connections of coworkers, etc., to ensure their child had people near the college that would check in on them and help them if necessary.

Parents who had attended college themselves were still involved in stages two and three of the college choice process. They encouraged their children to create matrices and templates with information about their choice set. First generation students, on the other hand, did not have as much support from parents during these stages. Their parents did not attend college visits with them as frequently. These families tended to have more financial barriers than second or more generation families. First-generation students also noted that financial assistance was a major variable in their college choice decision, whereas students whose parents had attended college were better equipped to understand how to pay for college. Some of the first-generation students asserted they chose to not attend UC because of the limited financial assistance package they were offered.

CHAPTER III: METHODOLOGY

The current study utilized a quantitative approach, creating an instrument to understand the college choice process of honors students. The instrument gave rise to latent variables that cannot be directly measured (Field, 2009). Using the instrument, construct validity was examined through exploratory factor analysis.

Scale Development

Various methods for scale development can be found in the literature, though many are quite similar (Worthington & Whittaker, 2006). For example, DeVellis (2003) outlined an eight-step model of scale development while Hinkin (1998) proposed a six-step process. For this study, DeVellis' (2003) model was followed. The stages in this model included (a) determine clearly what it is you want to measure, (b) generate an item pool, (c) determine the format for measurement, (d) have the initial item pool reviewed by experts, (e) consider inclusion of validation items, (f) administer items to a development sample, (g) evaluate the items, and (h) optimize the scale length. Though this process was a guide, the full process was beyond the scope of this research.

Define the Construct

The first step in developing a scale was to clearly define the construct. This stage was important as it helps researchers better understand what they are attempting to measure. Worthington and Whittaker (2006) noted that without this foundation, there is a risk of introducing items that are only remotely related to the construct or excluding core items related to the construct. A thorough review of the literature on college choice and honors education aided in developing this understanding.

Generate an Item Pool

The next step was to generate potential items. The goal for this stage was to create a "set of items that clearly represent the construct of interest so that factor-analytic, data-reduction techniques yield a stable set of underlying factors that accurately reflect the construct" (Worthington & Whittaker, 2006, p. 813). For this stage, many of the items from the instrument developed by Douglas et al. (1983) were retained or reworded

Douglas et al. (1983) developed the Higher Education Orientation Inventory (HEOI), a 37-item instrument in which respondents answer on a 6-point, Likert scale regarding the importance of various statements on their college choice decisions (with 1 being *very unimportant* and 6 being *very important*). The HEOI was developed as a modification of an instrument created by Feild and Giles (1980) called the Graduate Student Satisfaction Questionnaire (GSSQ). The GSSQ was developed by surveying 20 graduate students to determine themes for satisfaction and dissatisfaction in a graduate program. From this process, 14 themes emerged. A more extensive review of the literature brought about nine additional areas of importance. The final version of the GSSQ contained 23 items corresponding to each of the emergent themes. From reviewing the eigenvalues from a principal component analysis, it was determined there were eight different factors influencing satisfaction of graduate students.

Douglas et al. (1983) used the HEOI to survey high-ability high school students. The modified instrument included 29 items, seven of which were added to the instrument by Feild and Giles (1980) to make the instrument more relevant to high school seniors. Through their analysis, the authors found four factors impacting college choice decisions of high school seniors. These factors included (1) Academic Quality of the Institution (*M*

= 4.64), (2) Special Institutional Features (*M* = 3.83), (3) Social Life of the Institution (*M* = 3.83), and (4) Socioeconomic Forces (*M* = 2.59). Future research with the HEOI used a 37-item instrument (Douglas & Powers, 1985) that gave rise to a similar factor structure.

The current study modified Part I of the HEOI to include relevant demographic details. Demographic questions asked included gender, race/ethnicity, age, distance campus is from hometown, enrollment semester, expected graduation semester, major college, and highest degree intended to complete. Part II of the HEOI was modified to include more recent factors, as supported by the literature, that influence college choice decisions. Lastly, as the National Collegiate Honors Council (2013) definition of honors education suggested unique characteristics of honors education, specific items were included relating to these characteristics. In particular, notions from the characteristics of honors programs and honors colleges were used (National Collegiate Honors Council, 2014a, 2014b). These items measured the extent of the programmatic characteristics that are important in the college choice factors of honors students. A copy of the initial item pool is included in Appendix A.

Determine Instrument Format

Next, the format of the instrument was considered. DeVellis (2003) highlighted several methods (e.g., Thurstone Scaling, Guttman Scaling, etc.). The survey developed by Douglas et al. (1983) used a Likert scale. Indeed, DeVellis (2003) noted a Likert scale is one of the most commonly used formats and uses declarative statements to which participants report their degree of agreement with the statement. As the HEOI was developed using a Likert scale and this format worked well for the purposes of this study, the use of Likert scales was retained. While the HEOI used a 6-point bipolar scale, this

survey was administered on a 5-point unipolar scale (Krosnick & Fabrigar, 1997).

Expert Review of Items

In the fourth stage of the survey development, experts were asked to review the pool of items and provide feedback. Content validity was defined as "the extent to which a set of items reflects the content domain" (Worthington & Whittaker, 2006, p. 814). To measure content validity, five enrollment or honors education experts were asked to rate each item based on their perception of how relevant each item is to the college choice process (DeVellis, 2003; Polit et al., 2007). Experts rated the relevancy and clarity of items on a 5-point Likert scale (5-*Extremely*, 4-*Very*, 3-*Moderately*, 2-*Slightly*, 1-*Not at All*). Additionally, the experts had the opportunity to suggest changes to wording for particular items to improve clarity and/or additional items not represented that could be useful for consideration.

After the experts rated each of the items in the pool, the data were analyzed. The mean response was calculated for each item to determine whether the item is relevant for the instrument and how clearly each item is worded. Seven of the items had a mean relevancy rating below 3 (*moderately relevant*) with means ranging from 2.2 to 2.8. These items were either removed or reworded based upon reviewer suggestions. Three of the items had means for clarity below 3 (*moderately clear*). Based upon feedback, two of the items on the survey relating to student/faculty interactions were combined into one item "interactions with faculty." The item "to earn more money" was clarified to "to earn more money after graduation."

There were a few items with a mean of 3 or higher on clarity that had suggestions for revised wording. One reviewer recommended that the phrasing for "academic

facilities and equipment" to include an example for ease of understanding. This item was modified to "academic facilities and equipment (e.g., lab space)." Two of the items relating to expense and tuition costs were combined into a single item as "cost of attendance." Additionally, two new items were recommended for inclusion ("reputation of the honors college" and "selectivity of the institution"). Appendix B includes the final list of items that were administered to a developmental sample.

Validation Items

The next step proposed by DeVellis (2003) was to include validation items in the survey. This stage could introduce items to detect flaws in the survey. Worthington and Whittaker (2006) recommended that this stage should be included later in scale development. One reason was that inclusion of the additional items could have interaction effects with the items of the survey under development. As the current project attempted to develop an updated survey and was in the initial phases, validation items were not used at this time.

Administer Items to a Developmental Sample

The next phase was to administer the items to a sample. Studies reviewing college choice have varied in the subjects of the study. Hoyt and Brown (1999) reviewed 22 studies and found nine distinct categories of subjects including ranging from all high school students to all college students to only seniors in high school or only freshmen in college. Cook and Zallocco (1983) asserted that one challenge with choosing high school students is the uncertainty of their current progress within the college choice process. The authors also noted that current college students may insert "reinforcement bias" (p. 201) into the results as the students had already selected to attend the college. They also

recognized that this bias was also inevitable by using a high school sample.

For the purpose of this study, students currently enrolled in an honors college were used. The pseudonym Honors College X was used to identify the particular college. This allowed for comparison of differences in student cohort perspectives. The Honors College X had a total enrollment of 1,177 students in Fall 2019. Table 3 outlines demographics of students in the Honors College X during Fall 2017. Of the students residing on campus, 78.8% lived in honors residence halls and 21.2% lived in non-honors residence halls. The most popular major for the students was Biology at 12% of the students. Though 76% of students had a single major, there is a higher percentage of honors students double majoring than students at the university in general with 24% and 9% double-majoring, respectively. For first-time, first-year students, the average ACT score was 28.76 and the average high school grade point average was 3.84. Notably, 18% of honors students have studied abroad at least once.

IRB approval was obtained for disseminating the survey to students. The acceptance letter may be found in Appendix A. The implied consent may be found in Appendix B. Staff at the Honors College X maintain a listserv of all current students using the Mailman listserv technology. A Qualtrics survey was emailed to all students using the listserv on April 6. A reminder email was sent on the two following Mondays. Students were offered the chance to be entered into a drawing for one of 25 Amazon gift cards each valued at $25. The content of the emails was prepared by the researcher and sent by staff in the Honors College X. Since significant modifications were made to the HEOI, it was possible that the factor structure changed. To avoid the possibility of new items being added to the end of the original HEOI and influencing the factor structure,

the Qualtrics survey was set up to randomize the order of the items per student. This decision was aligned with the assertion by Schell and Oswald (2013) that respondents may be able to implicitly infer a factor structure in their mind if particular items are grouped together. A randomization in the survey would help reduce the amount of bias that could impact the factor structure.

Table 5
Honors College X Student Demographics for Fall 2019

	%		%
Gender		**Time Status**	
Male	31.3	Full-Time	99.2
Female	68.7	Part-Time	0.8
Ethnicity		**Classification**	
American Indian/Alaskan	0.1	Freshman	20.1
Asian	3.1	Sophomore	24.3
Black	1.2	Junior	22.4
Hispanic	2.7	Senior	33.0
Native Hawaiian/Pacific Islander	0.2	Post-Baccalaureate	0.2
Non-Resident Alien	0.3	**Residency**	
Two or More Races	3.4	On-Campus	48.5
White	88.7	Off-Campus	51.5
Not Supplied	0.3	**State of Origin**	
Student Type		In-State	84.8
Traditional (Under Age 25)	99.7	Out-of-State	15.2
Non-Traditional (Age 25+)	0.3		

Hinkin (1998) provided guidance on best practices for developing measures for survey research. Upon reviewing sample size needs for exploratory factor analyses, there was a range of recommendations. For example, some researchers have suggested a ratio of four respondents for each item, while others have recommended there be at least ten participants for each item (Hinkin, 1998). More recently, Guadagnoli and Velicer (1988) asserted that a sample of at least 150 participants would be sufficient for an exploratory

factor analysis given that the items have relatively high intercorrelations.

Evaluate the Items and Optimize Scale Length

After the survey was administered, the individual items were reviewed. Data were exported into a comma-separated values file that was then imported into *Stata 15* for analysis. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) are two methods that may be used for analyzing items (Worthington & Whittaker, 2006). The EFA conducted by Douglas and Powers (1985) found four underlying factors. However, since the instrument used in the current study was a rather significant modification of the HEOI, there was not a theoretical basis to assume the same factor structure will hold. Therefore, an EFA was used to analyze the factor structure of the instrument.

Since the items were responded to on a 5-point Likert scale, the responses were treated like an interval-ratio scale (Johnson & Creech, 1983). Before conducting the EFA, tests for normality were conducted to ensure skewness and kurtosis are within the appropriate ranges. Next, a principal component analysis was used to evaluate the number of eigenvalues greater than one (Kaiser, 1960). A scree plot was also examined for the number of possible underlying factors (Cattell, 1966). The Kaiser criterion and the scree plot suggested the number of underlying factors. To obtain factor loadings, the maximum likelihood extraction method and principal axis factoring were considered depending on normality of data. For this analysis, an oblique rotation was preferable to an orthogonal rotation since the factors were likely to be correlated. An orthogonal rotation would assume independence of factors (DeVellis, 2003; Matsunaga, 2010). Assuming independence when the factors are actually correlated could overestimate the factor

loadings. The promax rotation is one of the most commonly used oblique rotations and was used here (Kline, 2016).

After the factor loadings have been calculated, interpretation of the underlying factors occurred. As mentioned above, the Kaiser criterion (Kaiser, 1960) and scree plot (Cattell, 1966) were used as a guide for the number of factors. However, at this stage, analysis had to be conducted to develop an "approximate simple structure" (McDonald, 1985, p. 41). That is, the item loadings were analyzed to ensure an item did not cross-load too highly on multiple factors. One rule of thumb is to examine factor loadings of .30 and greater to look for factor loadings and cross-loadings (Floyd & Widaman, 1995). In the event of cross-loadings, there was an option to either remove the item itself or change the number of factors. This decision had to be made on a theoretic basis, accounting for whether removal of the item would decrease important information and whether a different number of factors would make sense based on analysis of specific loadings. Regardless of the decision, if a change was made, to either the number of items or factors, analysis was conducted again as factor loadings may change substantially when deletions are made.

Additionally, the number of items loading on a specific factor were considered. For example, Tabachnick and Fidell (2013) suggested each factor should have at least three items loading onto it. Although, if the items are correlated with $r > .70$, a factor with only two items could be considered. Ultimately, this stage of the factor analysis required researchers to use both empirical and subjective approaches to develop a factor structure with "conceptual interpretability" (Worthington & Whittaker, 2006, p. 822).

After a proposed factor structure was decided, internal consistency reliability was

considered. That is, how well the items loading onto the same factor correlated with one another. To examine this, Cronbach's alpha was computed for each factor using the items loading onto that factor. In general, a Cronbach alpha of .70 or greater was considered acceptable for research purposes (Cortina, 1993; Kline, 2016; Muijs, 2011).

Demographics Comparison

To compare responses based on gender, *t*-tests were used. First, the factor scores were computed on each factor. These factor scores were computed by using the predict command in *Stata*. Using this command after a factor analysis calculated a weighted score based upon how "salient" the item is on the factor (Acock, 2013, p. 9). The factor scores were standardized to have a mean of zero and a variance of one. The *t*-tests were conducted using the factor scores.

CHAPTER IV: RESULTS

Introduction

The primary purpose of the current study was to develop an instrument for understanding the college-choice process of honors students. This chapter will review the results obtained from the initial survey development as well as procedures for managing the data. All survey responses were collected using a Qualtrics survey. The data were then exported into a comma-separated file. The Qualtrics export contained several columns of data that were not necessary for analysis (e.g., start date, end date, duration). These columns were removed. Moreover, there were 339 survey responses; however, 44 of the participants responded to none of the Likert questions. Further, 15 of the participants did not respond to at least one of the Likert items. Also, there was also one participant who had already completed an undergraduate degree. Therefore, these 60 responses were removed, leaving 279 complete response sets. The data were then imported into *Stata 15.1* to be analyzed.

Study Participants

The descriptive statistics for the study participants (N = 279) were calculated and are shown in Table 6. These responses represented approximately 23.70% of the student population. Though there is not a consistent standard for response rates (Stapleton, 2019), the demographics of the respondents are a relatively good fit for the population. The mean age of participants was 19.78 years old (SD = 1.30), and all participants were of traditional college age (i.e., 18–25). Most participants were female (79.57%), and the others identified as male. Though one respondent identified as nonbinary, they did not complete the Likert questions and were removed in the data cleanup portion of analysis.

For ethnicity, 88.53% identified as White/Caucasian; 3.58% two or more races; 2.87% Asian; 2.87% Hispanic; 1.08% Black; and 0.36% each American Indian/Alaskan, Native Hawaiian, and other. The class standing by credit hours were mostly seniors (38.49%) followed by sophomores (24.82%), juniors (22.66%), and freshmen (14.03%). Table 7 summarizes the highest level of education anticipated by gender.

Table 6
Descriptive Statistics of Study Participants

	N	*%*
Gender		
Male	57	20.40
Female	222	79.57
Ethnicity		
American Indian/Alaskan	1	0.36
Asian	8	2.87
Black	3	1.08
Hispanic	8	2.87
Native Hawaiian/Pacific Islander	1	0.36
Two or More Races	10	3.58
White	247	88.53
Other	1	0.36
Age Type		
Traditional (Under Age 25)	279	100
Classification		
Freshman	39	14.03
Sophomore	69	24.82
Junior	63	22.66
Senior	107	38.49

Table 7
Highest Anticipated Level of Education

Level	% Male	% Female
Bachelor's Degree	21.05	20.27
Master's Degree	33.33	44.14
Professional Degree	10.53	7.66
Doctorate Degree	35.09	27.93

Note. N = 279; number of males = 57; number of females = 222.

Item Analysis

Table 8 shows descriptive statistics for the 51 items.

Table **9** outlines the mean and standard deviation by gender. Table 10 summarizes the percentage responding to each item by Likert category. When reviewing the skewness and kurtosis of individual items, all items had a skewness between -2 and 2 and a kurtosis between -7 and 7 except for two. The item “parents attended school there” had a skewness of 2.19 and kurtosis of 6.77. The item “cost of attendance” had a skewness of -2.30 and a kurtosis of 8.92. It should be noted that *Stata* does not center kurtosis calculations at zero like some other statistical software. Additionally, the Shapiro-Wilk test for normality was conducted on each item. The results suggest that most items are not normally distributed (see Table 8). Therefore, principal axis factoring (PAF) was used for the exploratory factor analysis.

Table 8
Summary Statistics

Item	*M*	*SD*	Skew	Kurtosis
Cost of attendance	4.59	0.77	-2.31	8.92
Better financial assistance offered	4.44	0.92	-1.89	6.41
Quality of course instruction	4.16	0.88	-1.33	5.41
Safety on campus	3.98	1.01	-0.83	3.03
Opportunity to meet new friends	3.92	1.03	-0.90	3.31

Item	*M*	*SD*	Skew	Kurtosis
Reputation of your intended major(s)	3.87	1.12	-1.00	3.37
Study abroad opportunities	3.81	1.31	-0.85	2.48
Job placement after graduation	3.81	1.10	-0.87	3.15
Institution accepted me into the honors college/program	3.80	1.25	-0.73	2.39
Interactions with faculty	3.78	1.07	-0.86	3.28
To prepare yourself for graduate or professional school	3.77	1.26	-1.00	3.06
Geographic location of the school	3.76	1.02	-0.63	2.86
Reputation of institution	3.74	0.97	-0.74	3.36
Social life with fellow students	3.73	1.12	-0.72	2.86
Institution had an honors college/program	3.70	1.23	-0.63	2.35
Intellectual climate of institution	3.66	0.96	-0.67	3.42
Academic rigor	3.62	0.98	-0.65	3.33
Size of the institution	3.53	1.03	-0.58	2.94
Contacts by school made good impression	3.52	1.14	-0.67	2.74
Reputation of the honors college/program	3.51	1.24	-0.53	2.31
Class sizes	3.50	1.02	-0.52	2.84
Likelihood to be accepted to the institution	3.48	1.26	-0.53	2.25
Clubs and organizations offered	3.47	1.22	-0.39	2.15
Reputation of professors	3.43	1.10	-0.55	2.60
Overall physical facilities	3.43	1.09	-0.57	2.70
Academic facilities and equipment (e.g., lab space)	3.43	1.13	-0.52	2.64
Knew more about it than other schools	3.42	1.18	-0.56	2.45
Internship opportunities	3.41	1.23	-0.40	2.17
Work and study interactions with fellow students	3.38	1.13	-0.36	2.40
Wanted to live away from home	3.34	1.42	-0.40	1.87
To earn more money after graduation	3.29	1.27	-0.31	2.03
Academic performance of fellow students	3.27	1.10	-0.43	2.47
Degree of emphasis on grades	3.22	1.10	-0.42	2.54
School traditions/spirit	3.16	1.28	-0.25	2.01
Graduation rate	3.05	1.29	-0.13	1.96
Reputation of promoting diversity	3.01	1.30	-0.01	1.91
Institution had on-campus housing specific to honors students	2.95	1.41	-0.06	1.72

Item	*M*	*SD*	Skew	Kurtosis
Diversity of campus population	2.91	1.23	-0.05	2.00
Undergraduate research opportunities	2.83	1.32	0.11	1.86
Quality of library facilities	2.63	1.14	0.18	2.25
Parents' preference/influence	2.47	1.21	0.49	2.25
Mental health resources available on campus	2.45	1.26	0.47	2.12
Teacher/counselor recommended it	2.34	1.29	0.52	2.02
Selectivity of the institution	2.20	1.10	0.53	2.37
Your friends will go to the institution	2.05	1.19	0.86	2.59
Institution had precollege program for high ability students	1.94	1.33	1.16	2.96
Reputation of athletic programs	1.88	1.16	1.08	3.01
Close enough to home to commute daily	1.66	1.21	1.70	4.54
Siblings attended school there	1.62	1.18	1.73	4.65
Opportunity to play sports	1.52	0.98	1.91	5.74
Parents attended school there	1.44	0.97	2.19	6.77

Note. $N = 279$; Stata does not center kurtosis calculations to zero.

Table 9

Summary Statistics by Gender

Item	Male		Female	
	M	*SD*	*M*	*SD*
Social life with fellow students	3.491	1.071	3.797	1.121
Reputation of professors	3.053	1.245	3.532	1.041
Intellectual climate of institution	3.474	1.136	3.707	0.907
Reputation of institution	3.632	1.046	3.770	0.945
Reputation of the honors college/program	3.140	1.457	3.608	1.167
Selectivity of the institution	2.298	1.195	2.176	1.081
Quality of course instruction	4.105	1.012	4.180	0.848
Interactions with faculty	3.526	1.269	3.847	1.000
Quality of library facilities	2.509	1.227	2.658	1.113
Work and study interactions with fellow students	3.105	1.160	3.446	1.119
Overall physical facilities	3.316	1.105	3.464	1.091
Academic performance of fellow students	3.000	1.150	3.338	1.076
Your friends will go to the institution	2.088	1.199	2.045	1.191
Degree of emphasis on grades	3.228	1.195	3.216	1.075

Item	Male		Female	
	M	*SD*	*M*	*SD*
Academic rigor	3.386	1.146	3.685	0.922
Contacts by school made good impression	3.316	1.284	3.577	1.093
Size of the institution	3.351	1.110	3.577	1.003
Parents attended school there	1.544	0.927	1.419	0.984
Siblings attended school there	1.596	1.132	1.622	1.196
Parents' preference/influence	2.351	1.077	2.495	1.247
To earn more money after graduation	3.404	1.280	3.266	1.275
Close enough to home to commute daily	1.895	1.345	1.604	1.175
To prepare yourself for graduate or professional school	3.526	1.489	3.829	1.183
Geographic location of the school	3.649	1.157	3.788	0.982
Opportunity to meet new friends	3.719	1.114	3.973	1.006
Wanted to live away from home	3.105	1.410	3.405	1.420
Reputation of your intended major(s)	3.825	1.136	3.887	1.122
Cost of attendance	4.614	0.726	4.581	0.779
Knew more about it than other schools	3.491	1.182	3.405	1.183
Better financial assistance offered	4.614	0.701	4.401	0.959
Teacher/counselor recommended it	2.509	1.351	2.302	1.274
Institution had precollege program for high ability students	2.211	1.589	1.865	1.248
Institution had an honors college/program	3.246	1.379	3.811	1.161
Institution accepted me into the honors college/program	3.333	1.300	3.923	1.210
Institution had on-campus housing specific to honors students	2.825	1.490	2.986	1.390
Undergraduate research opportunities	2.614	1.292	2.883	1.323
Study abroad opportunities	3.351	1.458	3.932	1.251
Internship opportunities	3.368	1.291	3.419	1.218
Job placement after graduation	3.807	1.093	3.815	1.100
Reputation of athletic programs	1.825	1.297	1.896	1.131
Opportunity to play sports	1.632	1.063	1.491	0.955
Likelihood to be accepted to the institution	3.281	1.320	3.532	1.243
Mental health resources available on campus	2.105	1.220	2.541	1.253
Safety on campus	3.439	1.150	4.117	0.930
Class sizes	3.491	1.071	3.500	1.010
Diversity of campus population	2.737	1.232	2.955	1.229

Item	Male		Female	
	M	*SD*	*M*	*SD*
Reputation of promoting diversity	2.684	1.284	3.095	1.296
School traditions/spirit	2.684	1.311	3.288	1.243
Graduation rate	2.702	1.295	3.140	1.277
Clubs and organizations offered	2.877	1.255	3.617	1.170
Academic facilities and equipment (e.g., lab space)	3.386	1.250	3.437	1.098

Note. *N* = 279; number of males = 57; number of females = 222

Table 10

Percentage by Likert Category

Item	1	2	3	4	5
Social life with fellow students	5.02	8.96	21.86	35.84	28.32
Reputation of professors	6.45	13.98	24.01	40.86	14.70
Intellectual climate of institution	3.58	6.09	29.03	43.37	17.92
Reputation of institution	2.87	7.53	22.94	45.88	20.79
Reputation of the honors college/program	8.96	12.54	21.86	31.54	25.09
Selectivity of the institution	34.41	26.88	25.45	10.75	2.51
Quality of course instruction	2.51	1.43	12.54	44.09	39.43
Interactions with faculty	4.66	7.53	19.35	41.94	26.52
Quality of library facilities	19.71	25.45	32.62	16.85	5.38
Work and study interactions with fellow students	6.81	15.05	28.67	32.62	16.85
Overall physical facilities	6.81	12.54	25.45	40.86	14.34
Academic performance of fellow students	7.89	16.13	27.60	37.99	10.39
Your friends will go to the institution	44.80	24.73	14.34	12.54	3.58
Degree of emphasis on grades	9.32	13.98	31.90	35.13	9.68
Academic rigor	3.94	6.81	29.39	42.65	17.20
Contacts by school made good impression	7.53	10.75	22.22	40.86	18.64
Size of the institution	4.66	10.39	27.96	41.22	15.77
Parents attended school there	78.85	7.17	6.81	5.02	2.15

Item	1	2	3	4	5
Siblings attended school there	74.91	4.66	9.32	6.09	5.02
Parents' preference/influence	25.09	32.26	20.43	15.41	6.81
To earn more money after graduation	11.11	17.56	21.86	29.75	19.71
Close enough to home to commute daily	71.33	9.68	6.45	6.45	6.09
To prepare yourself for graduate or professional school	10.75	4.30	15.41	36.56	32.97
Geographic location of the school	2.51	9.68	22.58	39.48	25.45
Opportunity to meet new friends	2.87	7.89	16.49	39.78	32.97
Wanted to live away from home	16.85	11.47	19.35	25.09	27.24
Reputation of your intended major(s)	5.73	6.09	17.20	36.92	34.05
Cost of attendance	1.08	2.15	4.30	21.86	70.61
Knew more about it than other schools	8.96	13.26	21.51	39.07	17.20
Better financial assistance offered	2.15	2.87	7.89	22.58	64.52
Teacher/counselor recommended it	35.84	23.66	16.85	17.56	6.09
Institution had precollege program for high ability students	58.78	13.62	10.75	8.96	7.89
Institution had an honors college/program	6.09	13.26	18.64	29.03	32.97
Institution accepted me into the honors college/program	5.73	12.90	16.49	25.09	37.78
Institution had on-campus housing specific to honors students	23.30	14.70	22.22	22.94	16.85
Undergraduate research opportunities	20.43	22.94	22.58	21.51	12.54
Study abroad opportunities	8.24	12.19	11.11	2.88	41.58

Item	1	2	3	4	5
Internship opportunities	8.60	16.13	22.58	31.18	21.51
Job placement after graduation	4.66	8.60	17.20	39.78	29.75
Reputation of athletic programs	55.20	17.20	15.05	9.32	3.23
Opportunity to play sports	72.04	13.26	7.17	5.73	1.79
Likelihood to be accepted to the institution	9.68	13.62	19.71	32.97	24.01
Mental health resources available on campus	28.32	29.03	19.00	16.49	7.17
Safety on campus	1.79	7.89	17.92	35.48	36.92
Class sizes	4.30	11.83	28.32	40.86	14.70
Diversity of campus population	16.49	21.15	26.88	25.81	9.68
Reputation of promoting diversity	15.41	21.86	24.73	22.22	15.77
School traditions/spirit	13.98	16.49	24.73	28.67	16.13
Graduation rate	16.13	17.56	26.16	25.45	14.70
Clubs and organizations offered	7.17	16.49	22.94	29.39	24.01
Academic facilities and equipment (e.g., lab space)	7.89	10.75	29.03	35.48	16.85

Note. $N = 279$; 1 = Not Important, 2 = Slightly Important, 3 = Moderately Important, 4 = Important, 5 = Very Important

Factorability

Before completing an exploratory factor analysis, Worthington and Whittaker (2006) recommended reviewing Bartlett's test of sphericity and the Kaiser-Meyer-Olkin measure of sampling adequacy to determine the appropriateness of looking for a factor structure. Moreover, Bartlett's test of sphericity was significant ($\chi^2 (990) = 4798.460$, $p < .001$). These results provide support that the 51 items can be reduced into multiple factors. However, Tabachnick and Fidell (2013) noted that Bartlett's test is highly sensitive to large *N* values and suggests that caution be taken for five or more

observations per item. For this study, there are approximately 6.2 observations per item. The Kaiser-Meyer-Olkin measure further lends support of the factorability of the items in the survey. The KMO was .854, which Tabachnick and Fidell (2013) noted is appropriate for a factor analysis.

Table 11
Shapiro-Wilk Test of Normality

Item	*W*	*V*	*z*	*p*
Social life with fellow students	.978	4.475	3.505	.000
Reputation of professors	.984	3.165	2.695	.004
Intellectual climate of institution	.978	4.298	3.411	.000
Reputation of institution	.974	5.122	3.821	.000
Reputation of the honors college/program	.986	2.864	2.461	.007
Selectivity of the institution	.979	4.173	3.342	.000
Quality of course instruction	.923	15.396	6.395	<.001
Interactions with faculty	.968	6.490	4.375	<.001
Quality of library facilities	.994	1.122	.269	.394
Work and study interactions with fellow students	.994	1.253	.528	.299
Overall physical facilities	.983	3.376	2.846	.002
Academic performance of fellow students	.988	2.321	1.969	.024
Your friends will go to the institution	.963	7.377	4.675	<.001
Degree of emphasis on grades	.989	2.258	1.905	.028
Academic rigor	.980	3.992	3.238	.001
Contacts by school made good impression	.977	4.583	3.561	.000
Size of the institution	.985	3.068	2.622	.004
Parents attended school there	.898	20.371	7.050	<.001
Siblings attended school there	.937	12.657	5.937	<.001
Parents' preference/influence	.984	3.131	2.670	.004
To earn more money after graduation	.992	1.651	1.172	.121
Close enough to home to commute daily	.922	15.556	6.420	.000
To prepare yourself for graduate or professional school	.946	10.718	5.548	<.001
Geographic location of the school	.980	4.070	3.283	.001
Opportunity to meet new friends	.964	7.233	4.628	<.001
Wanted to live away from home	.986	2.764	2.378	.009
Reputation of your intended major(s)	.959	8.240	4.933	<.001

Item	*W*	*V*	*z*	*p*
Cost of attendance	.829	34.111	8.256	<.001
Knew more about it than other schools	.981	3.826	3.138	.001
Better financial assistance offered	.884	23.259	7.360	<.001
Teacher/counselor recommended it	.979	4.286	3.404	.000
Institution had precollege program for high ability students	.953	9.365	5.233	<.001
Institution had an honors college/program	.982	3.654	3.031	.001
Institution accepted me into the honors college/program	.977	4.669	3.604	.000
Institution had on-campus housing specific to honors students	.992	1.500	.948	.172
Undergraduate research opportunities	.994	1.189	.404	.343
Study abroad opportunities	.964	7.159	4.604	<.001
Internship opportunities	.991	1.860	1.451	.073
Job placement after graduation	.967	6.651	4.432	<.001
Reputation of athletic programs	.956	8.811	5.090	<.001
Opportunity to play sports	.903	19.290	6.923	<.001
Likelihood to be accepted to the institution	.984	3.230	2.742	.003
Mental health resources available on campus	.984	3.251	2.758	.003
Safety on campus	.966	6.775	4.475	<.001
Class sizes	.987	2.548	2.187	.014
Diversity of campus population	.994	1.101	.226	.411
Reputation of promoting diversity	.997	.667	-.948	.828
School traditions/spirit	.993	1.423	.825	.205
Graduation rate	.995	.942	-.139	.555
Clubs and organizations offered	.992	1.681	1.215	.112
Academic facilities and equipment (e.g., lab space)	.987	2.620	2.253	.012

Note. $N = 279$

A correlation matrix was computed to determine the inter-item correlations. Six of the items (siblings attended school there, close enough to home to commute daily, geographic location, wanted to live away from home, institution had precollege program for high ability students, and likelihood to be accepted to the institution) had no correlations greater than .3 and were removed from subsequent analyses (Tabachnick &

Fidell, 2013). Items were also examined to determine whether they were too highly correlated with one another. None of the items had correlations greater than .8.

Exploratory Factor Analysis

An initial factor analysis was run on the remaining 45 items to examine the eigenvalues using a principal components extraction method. As shown in Table 12, the model included 12 eigenvalues greater than one suggesting 12 distinct factors (Kaiser, 1960), explaining approximately 62.25% of the total variance. A scree plot, shown in Figure 1, was also examined to determine the possible number of factors. This plot suggests three underlying factors. Finally, a parallel analysis was conducted using principal components and 2,500 replications (Bandalos & Finney, 2019; Horn, 1965). The results may be found in Figure 2. The parallel analysis indicates potentially five factors, though the fifth factor appears to be marginal.

The various estimates for the number of factors varied between three and twelve. Therefore, several iterations were run on the data to determine the most appropriate fit. The loading threshold set was .3 or higher. Moreover, items with cross-loadings of .32 or higher should be considered for removal (Tabachnick & Fidell, 2013).

The first iteration using all 45 remaining items showed difficulty with the financially-oriented items. The items “cost of attendance” and “better financial assistance” did not load onto any factor for models using four or five factors; however, they loaded onto the same factor with a six-factor model. Tabachnick and Fidell (2013) recommended that factors be defined by three or more items. The exception to this guideline would be if a factor is determined by two items that are highly correlated ($r >$ .70). In this instance, “cost of attendance” and “better financial assistance” were

relatively weakly correlated (r = .339). As such, these two items were removed. Similarly, "reputation of athletic programs" and "opportunity to play sports" were loading onto a factor with no other items. These two items were also weakly correlated (r = .449). As such, they were also removed from subsequent analyses.

Table 12
Eigenvalues from Initial Principal Components Analysis

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	9.87	6.693	0.219	0.219
Factor2	3.178	0.799	0.071	0.290
Factor3	2.379	0.390	0.053	0.343
Factor4	1.989	0.247	0.044	0.387
Factor5	1.742	0.146	0.039	0.426
Factor6	1.595	0.141	0.036	0.461
Factor7	1.455	0.112	0.032	0.494
Factor8	1.343	0.090	0.030	0.523
Factor9	1.253	0.117	0.028	0.551
Factor10	1.136	0.072	0.025	0.577
Factor11	1.064	0.059	0.024	0.600
Factor12	1.005	0.035	0.022	0.623

Note. A principal components extraction method was used on 45 items; Only eigenvalues greater than zero are shown.

Figure 1
Scree Plot

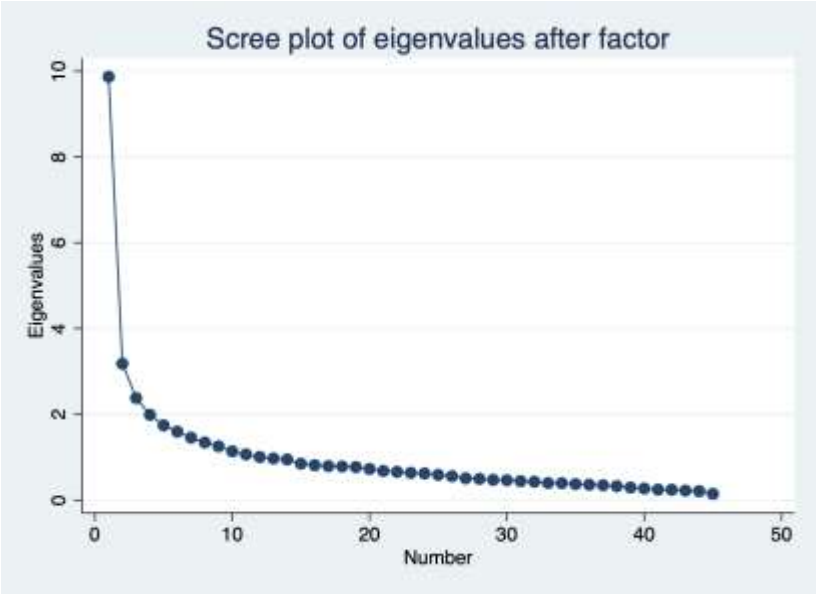
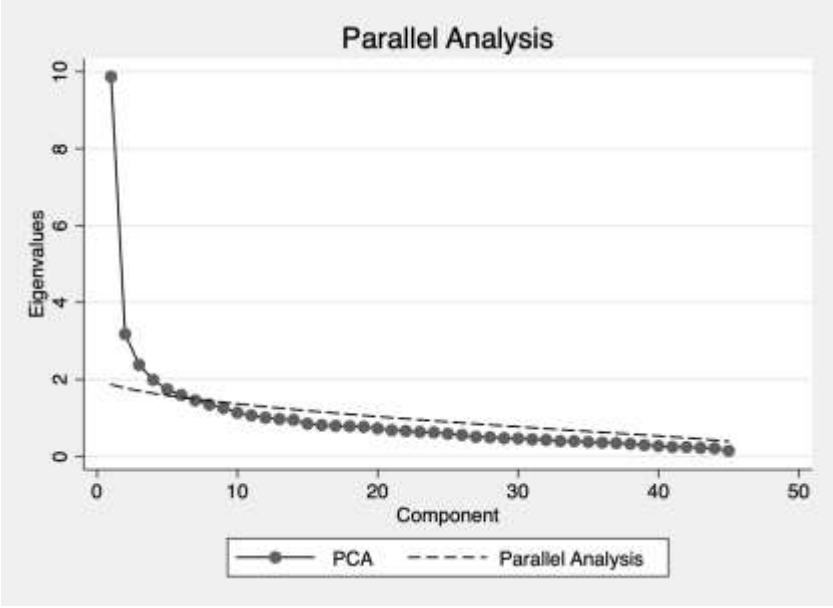


Figure 2
Parallel Analysis



Future iterations were run with the number of factors examined ranging from four to eight. A normalized promax was used as the rotation for each of these iterations

(Baldwin, 2019). Items were removed one at a time to determine the best fit. The items that were removed, in order, include the following: quality of course instruction, contacts made by school, selectivity of the institution, quality of library facilities, undergraduate research opportunities, safety on campus, class sizes, study abroad, and overall physical facilities. The reason for removal ranged from items not loading (e.g., quality of course institution and contacts made by school), negative loadings (undergraduate research opportunities), and lack of aligning with theory behind the factor (overall physical facilities).

The chosen model consisted of 32 items across six factors. The factors included (a) academics, (b) social life, (c) career, (d) honors, (e) inclusion, and (f) external influences. Table 15 summarizes the pattern matrix for the EFA, and Table 16 shows the structure matrix. The results indicated a simple structure for the items. All of the factor correlations are moderate to weak and positive. The factor correlation matrix is reported in Table 13. The rotation matrix is included in Table 14.

Table 13
Factor Correlation Matrix

Factors	Factor1	Factor2	Factor3	Factor4	Factor5	Factor6
Factor1	1.000					
Factor2	0.413	1.000				
Factor3	0.497	0.354	1.000			
Factor4	0.341	0.337	0.109	1.000		
Factor5	0.441	0.302	0.336	0.245	1.000	
Factor6	0.123	0.288	0.148	0.191	0.107	1.000

Table 14
Rotation Matrix

	Factor1	Factor2	Factor3	Factor4	Factor5	Factor6
Factor1	0.859	0.700	0.641	0.571	0.610	0.302
Factor2	-0.315	0.392	-0.393	0.582	-0.223	0.377
Factor3	-0.059	-0.356	0.071	0.079	0.239	0.719
Factor4	-0.187	0.475	0.250	-0.540	0.021	0.399
Factor5	0.181	-0.053	0.238	-0.023	-0.722	0.237
Factor6	0.303	0.039	-0.558	-0.192	-0.014	0.187

Note. Promax rotation used with Kaiser normalization.

The first factor was interpreted as academics. This factor included 11 of the 32 remaining items and accounted for approximately 53.78% of the variance. Items loadings ranged from .32–.82. The highest items loading on the factor included intellectual climate of the institution (.82), academic rigor (.72), and degree of emphasis on grades (.54). The second factor accounted for 15.10% of the variance, and it was interpreted as social life. Loadings ranged from .36–.89. Items loading onto it included opportunity to meet new friends (.89), social life with fellow students (.81), and school traditions and spirit (.36). The third factor accounted for 10.49% of the variance and included loadings between .46–.71 for the three items. The factor was interpreted as career aspects. The loadings were internship opportunities (.71), job placement after graduation (.70), and to earn more money after graduation (.46).

Table 15
Pattern Matrix

Item	1	2	3	4	5	6	Uniqueness
Intellectual Climate of the institute	0.822						0.460
Academic Rigor	0.719						0.472
Degree of Emphasis on Grades	0.540						0.556
Academic Performance of Fellow Students	0.525						0.651
Reputation of Professors	0.521						0.569
Reputation of Intended Majors	0.519						0.673
Academic Facilities and Equipment	0.507						0.603
To Prepare for Graduate or Professional School	0.402						0.726
Graduation Rate	0.342						0.651
Reputation of Institution	0.339						0.684
Interactions with Faculty	0.315						0.732
Opportunity to Meet New Friends		0.893					0.278
Social Life with Fellow Students		0.806					0.353
School Traditions and Spirit		0.574					0.608
Clubs and Organizations Offered		0.517					0.635
Size of the Institution		0.387					0.804
Work and Study Interactions with Fellow Students		0.361					0.516
Internship Opportunities			0.705				0.520
Job Placement After Graduation			0.699				0.409
To Earn More Money After Graduation			0.465				0.727
Institution Had an Honors College/Program				0.836			0.281

Item	1	2	3	4	5	6	Uniqueness
Institution Accepted Me into the Honors College/Program				0.775			0.408
Reputation of the Honors College/Program				0.652			0.333
Institution Had On-Campus Housing Specific to Honors Students				0.505			0.572
Reputation of Promoting Diversity					0.937		0.089
Diversity of Campus Population					0.767		0.376
Mental Health Resources Available on Campus					0.400		0.623
Parents Attended School There						0.605	0.646
Your Friends Will Go to the Institution						0.581	0.647
Parents' Preference/Influences						0.447	0.756
Knew More about it than Other Schools						0.431	0.771
Teacher/Counselor Recommended It						0.422	0.681

Note. $N = 279$; The extraction method was principal axis factoring with an oblique (promax with Kaiser normalization) rotation. Factor loadings less than .3 were suppressed from the output.

Table 16
Structure Matrix

Item	1	2	3	4	5	6
Social Life with Fellow Students	0.397	0.791	0.239	0.223	0.259	0.173
Reputation of Professors	0.631	0.310	0.462	0.181	0.335	0.078
Intellectual Climate of the institute	0.685	0.125	0.153	0.285	0.286	0.023
Reputation of Institution	0.504	0.362	0.370	0.328	0.238	0.133
Reputation of the Honors College/Program	0.516	0.415	0.288	0.763	0.301	0.205
Interactions with Faculty	0.460	0.311	0.383	0.195	0.217	-0.005
Work and Study Interactions with Fellow Students	0.555	0.575	0.455	0.327	0.385	0.169
Academic Performance of Fellow Students	0.558	0.299	0.218	0.338	0.261	0.180
Your Friends Will Go to the Institution	0.039	0.147	0.049	0.104	0.172	0.575
Degree of Emphasis on Grades	0.645	0.342	0.424	0.263	0.330	0.191
Academic Rigor	0.699	0.201	0.263	0.320	0.358	-0.020
Size of the Institution	0.105	0.410	0.111	0.251	0.135	0.183
Parents Attended School There	0.071	0.113	0.117	0.048	-0.003	0.584
Parents' Preference/Influences	0.039	0.155	0.057	0.153	-0.088	0.461
To Earn More Money After Graduation	0.320	0.152	0.501	0.116	0.193	0.167
To Prepare for Graduate or Professional School	0.470	0.130	0.250	0.330	0.255	0.027
Opportunity to Meet New Friends	0.303	0.838	0.167	0.252	0.230	0.240
Reputation of Intended Majors	0.493	0.252	0.367	-0.028	0.103	0.058

Item	1	2	3	4	5	6
Knew More about it than Other Schools	0.067	0.177	-0.020	0.192	0.103	0.450
Teacher/Counselor Recommended It	0.251	0.264	0.361	0.120	0.219	0.474
Institution Had an Honors College/Program	0.307	0.322	0.112	0.846	0.216	0.137
Institution Accepted Me into the Honors College/Program	0.231	0.260	0.074	0.769	0.199	0.148
Institution Had On-Campus Housing Specific to Honors Students	0.278	0.405	0.126	0.593	0.103	0.288
Internship Opportunities	0.309	0.224	0.678	0.146	0.290	0.045
Job Placement After Graduation	0.479	0.246	0.752	0.053	0.231	0.066
Mental Health Resources Available on Campus	0.445	0.311	0.397	0.168	0.542	0.040
Diversity of Campus Population	0.380	0.291	0.265	0.185	0.786	0.129
Reputation of Promoting Diversity	0.442	0.289	0.354	0.244	0.953	0.103
School Traditions and Spirit	0.197	0.605	0.214	0.320	0.188	0.222
Graduation Rate	0.513	0.301	0.469	0.105	0.359	0.159
Clubs and Organizations Offered	0.288	0.581	0.327	0.276	0.225	0.140
Academic Facilities and Equipment	0.587	0.312	0.446	0.092	0.291	0.154

Note. $N = 279$; The extraction method was principal axis factoring with an oblique (promax with Kaiser normalization) rotation.

The fourth factor explained 7.92% of the variance. It included four items that were interpreted as honors. The loadings ranged from .51–.84, including institution had an honors college/program (.84), institution accepted me into the honors college/program (.78), reputation of the honors college/program (.65), and institution had on-campus housing specific to honors students (.51). The fifth factor accounted for 7.49% of the variance over three items. It was interpreted as inclusion and had loadings ranging from .40–.94. The loadings were reputation of promoting diversity (.94), diversity of campus population (.77), and mental health resources available on campus (.40). The last factor explained 5.23% of the variance through five items. It was interpreted as external influences. The loadings ranged from .42–.60. The highest loadings were parents attended school there (.60), your friends will go to the institution (.58), and parents' preference/influences (.45).

Table 17 summarizes the means across items loading onto each factor. Social was rated most important (M = 3.532), followed closely by academics (M = 3.531). Career aspects and Academics were also similar with means of 3.505 and 3.491, respectively. Both inclusion and *external influences* had a mean below three; however, inclusion was quite a bit higher than external influences with means of 2.791 and 2.346, respectively.

Table 17
Means Across Items on Factors

Factor	*M*	*SD*
Social	3.532	0.800
Academics	3.531	0.678
Career Aspects	3.505	0.947
Honors	3.491	1.043
Inclusion	2.791	1.065
External Influences	2.346	0.741

Internal Consistency Analysis

To analyze the internal consistency of the factors, Cronbach's alpha was calculated using items loading onto each factor. Cronbach's alpha for the six factors ranged from .62–.84. Table 18 summarizes the reliability values for each factor and what the reliability would be if an item is removed. Two of the factors have good internal consistency (academics and honors), two have acceptable internal consistency (social life and inclusion), and two have questionable internal consistency (career aspects and external influences). Three items, if removed, would increase the internal consistency of a factor (size of the institution, reputation of the honors college/program, and mental health resources available on the campus). The only one that would substantially increase the overall factor internal consistency was mental health resources available on the campus; however, the item was kept since removal would create a factor with only two items and would take away an important aspect not captured in other items on the factor.

Table 18
Reliability Analysis of Each Factor

Factor	Cronbach's α
Academics	0.84
Intellectual Climate of the institute	0.82
Academic Rigor	0.82
Degree of Emphasis on Grades	0.81
Academic Performance of Fellow Students	0.82
Reputation of Professors	0.82
Reputation of Intended Majors	0.83
Academic Facilities and Equipment	0.82
To Prepare for Graduate or Professional School	0.83
Graduation Rate	0.83
Reputation of Institution	0.83
Interactions with Faculty	0.83
Social Life	0.80

Factor	Cronbach's α
Opportunity to Meet New Friends	0.73
Social Life with Fellow Students	0.74
School Traditions and Spirit	0.77
Clubs and Organizations Offered	0.77
Size of the Institution	**0.80**
Work and Study Interactions with Fellow Students	0.77
Career Aspects	0.69
Internship Opportunities	0.60
Job Placement After Graduation	0.53
To Earn More Money After Graduation	0.68
Honors	0.83
Institution Had an Honors College/Program	0.74
Institution Accepted Me into the Honors College/Program	0.78
Reputation of the Honors College/Program	**0.84**
Institution Had On-Campus Housing Specific to Honors Students	0.77
Inclusion	0.80
Reputation of Promoting Diversity	0.57
Diversity of Campus Population	0.68
Mental Health Resources Available on Campus	**0.87**
External Influences	0.62
Parents Attended School There	0.55
Your Friends Will Go to the Institution	0.54
Parents' Preference/Influences	0.59
Knew More about it than Other Schools	0.58
Teacher/Counselor Recommended It	0.58

Note. Unstandardized approach used; Bolded Cronbach's alpha values are values that when the item is removed, the scale reliability would increase.

Gender Differences

Item Differences

To compare gender differences, *t*-tests were conducted. Table 19 summarizes the Welch's *t*-test results by gender. Thirteen of the means were significantly different for

males and females at the $p = .05$ level. Moreover, the means were rank ordered for males and females to see how they compare in their mean responses to each item. The summary of these ranking differences is shown in Table 20.

Factor Score Differences

Factor scores were computed using the predict command in *Stata*. Table 21 outlines the scoring coefficients calculated for each item across the factors. These scoring coefficients were then used to create new variables based upon the weighted sum of responses where the weights are the scoring coefficients. To test the assumptions of a *t*-test, Levene's test was used to determine whether the groups had equal variances.

Table 22 summarizes the results of Levene's test by gender. For social life, career aspects, inclusion, and external influences, we cannot reject the null hypothesis that the variances are equal. However, for academics and honors, we can reject the null hypothesis at the $p = .05$ level. Therefore, a two-sample *t*-test may be used to determine whether the means are equivalent for gender on social life, career aspects, inclusion, and external factors. For the remaining two factors, academics and honors, Welch's *t*-test was used. Table 23 summarizes the results of the *t*-tests based on gender. The means are found to be statistically different based upon gender for academics, social life, honors, and inclusion at the .05 level. However, the means are not statistically significantly different for career aspects and external influences.

Table 19
Results of Item t-tests by Gender

Item	Males		Females		*t*	*df*	Hedges' *g*
	M	*SD*	*M*	*SD*			
Social life with fellow students	3.491	1.071	3.797	1.121	-1.906	91.314	-0.275
Reputation of professors	3.053	1.245	3.532	1.041	-2.674**	77.99	-0.440
Intellectual climate of institution	3.474	1.136	3.707	0.907	-1.439	76.032	-0.243
Reputation of institution	3.632	1.046	3.77	0.945	-0.91	81.892	-0.143
Reputation of the honors college/program	3.14	1.457	3.608	1.167	-2.246*	76.125	-0.379
Selectivity of the institution	2.298	1.195	2.176	1.081	0.704	81.971	0.111
Quality of course instruction	4.105	1.012	4.18	0.848	-0.514	78.095	-0.095
Interactions with faculty	3.526	1.269	3.847	1.000	-1.771	75.432	-0.302
Quality of library facilities	2.509	1.227	2.658	1.113	-0.833	82.161	-0.131
Work and study interactions with fellow students	3.105	1.160	3.446	1.119	-1.992*	85.732	-0.301
Overall physical facilities	3.316	1.105	3.464	1.091	-0.906	87.263	-0.135
Academic performance of fellow students	3.000	1.150	3.338	1.076	-2.005*	83.876	-0.309
Your friends will go to the institution	2.088	1.199	2.045	1.191	0.24	87.598	0.036
Degree of emphasis on grades	3.228	1.195	3.216	1.075	0.068	81.669	0.011
Academic rigor	3.386	1.146	3.685	0.922	-1.823	76.335	-0.307
Contacts by school made good impression	3.316	1.284	3.577	1.093	-1.408	78.88	-0.229
Size of the institution	3.351	1.110	3.577	1.003	-1.396	81.899	-0.220
Parents attended school there	1.544	0.927	1.419	0.984	0.896	92.355	0.128

Item	Males		Females		*t*	*df*	Hedges' *g*
	M	*SD*	*M*	*SD*			
Siblings attended school there	1.596	1.132	1.622	1.196	-0.148	92.036	-0.021
Parents' preference/influence	2.351	1.077	2.495	1.247	-0.874	99.627	-0.119
To earn more money after graduation	3.404	1.280	3.266	1.275	0.725	87.817	0.108
Close enough to home to commute daily	1.895	1.345	1.604	1.175	1.494	80.122	0.240
To prepare yourself for graduate or professional school	3.526	1.489	3.829	1.183	-1.423	75.797	-0.241
Geographic location of the school	3.649	1.157	3.788	0.982	-0.834	78.708	-0.136
Opportunity to meet new friends	3.719	1.114	3.973	1.006	-1.563	81.892	-0.246
Wanted to live away from home	3.105	1.410	3.405	3.218	-1.431	88.525	-0.211
Reputation of your intended major(s)	3.825	1.136	3.887	1.122	-0.373	87.243	-0.056
Cost of attendance	4.614	0.726	4.581	0.779	0.301	93.185	0.043
Knew more about it than other schools	3.491	1.182	3.405	1.183	0.489	88.142	0.072
Better financial assistance offered	4.614	0.701	4.401	0.959	1.887	117.98	0.233
Teacher/counselor recommended it	2.509	1.351	2.302	1.274	1.043	84.335	0.160
Institution had precollege program for high ability students	2.211	1.589	1.865	1.248	1.526	75.296	0.260
Institution had an honors college/program	3.246	1.379	3.811	1.161	-2.845**	78.338	-0.466
Institution accepted me into the honors college/program	3.333	1.300	3.923	1.210	-3.099**	83.575	-0.479
Institution had on-campus housing specific to honors students	2.825	1.490	2.986	1.390	-0.742	83.72	-0.114
Undergraduate research opportunities	2.614	1.292	2.883	1.323	-1.394	89.706	-0.204

Item	Males		Females		*t*	*df*	Hedges' *g*
	M	*SD*	*M*	*SD*			
Study abroad opportunities	3.351	1.458	3.932	1.251	-2.762**	79.265	-0.448
Internship opportunities	3.368	1.291	3.419	1.218	-0.267	84.406	-0.041
Job placement after graduation	3.807	1.093	3.815	1.100	-0.051	88.511	-0.008
Reputation of athletic programs	1.825	1.297	1.896	1.131	-0.382	80.027	-0.061
Opportunity to play sports	1.632	1.063	1.491	0.955	0.909	81.593	0.143
Likelihood to be accepted to the institution	3.281	1.320	3.532	1.243	-1.295	84.259	-0.199
Mental health resources available on campus	2.105	1.220	2.541	1.253	-2.389*	89.927	-0.348
Safety on campus	3.439	1.150	4.117	0.930	-4.123***	76.524	-0.692
Class sizes	3.491	1.071	3.500	1.010	-0.056	84.343	-0.009
Diversity of campus population	2.737	1.232	2.955	1.229	-1.193	87.852	-0.177
Reputation of promoting diversity	2.684	1.284	3.095	1.296	-2.147*	88.684	-0.316
School traditions/spirit	2.684	1.311	3.288	1.243	-3.135**	84.651	-0.479
Graduation rate	2.702	1.295	3.314	1.277	-2.283*	87.152	-0.341
Clubs and organizations offered	2.877	1.255	3.617	1.170	-4.026***	83.678	-0.621
Academic facilities and equipment (e.g., lab space)	3.386	1.250	3.437	1.098	-0.281	80.43	-0.045

Note. $N = 279$; Number of males = 57; number of females = 222

Table 20
Item Ranking by Gender

Item	Male Ranking	Female Ranking	Difference
Cost of attendance	1	1	0
Better financial assistance offered	2	2	0
Quality of course instruction	3	3	0
Reputation of your intended major(s)	4	8	-4
Job placement after graduation	5	11	-6
Opportunity to meet new friends	6	5	1
Geographic location of the school	7	14	-7
Reputation of institution	8	15	-7
Interactions with faculty	9	9	0
To prepare yourself for graduate or professional school	10	10	0
Social life with fellow students	11	13	-2
Knew more about it than other schools	12	29	-17
Class sizes	13	24	-11
Intellectual climate of institution	14	16	-2
Safety on campus	15	4	11
To earn more money after graduation	16	34	-18
Academic rigor	17	17	0
Academic facilities and equipment (e.g., lab space)	18	27	-9
Internship opportunities	19	28	-9
Size of the institution	20	20	0
Study abroad opportunities	21	6	15
Institution accepted me into the honors college/program	22	7	15
Overall physical facilities	23	25	-2
Contacts by school made good impression	24	21	3
Likelihood to be accepted to the institution	25	22	3
Institution had an honors college/program	26	12	14
Degree of emphasis on grades	27	35	-8
Reputation of the honors college/program	28	19	9
Work and study interactions with fellow students	29	26	3

Item	Male Ranking	Female Ranking	Difference
Wanted to live away from home	30	30	0
Reputation of professors	31	23	8
Academic performance of fellow students	32	31	1
Clubs and organizations offered	33	18	15
Institution had on-campus housing specific to honors students	34	37	-3
Diversity of campus population	35	38	-3
Graduation rate	36	32	4
Reputation of promoting diversity	37	36	1
School traditions/spirit	38	33	5
Undergraduate research opportunities	39	39	0
Quality of library facilities	40	40	0
Teacher/counselor recommended it	41	43	-2
Parents' preference/influence	42	42	0
Selectivity of the institution	43	44	-1
Institution had precollege program for high ability students	44	47	-3
Mental health resources available on campus	45	41	4
Your friends will go to the institution	46	45	1
Close enough to home to commute daily	47	49	-2
Reputation of athletic programs	48	46	2
Opportunity to play sports	49	50	-1
Siblings attended school there	50	48	2
Parents attended school there	51	51	0

Note. $N = 279$; Number of males = 57; number of females = 222. Difference is male ranking minus female ranking.

Table 21
Scoring Coefficients

Item	Academics	Social	Career Aspects	Honors	Inclusion	External Influences
Social Life with Fellow Students	0.061	0.279	-0.018	-0.032	0.035	-0.029
Reputation of Professors	0.128	0.013	0.070	-0.036	-0.005	-0.016
Intellectual Climate of the institute	0.221	-0.058	-0.122	0.021	-0.025	-0.020
Reputation of Institution	0.059	0.020	0.044	0.025	-0.008	0.004
Reputation of the Honors College/Program	0.083	0.035	0.044	0.273	-0.010	0.029
Interactions with Faculty	0.054	0.025	0.053	0.020	0.028	-0.046
Work and Study Interactions with Fellow Students	0.071	0.090	0.081	0.023	0.086	-0.007
Academic Performance of Fellow Students	0.099	0.016	-0.039	0.036	-0.002	0.040
Your Friends Will Go to the Institution	-0.017	-0.010	-0.010	-0.001	0.052	0.290
Degree of Emphasis on Grades	0.126	0.025	0.057	0.012	-0.019	0.067
Academic Rigor	0.191	-0.044	-0.050	0.026	0.039	-0.075
Size of the Institution	-0.027	0.068	0.003	0.017	-0.001	0.028
Parents Attended School There	0.007	0.007	0.027	0.009	-0.004	0.302
Parents' Preference/Influences	-0.001	0.008	0.012	0.019	-0.045	0.184
To Earn More Money After Graduation	0.010	-0.018	0.122	-0.002	0.002	0.042
To Prepare for Graduate or Professional School	0.069	-0.019	0.003	0.030	-0.005	-0.026
Opportunity to Meet New Friends	0.003	0.417	-0.064	-0.038	-0.056	0.054

Item	Academics	Social	Career Aspects	Honors	Inclusion	External Influences
Reputation of Intended Majors	0.101	0.020	0.049	-0.054	-0.014	0.002
Knew More about it than Other Schools	-0.001	0.017	-0.040	0.015	0.002	0.175
Teacher/Counselor Recommended It	0.007	0.032	0.075	-0.020	0.013	0.198
Institution Had an Honors College/Program	-0.016	0.006	-0.024	0.405	0.039	-0.036
Institution Accepted Me into the Honors College/Program	-0.024	-0.004	-0.025	0.241	-0.024	0.018
Institution Had On-Campus Housing Specific to Honors Students	0.013	0.045	0.000	0.117	-0.014	0.083
Internship Opportunities	-0.033	0.018	0.281	0.017	-0.025	-0.036
Job Placement After Graduation	0.060	0.027	0.374	-0.040	-0.024	-0.013
Mental Health Resources Available on Campus	0.033	0.043	0.057	-0.005	0.034	-0.031
Diversity of Campus Population	0.018	0.029	-0.026	-0.021	0.090	0.035
Reputation of Promoting Diversity	0.004	-0.034	0.044	0.040	0.848	-0.016
School Traditions and Spirit	-0.036	0.110	0.017	0.049	0.002	0.026
Graduation Rate	0.065	-0.003	0.079	-0.039	0.020	0.031
Clubs and Organizations Offered	-0.006	0.113	0.063	0.004	-0.001	-0.009
Academic Facilities and Equipment	0.108	0.020	0.067	-0.042	-0.023	0.040

Note. Obtained from the Predict command in *Stata*.

Table 22

Levene's Test of Equal Variance on Factors by Gender

Factor	W_0	*SD*		*p*
		Male	Female	
Academics	4.215	1.090	0.881	0.041
Social Life	0.576	0.979	0.910	0.449
Career Aspects	0.405	0.959	0.870	0.525
Honors	6.033	1.041	0.878	0.015
Inclusion	0.000	0.969	0.954	0.984
External Influences	0.162	0.809	0.831	0.688

Note. *df* = 1,277

Table 23

Results of Factor Score t-test by Gender

Factor	Males		Females		*t*	*df*	Hedges' *g*
	M	*SD*	*M*	*SD*			
Academics	-0.25	1.09	0.06	0.88	-1.99*	76.49	-0.33
Social Life	-0.28	0.98	0.07	0.91	-2.6**	277	-0.38
Career Aspects	-0.07	0.96	0.02	0.87	-0.70	277	-0.10
Honors	-0.36	1.04	0.09	0.88	-3.02**	78.43	-0.49
Inclusion	-0.26	0.97	0.07	0.95	-2.26*	277	-0.34
External Influences	0.07	0.81	-0.02	0.83	0.73	277	0.11

Note. *N* = 279; Welch's *t*-test used for academics and honors. *$p < .05$. **$p < .01$.

CHAPTER V: DISCUSSION

As universities are competing to attract more students from a shrinking population of students deciding to attend college (National Center for Education Statistics, 2017a, 2018), it is necessary for universities to efficiently direct their finite recruitment strategies to best interest students (Cook & Zallocco, 1983). Higher education institutions are no longer at a point where students just come; students must be actively recruited (Scott & Frana, 2008). To do this, professionals at institutions of higher education must understand their potential students and what they want. The primary purpose of the current project was to better understand which attributes of an institution are most important in the college-choice process of honors students. Additionally, the project compared the factors on the current instrument with results from previous research. This chapter will review representation of study participants, means of individual items, the factor structure of the college-choice process, as well as gender differences on various items and factors.

Study Participants

The sample included 279 complete responses and was relatively representative of the population of the Honors College X student body. Males responding to the survey represented a smaller proportion of the sample than in the population with 20% of respondents being male compared to 31.3% of the students in Honors College X being male. Though the majority of respondents were White (88.1%), the racial breakdown of the sample matched the actual demographics of the population well. The class standing (by credit hours) was also relatively well represented, though freshmen were underrepresented by approximately 4.74 percentage-points and seniors were overrepresented by approximately 4.88 percentage-points.

Item Analysis

Most Important Attributes in College Choice

As shown in Table 8, the items rated as most important were those related to financial costs associated with attending the institution. The most important item was cost of attendance (M = 4.59), closely followed by better financial assistance offered (M = 4.44). The next most important items included a mix of various attributes of an institution, including quality of course instruction (M = 4.16), safety on campus (M = 3.98), opportunity to meet new friends (M = 3.92), and reputation of intended major(s) (M = 3.87).

Several studies have found financial matters to be an important consideration in choosing a college in which to enroll. For example, studies by Canale et al. (1996) and U.S. Department of Education (2018) showed cost to be the factor with the fourth highest percentage of respondents ranking it as very important with 61% and 67%, respectively. This finding differs from the research of Douglas et al. (1983), which showed expense of institution to be the 13th most important item on a 6-point scale, ranking between important and somewhat important (M = 4.37). The finding for expense of the institution being ranked so lowly could be due to the increased cost of higher education since the study was conducted. For example, the average cost of attending a public institution has increased approximately 116.44% from the 1985-86 academic year to the 2016-17 academic year (National Center for Education Statistics, 2017b). However, the current study suggests that cost is very much an important factor for honors students. This finding lends support for the suggestion of Goodstein and Szarek (2013) that honors colleges/programs could use cost as a way of encouraging potential students to enroll.

That is, helping students understand that attending an honors college/program can still provide a quality and rigorous academic experience at a lower cost than more prestigious institutions.

The third most important aspect was quality of course instruction. Like financial considerations, academics is another common theme that students use when selecting an institution to attend. In the High School Longitudinal Study (NCES, 2018), 74% of students said academic quality/reputation was very important. In the current study, 59.85% of students rated academic rigor as either important or very important. The finding that quality of course instruction is a high priority for honors students matches the findings of Douglas et al. (1983) who found it to be the highest rated item.

In the current study, safety on campus had the fourth highest mean score. On the other hand, students in the Warwick and Mansfield (2003) rated security/safety as the eighth most important attribute. However, students in that study found the attribute more important than in the current study with a mean of 4.17 and 3.98, respectively.

The fifth most important attribute was opportunity to meet friends. This social component is found consistently throughout the literature. McClung and Stevenson (1988) noted that students exploring an honors education are not only interested in learning in the classroom, but they are also interested in the activities of outside of the classroom. They suggested that social and cultural activities are important to further cultivate community. While Cross et al. (2018) suggested that honors housing may provide a unique "social niche" (p. 244), the availability of having honors housing was not among the top attributes important when choosing an institution to attend in the current study (M = 2.95). This finding does not indicate that honors housing is

unimportant; however, it does suggest that honors housing may not be one of the top attributes attracting students to enroll in a particular institution. Like Rinn (2004) argued, further research needs to be conducted to determine the particular impact of honors housing on students and their social needs.

Least Important Attributes in College Choice

While it is important to understand the top attributes influencing a student's college choice, it is also important to know the least important attributes. The following six items each had a mean lower than two (slightly important): Parents attended school there (M = 1.44), opportunity to play sports (M = 1.52), siblings attended school there (M = 1.62), close enough to home to commute daily (M = 1.66), reputation of athletic programs (M = 1.88), and institution had precollege program for high ability students (M = 1.94). These findings align well with the findings from the High School Longitudinal Study (NCES, 2018). In that study, 62% of respondents who noted family legacy was not important at all, 37% responded opportunity to play sports was not at all important, and 27% said being close to home was not at all important. Wilson and Adelson (2012) also found that family legacy was not very important in their study of high school high-ability students with only 5.6% of participants indicating it was a main reason of interest for colleges in their choice set. While some students may find these attributes important, the low means indicate these topics may not be the most productive to initiate a conversation with a prospective student.

Honors Specific Attributes

Several items were included in this study to review some common attributes of honors education and the impact they have on college choice. The item with the highest

mean was study abroad opportunities (*M* = 3.81), the seventh highest overall. Moreover, 44.46% of participants responded that study abroad was either important or very important to their college choice. Among honors colleges in the United States, approximately 79.8% include honors specific study abroad opportunities (Scott et al., 2017). While these opportunities are relatively common for honors colleges, the fact that study abroad is ranked so high in the current study suggests that discussion of specific and unique study abroad experiences could be a helpful recruitment effort. Another explanation could be that the strong encouragement by faculty and staff of Honors College X has predisposed students to the notion of studying abroad. Additional research in which current high school students are surveyed can help determine whether the interest in study abroad is one initiated by the student or one cultivated by the honors institution.

The second most important honors-specific attribute was institution accepted me into the honors college/program (*M* = 3.81). There were 62.87% of students who noted this was either important or very important in their college choice. Though ranked slightly lower, institution had an honors college/program was relatively important to students (*M* = 3.70). Overall, 62% of students responded having an honors college/program was either important or very important for their college choice. Reputation of the honors college/program was ranked slightly lower (*M* = 3.51) with 56.63% of students indicating it was either important or very important to their college choice.

Internships and undergraduate research are also common components of an honors education. The National Collegiate Honors Council (2014b) reported that

approximately 61.6% of honors colleges in their sample included honors experiential education course offerings, and 58% required an honors thesis. Like study abroad, the majority of honors colleges include internships/experiential learning and undergraduate research opportunities for students. In the current study, participants responded the internship opportunities were moderately important (M = 3.41) and undergraduate research opportunities were between slightly and moderately important (M = 2.83) to their college choice. There were 52.69% and 34.05% who said internship opportunities and undergraduate research opportunities were important/very important to their college choice, respectively. The response regarding undergraduate research is also consistent with the findings of Wozniak (2011) who noted 32.9% of respondents in the study found research opportunities to be important in their college choice.

Factor Analysis

Many times, it is useful to understand the latent variables underlying a survey with multiple items. This analysis can help elucidate the various constructs being measured by the items on the survey. To do this, an exploratory factor analysis was conducted. The EFA found six underlying factors: social (M = 3.532), academics (M = 3.531), career aspects (M = 3.505), honors (M = 3.491), inclusion (M = 2.791), and external influences (M = 2.346).

The factor with the highest mean was social. This factor included items such as opportunity to meet new friends, social life with fellow students, and school traditions and spirit. These items all indicate an interest in relationships with fellow students across the institution. This factor is commonly found in the research as an important factor in college choice. Social was one of four factors found in the study by Douglas et al. (1983).

However, their study included social as the third highest mean and just under the important threshold on their 6-point scale. Similarly, Warwick and Mansfield (2003) found social to be one of the underlying factors in their study but social had the lowest mean of the five factors in the study for students (M = 3.71) and the fourth lowest mean for parents (M = 3.86). As social has the highest mean for factors in the present study, recruitment strategies may consider including more detailed information about how social aspects of the honors college are considered. Nora (2004) noted that students may have different social expectations for the institution in which they are considering. Moreover, "student perceptions of a personal and social fit with a college are more likely to lead to a commitment to an institution" (p. 199). Recruitment plans should include clear discussion about the social life of the honors college/program, including details about what social events are held, clubs offered, and how community is developed.

The factor with the second highest mean was academics. Items composing this factor included intellectual climate of the institution, academic rigor, and graduation rate. The mean for social and academics varied by 0.001. Like social, this factor is ubiquitous in the literature. Douglas et al. (1983) found academics to have the highest mean of the four factors out of a 6-points scale (M = 4.64). Similarly, Briggs (2006) identified a factor based upon reputation that included items such as teaching reputation and quality of faculty. This academic reputation factor was identified as the top factor among participants in their study. The functional factor outlined by Warwick and Mansfield (2003) contains similar elements of the academic factor, including the items academics, professors, and degrees. They found this factor to be the second most important factor for students (M = 4.30) and parents (M = 4.53).

From an academic standpoint, to recruit honors students it is important for the honors college/program to clearly communicate specific differences between a general education and honors education (National Collegiate Honors Council, 2013) as well as specific academic characteristics of honors colleges/programs (National Collegiate Honors Council, 2014a, 2014b) that are incorporated into the honors experience. Harte's (1994) notion that honors education should be qualitatively different rather than simply quantitatively different is something that should also be emphasized to ensure students understand that an honors education at the institution does not seek to add more work; rather, it seeks to create different learning experiences to match students' interest and ability.

The next factor, career aspects, was also relatively close in mean to the first two. This factor included the items internship opportunities, job placement after graduation, and to earn more money after graduation. This scale had the second lowest level of internal consistency ($\alpha = 0.69$), which is in the questionable range. Though items in this factor are existent in the literature, the factor as a whole was not as common as academic and social. For example, female students in the study conducted by Miller and Hurlock (2017) noted that jobs for graduates was the fifth most important attribute out of 45 items for their decision to attend the institution.

Honors was the factor with the next highest mean and was comparable to career aspects. This factor included items such as institution had an honors college/program and reputation of the honors college/program. Again, though some of the items in this factor have been considered in previous research, no studies were found in the literature review giving rise to honors as a factor itself. For example, Miller and Hurlock (2017) found

"honors program" (p. 53) to be ranked the 34th most important attribute in their study, and that students were more likely to disagree that the honors program influenced their decision in which institution to enroll than they were to agree (odds = 0.38), though it was slightly more important for STEM majors than non-STEM majors.

The finding by Miller and Hurlock (2017) is counter to the results of the current study. The mean of the honors factor (M = 3.491) indicated it is between moderately important and important in their college-choice decision. This could be inflated due to the fact that the sample was taken solely from students enrolled in an honors college, while the results from Miller and Hurlock did not restrict the sample to this population of students.

Inclusion was the next factor and was one of two factors to have a mean between the slightly important and moderately important range. This factor included the items reputation of promoting diversity, diversity of campus population, and mental health resources available on campus. As shown in Table 18, if the item relating to mental health were removed, it would increase the internal consistency by 0.07. However, since this item contributed a new attribute to the scale that was not included elsewhere on the survey and the overall internal consistency of the scale was acceptable, all three items were kept. Mental health and access to services is important to consider for students, including honors students. The relatively low importance of the inclusion factor supported the findings by Miller and Hurlock (2017). They found diversity on campus and student health program to be ranked quite low, and students were more likely to disagree that these attributes impacted their college choice with odds of 0.18 and 0.17,

respectively. Further research should be conducted reviewing whether the inclusion factor is more important for minorities than other students.

Lastly, the factor with the lowest mean was external influences. This factor included items such as parents attended school there, your friends will go to the institution, and teacher/counselor recommended it. This mean was closest to the slightly important range. Both Berger (2014) and Kerr (1991) argued that external influences may impact the college choice of honors students. They noted that their opinions may become conflicted and meshed with opinions of their family, friends, educators, and others in their life. Litten (1982) also suggested that counselors had an influence for high-ability students in their college-choice decisions. These arguments are not supported by the low mean on the external influences factor. Other studies also found low importance of family legacy. Only 9% of students in the High School Longitudinal Study (NCES, 2018) indicated that family legacy was important. Similarly, only 5.6% identified family legacy as the most important factor in choosing a college in the study by Wilson and Adelson (2012). Moreover, Douglas et al. (1983) reported low means for my friends will go to the institution (M = 2.82) and parents wanted me to attend (M = 2.66). Similarly, Hoyt and Brown (1999) found that external influences were less important than other factors.

Gender Differences

Gender differences on the various items and factors impacting college choice were also examined. Females had higher mean factor scores than males on each of the factors except external influences. However, the difference in means was only statistically significant for academics, social life, honors, and inclusion. These findings demonstrated some alignment with those of Joseph et al. (2005). For example, they noted

that females placed more emphasis on clean, spacious, and well-equipped classrooms; up-to-date computer labs; and offer a wide range of degrees. Each of these items would fall along the academic factor of the present study. Mansfield and Warwick (2006) summarized similar findings on their functional factor that relates most closely with the academic factor in the current study. Joseph et al. also indicated that males were more likely to seek advice from friends, which is related to the external influences scale. Joseph et al. did not, however, find significant differences for items similar to those on the social scale, and they did not include items related to the career aspects or honors factors.

Though the current study found significant differences in means between males and females for four of the factors, the effect sizes ranged between .10 and .49 (in absolute value). The highest effect size was honors, which would be considered a medium effect size (Cohen, 1988). Three of the effect sizes were between small and medium, namely academics, social life, and inclusion. The two lowest effect sizes were for career aspects and external influences, each of which were not found to have significantly different means for males and females. Therefore, though significant differences are found on four of the factors, they may not be large enough to suggest major differences in recruitment strategies for male and female prospective students.

To further analyze gender differences, individual items were analyzed. Table 19 summarized the *t*-test results of item means by gender. The means were significantly different for 13 of the items, each of which females had a higher mean than males. This included items reputation of professors, reputation of the honors college/program, work and study interactions, mental health resources available on campus, safety on campus,

and so on. The effect sizes ranged between 0.008 and 0.692 (in absolute value). Table 20 highlighted the difference in ranks of the means on each item between males and females. The rankings were the same for males and females for 12 of the items, including the items with the top three means: cost of attendance, better financial assistance offered, and quality of course instruction. The other items, though having the same mean ranking, were ranked ninth and below. Nineteen of the items were ranked higher for females (e.g., opportunity to meet new friends, school traditions/spirit, and study abroad opportunities). The remaining 20 items were ranked higher by males than females (e.g., opportunity to play sports, reputation of your intended major, and class sizes).

While the current study shows males and females having similar mean responses on cost of attendance and amount of financial assistance offered, the study by Mansfield and Warwick (2006) reported financial aid was more important for females than males with a mean of 4.55 and 4.14, respectively. However, other studies have found items related to cost and financial assistance to have relatively equal importance for males and females (Broekemier & Seshadri, 2000; Wilson & Adelson, 2012). Therefore, since these items tend to be high for both males and females, cost does not constitute a varied recruitment plan based on gender.

The current study indicated that females found safety on campus to be more important in their college choice than did males. This finding is consistent with several other studies (Broekemier & Seshadri, 2000; Mansfield & Warwick, 2006; Noldon & Sedlacek, 1998). Moreover, safety on campus had the highest effect size of any item ($|g| = 0.692$). As this finding is consistent throughout the literature, discussing the safety of campus may be beneficial when trying to convince female students to enroll in the

institution. However, it should be noted that many males find safety to be important as well. While 78.82% of females responded that safety on campus was either important or very important, 47.56% of males did.

Females also had higher means on several of the items that loaded onto the social factor, which aligns with the finding of significantly higher means on the social factor for females than males. For example, females responded that clubs and organizations offered ($|g| = .621$), school traditions/spirit ($|g| = .479$), as well as work and study interactions with fellow students ($|g| = .301$). Mansfield and Warwick (2006) had similar findings with females ranking higher on five of the social items. In that study, males only ranked higher on two social items, namely, athletics and prospects for marriage. Other studies have found the opposite with males responding higher on many of the social items (Briggs, 2006; Broekemier & Seshadri, 2000; Joseph et al., 2005). Two of the effect sizes for the items are between small and medium and one is between medium and large. This suggests it may be beneficial to highlight these items more with prospective female students.

Limitations and Future Work

As in any study, there are limitations to the research process. One limitation for the current study is the possibility of "reinforcement bias" (Cook & Zallocco, 1983, p. 201) being introduced to the results. That is, this study surveyed current students who are already enrolled in the honors college at the specific institution. Thus, these data would best be interpreted through the lens of a particular institution. Further studies would need to be conducted at different institutions to attempt to make generalizations about honors students in general. The results can further be strengthened by administering the survey to

current high school students to help alleviate the threat of reinforcement bias.

The current study, like many other studies in the field, is based on a single case analysis. A challenging problem in research, specifically research in higher education, is many times findings are not replicated (Pascarella, 2006). This study needs to be replicated in a different environment to determine to what degree the factor structure holds and how item-rankings align with the findings from this study. Responses from a different honors college should be collected and subjected to a confirmatory factor analysis. This will help in understanding the strength of the college choice factor model presented here. Additionally, the survey should be administered to students in honors programs to determine whether there are significant differences in the factor structure for these students. In both honors programs and honors colleges, it would be interesting to review factor scores of the students based on additional demographic factors to determine similarities across institutions. Race is of particular interest. As the National Collegiate Honors Council (2019) outlined, minority students tend to be underrepresented in honors colleges across the United States. Information about what these minority students consider most in choosing an institution to attend can help institutions modify their recruitment strategies to enroll more minority students.

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Appendix A

IRB Approval Letter

INSTITUTIONAL REVIEW BOARD
OFFICE OF RESEARCH INTEGRITY

DATE:	April 1, 2020
TO:	Thomas Tyler Clark, MS
FROM:	Western Kentucky University (WKU) IRB
PROJECT TITLE:	[1586887-1] College Choice Decisions: An Analysis of University Honors Students
REFERENCE #:	IRB 20-258
SUBMISSION TYPE:	New Project
ACTION:	APPROVED
APPROVAL DATE:	April 1, 2020
REVIEW TYPE:	Exempt Review

Thank you for your submission of New Project materials for this project. The Western Kentucky University (WKU) IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Exempt Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by an *implied* consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the consent document.

Please note that any revision to previously approved materials must be approved by this office prior to initiation. Please use the appropriate revision forms for this procedure.

All UNANTICIPATED PROBLEMS involving risks to subjects or others and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

This project has been determined to be a MINIMAL RISK project.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

If you have any questions, please contact Robin Pyles at (270) 745-3360 or irb@wku.edu. Please include your project title and reference number in all correspondence with this committee.

Appendix B

Implied Consent

IMPLIED CONSENT DOCUMENT

Project Title: College Choice Decisions: An Analysis of University Honors Students
Investigator: Thomas Tyler Clark (Western Kentucky University Doctoral Candidate)
Thomas.clark@wku.edu

You are being asked to participate in a project conducted through Western Kentucky University. The University requires that you give your agreement to participate in this project.

You must be 18 years old or older and a student in good standing in the Mahurin Honors College to participate in this research study.

A basic explanation of the project is written below. Please read this explanation and discuss with the researcher any questions you may have. If you then decide to participate in the project, please continue to the online survey. You should keep a copy of this form for your records.

1. **Nature and Purpose of the Project:** The purpose of this project is to better understand the college choice process of students in the Mahurin Honors College. Specifically, the study will examine the importance of various aspects important to students when selecting a college.

2. **Explanation of Procedures:** Students will be asked to complete an online survey that will take 10 to 15 minutes to complete.

3. **Discomfort and Risks:** There are no known discomforts or risks. Participants can discontinue taking the survey at any time if they experience discomfort.

4. **Benefits:** The survey will help understand the college choice process as experienced by honors students. At the completion of the survey, participants will have the option to be entered into a drawing for one of twenty-five Amazon gift cards valued at $25 each.

5. **Confidentiality:** Data collection will not include names or other identifying information. Students will have the opportunity to be included in a drawing for an Amazon gift card; however, the emails of those students will be stored in a separate survey and will not be connected to the student responses on the survey of college choice items. Records will be viewed, stored, and maintained in private, secure files only accessible by the P.I. for three years following the study.

6. **Refusal/Withdrawal:** Refusal to participate in this study will have no effect on any future services you may be entitled to from the University. Anyone who agrees to participate in this study is free to withdraw from the study at any time with no penalty.

You understand also that it is not possible to identify all potential risks in an experimental procedure, and you believe that reasonable safeguards have been taken to minimize both the known and potential but unknown risks.

Your continued cooperation with the following research implies your consent.

THE DATED APPROVAL ON THIS CONSENT FORM INDICATES THAT
THIS PROJECT HAS BEEN REVIEWED AND APPROVED BY
THE WESTERN KENTUCKY UNIVERSITY INSTITUTIONAL REVIEW BOARD
Robin Pyles, Human Protections Administrator
TELEPHONE: (270) 745-3360

Appendix C

Expert Review

The purpose of this survey is to analyze reasons for students' choice to attend a particular institution. Students will be asked to respond to the following statements indicating the degree of importance of each item when choosing to attend a particular institution. Using your knowledge of recruitment and university honors students, please respond to how relevant you believe each item below is for the purposes of the survey. After rating the items based on relevancy, you will have the opportunity to suggest additional items you think should be considered for the survey or recommended changes to wording of existing items. Your responses will remain anonymous. If you have any questions, please contact thomas.clark@wku.edu.

1. Social life with fellow students
2. Reputation of professors
3. Intellectual stimulation provided by training
4. Intellectual climate
5. Reputation of institution
6. Quality of course instruction
7. Opportunity for student/faculty discourse in courses
8. Expense of the institution
9. Library facilities
10. The voice you have in influencing policies and procedures affecting students
11. Freedom in choosing course work

12. Work and study interactions with fellow students

13. Overall physical facilities

14. Opportunity for independent thought and action in education program

15. Academic performance of fellow students

16. Your friends will go to the institution

17. Degree of emphasis on grades

18. Amount of required work in courses

19. Contacts by school made good impression

20. Size of the institution

21. Social interaction with your professors

22. Parents attended school there

23. Siblings attended school there

24. Parents felt it was the best choice

25. To earn more money

26. Wanted to commute daily

27. To prepare yourself for graduate or professional school

28. Wanted to go to school in that geographic area

29. To meet new friends

30. Wanted to live away from home

31. Had superior programs in your intended major(s)

32. Tuition costs were less

33. Knew more about it than other schools

34. Better financial assistance offered

35. Teacher/counselor recommended it

36. Institution had precollege program for high ability students

37. Institution had an honors college/program

38. Institution accepted me into the honors college/program

39. Institution had on-campus housing specific to honors students

40. Undergraduate research opportunities

41. Study abroad opportunities

42. Internship opportunities

43. Job placement after graduation

44. Institution had reputable athletic teams

45. Opportunity to play sports

46. You were likely to be accepted to the institution

47. Mental health resources available on campus

48. The campus is safe

49. Small class sizes

50. Interdisciplinary course content

51. Seminar-style teaching methods

52. Diversity of campus population

53. The institution promotes diversity

54. School traditions/Spirit

55. Graduation rate

56. Clubs and organizations offered

57. Academic facilities and equipment

Appendix D

Survey

Directions: The list below contains some aspects students may consider when selecting a college or university to attend. Please indicate the level of importance each aspect was to you when you were selecting which college or university to attend.

1 = Not Important

2 = Slightly Important

3 = Moderately Important

4 = Important

5 = Very Important

1. Social life with fellow students
2. Reputation of professors
3. Intellectual climate of institution
4. Reputation of institution
5. Reputation of the honors college/program
6. Selectivity of the institution
7. Quality of course instruction
8. Interactions with faculty
9. Quality of library facilities
10. Work and study interactions with fellow students
11. Overall physical facilities
12. Academic performance of fellow students
13. Your friends will go to the institution
14. Degree of emphasis on grades
15. Academic rigor

16. Contacts by school made good impression

17. Size of the institution

18. Parents attended school there

19. Siblings attended school there

20. Parents' preference/influence

21. To earn more money after graduation

22. Close enough to home to commute daily

23. To prepare yourself for graduate or professional school

24. Geographic location of the school

25. Opportunity to meet new friends

26. Wanted to live away from home

27. Reputation of your intended major(s)

28. Cost of attendance

29. Knew more about it than other schools

30. Better financial assistance offered

31. Teacher/counselor recommended it

32. Institution had precollege program for high ability students

33. Institution had an honors college/program

34. Institution accepted me into the honors college/program

35. Institution had on-campus housing specific to honors students

36. Undergraduate research opportunities

37. Study abroad opportunities

38. Internship opportunities

39. Job placement after graduation

40. Reputation of athletic programs

41. Opportunity to play sports

42. Likelihood to be accepted to the institution

43. Mental health resources available on campus

44. Safety on campus

45. Class sizes

46. Diversity of campus population

47. Reputation of promoting diversity

48. School traditions/spirit

49. Graduation rate

50. Clubs and organizations offered

51. Academic facilities and equipment (e.g., lab space)