

Factors that Influence a College Student's Choice of an Academic Major and Minor

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ABSTRACT

This study examines factors influencing the decision of an academic major and/or minor by undergraduate students at a private university location in Central Texas. A total of 386 students taking courses in the university's College of Business were surveyed. Participants were asked to provide the top five factors influencing their choice in an academic major and minor. The survey also collected information on when the decision of an academic field was determined and how frequently it had changed. Additional factors collected included Demographic variants and Class Standing (i.e. freshman, sophomore, junior, or senior).

1. INTRODUCTION

Every year millions of young high school graduates enter college. It's an exciting time for them. For many of these young adults, it is the first time living away from their parents. For others, they are the first generation in their family to attend college. Among all this excitement is the daunting decision of an academic major. Undergraduate students face the challenge of deciding an academic major that may well decide their working career for the next 40+ years. This is one of the most important decisions a college student must make. College advisors and other staff want to assist these students in making a wise decision that fits their unique interests and needs. Some universities even schedule a meeting between the incoming freshman and a college advisor, recruiter, or professor to discuss possible majors and minors most suitable for the student. The purpose of this study is to determine the main factors that currently influence a college student's choice of an academic major and minor.

Knowing the main factors that influence how undergraduate college students choose an academic major or minor can help colleges and universities plan their degree offerings and assist college advisors to understand how students make this life-changing

decision. This information can also help high school counselors, college administrators, college advisors, professors, and parents to guide the young student toward the right decision for their personality, goals, and talents, as well as reduce the number of times students change their academic major or minor.

Most students do not receive a great deal of assistance or advice in their decision of an academic major or minor. This might explain why the majority of college students change their major or minor at least once during their college years. Some students even change their major three or four times. Changing an academic major or minor can add an entire semester or more to the student's total time in college because it requires a change in degree plans. A change of major or minor also requires the student to take different courses and may make some of the courses already completed obsolete in their new degree plan. Besides additional time in college and delayed graduation, a change of major incurs additional cost for tuition, textbooks, and fees.

The objective of this study was to identify the most influential factors affecting college students' choice of an academic major or minor. Secondary objectives included assessing what time this decision was made and the number of times it was changed. Reasons for the change of major and measuring the difficulty of deciding an academic field were assessed qualitatively.

2. LITERATURE REVIEW

Surprisingly, there is relatively little research on the factors that influence a college student's choice of an academic major or minor. Each year approximately 70% of high school graduates enroll in college courses (BLS). It is an exciting time for these 2.2 million college freshmen, but they do face the challenge of choosing an academic major and minor. Prior research suggests 20% to 50% of incoming college freshmen do not have a declared academic major when they start college and about 75% of college students change their major at least once during their college years (Freedman, 2013).

Another research study showed that college students who select an academic major matching their personal interests are more likely to finish their degree plan on time. (Sheehy, 2013). However, the same study concludes that most high school graduates are not choosing academic majors that matches their interests or skills. In fact, the study showed that only 36% of students who chose a college major while still in high school selected a major that fit their personal interests well (Sheehy, 2013). This study recommends students wait until college to choose an academic major and take some elective courses to find an academic field that interests them.

A study conducted by Liz Freedman of Butler University suggests that all students are likely unprepared at the time of college entry to choose an academic major and minor (Freedman, 2013). Accordingly, colleges and universities have implemented a vast array of resources for assisting students who are undecided on an academic major and minor. The Freedman study further suggests that higher education institutions should push the

decision of a major and minor until a student's sophomore year when the young adult is more prepared to make a wise choice that will affect their entire career path.

Another study by The College Board recommends college students take courses that appeal to their personal interests and then seriously think about which courses motivate them the most (College Board). This study suggests college students explore different courses and take some risk in their course choices. By doing so, a course a student never planned to take could end up helping them to decide a major or minor.

A study by Cecilia Capuzzi Simon explains there are currently over 1,500 different academic majors in the United States and the number of majors is growing (Simon, 2012). It points out that roughly 24% of the current academic majors were just added over the past 10 years including homeland security and cyberforensics. This trend to increase the number of possible majors and minors makes the decision even harder. Further, the study points out that many college students are choosing a double-major or a major/minor combination to give themselves an advantage in the uncertain job market.

3. METHODS

A survey was administered to undergraduate students at a private university in central Texas during the 2015–2017 academic years. A total of 386 undergraduate students taking courses in the university's College of Business took the survey. A copy of the survey is at the Appendix.

Survey Design

The first few questions of the survey gathered data on the student's demographics including class rank (freshman, sophomore, junior, or senior), gender, and age. The survey then asked each student to list their current major(s) and minor(s). Students were asked to list the leading five factors that influenced their choice of an academic major in order of their importance. Each student was asked when they decided their current major and minor, with answers varying from before high school to still undecided. They were also asked if they changed their major or minor. If they did change their major/minor, the student was asked how many times they changed their major/minor and to explain why.

Each student was asked to indicate (on a scale of 1 – Not Important to 5 – Very Important) how important 24 variables were in their decision of a major. These variables were divided into four major categories titled 'career values', 'career field', 'life values', and 'influential factors'. The 'career values' included variables like job security, challenging career, family/work balance, and a successful career. The 'career field' variables included a flexible work schedule, career advancement, and job availability. The variables under the 'life values' category included income, personal goals, and being able to purchase goods in demand. Finally, the 'influential factors' included the job market, prior work experience, and the reputation of the major/minor area of study.

The survey also asked each student how difficult (on a scale of 1 – Not Difficult to 5 – Very Difficult) it was to choose an academic major/minor and why. The survey ended with an open-ended question that allowed the student to write any additional comments or information on the topic of choosing a major and minor.

Analysis Plan

Descriptive analyses included frequencies (percentages) and means (standard deviations, ranges) of demographic and academic-related data. Chi-square analyses was used to assess relationships between categorical variables. All analyses were conducted in R v3.2.3 (R Foundation for Statistical Computing; Vienna, Austria), assuming a Type I error of 0.05 throughout.

4. RESULTS

Of the 386 total participants taking courses in the university’s College of Business, 307 (79.5%) students had a business-related major and 79 (20.5%) students did not have a business-related major. Demographics for these 386 participants are shown in Table 1. Class standing appeared to be similarly represented among survey participants, ranging from 22.3% for junior rank students, 25.1% each for sophomores and seniors, and up to 27.5% for freshman students.

Table 1. Demographics for the Survey Participants

Characteristic	Survey Participants (N=386)
Age	
<i>Mean (SD)</i>	21.0 (3.8)
<i>Median (Min, Max)</i>	20.0 (18, 50)
Gender	N (%)
Female	140 (36.3)
Male	246 (63.7)
Classification	N (%)
Freshman	106 (27.5)
Sophomore	97 (25.1)
Junior	86 (22.3)
Senior	97 (25.1)

Academic Major/Minor

Table 2 shows the declared majors of the survey participants. The university’s College of Business has the following 10 majors: Accounting, Business Computer Information Systems (BCIS), Business Administration, Economics, Entrepreneurship, Finance, International Business, Management, Marketing, and Multimedia Information Technology (MMIT). A total of 327 students (84.7%) did not have a second major.

Table 2. Academic Majors of Survey Participants

Academic Field	First Major N (%)	Second Major N (%)
Accounting	34 (8.8)	3 (0.8)
BCIS	7 (1.8)	1 (0.3)
Business Administration	10 (2.6)	3 (0.8)
Economics	17 (4.4)	5 (1.3)
Entrepreneurship	1 (0.3)	0 (0.0)
Finance	23 (6.0)	8 (2.1)
International Business	23 (6.0)	10 (2.6)
Management	77 (19.9)	5 (1.3)
Marketing	84 (21.8)	7 (1.8)
MMIT	16 (4.1)	4 (1.0)
Other	94 (24.4)	13 (3.4)
No Second Major	----	327 (84.7)

Table 3 displays the academic minors of the survey participants. The university's College of Business offers eight minors: Accounting, Business Administration, Economics, Finance, International Business, Management, Marketing, and Multimedia Information Technology (MMIT). Approximately 40 percent of the participants (153 students; 39.6%) had a first minor. Only 12 (3.1%) students had a second minor.

Table 3. Academic Minors of Survey Participants

Academic Field	First Minor N (%)	Second Minor N (%)
Accounting	6 (1.6)	3 (0.8)
Business Administration	22 (5.7)	0 (0.0)
Economics	31 (8.0)	0 (0.0)
Finance	4 (1.0)	2 (0.5)
International Business	9 (2.3)	2 (0.5)
Management	15 (3.9)	0 (0.0)
Marketing	11 (2.8)	0 (0.0)
MMIT	8 (2.1)	0 (0.0)
Other	47 (12.2)	5 (1.3)
Total	153 (39.6)	12 (3.1)
No Minor	233 (60.4)	374 (96.9)

Factors Influencing Academic Major/Minor

Each participant was asked to list the Top 5 factors that influenced their choice of major/minor. Table 4 shows the results of this inquiry. The leading factors that influenced participants' choice of an academic major/minor were: Personal Interest (35.0%), Parents (18.9%), Potential for Success (10.1%), Potential Income (9.1%), and Prior Work Experience (5.2%). Personal interest was the leading #1 and #2 factors among survey respondents, followed by Potential Income and Potential for Success. Own Reading surpassed Personal Interest for Factors listed after #2. While Parents was the second most common #1 factor, it did not seem as influential thereafter. Potential

Income appeared more often as a secondary factor influencing the choice of major/minor. Collectively among all factors, Personal Interest was most common, following by Potential Income and then the influence of Parents.

Table 4. Factors Influencing Decision of Academic Major and Minor

Factors	Factor #1 N = 386 N (%)	Factor #2 N = 386N (%)	Factor #3 N = 386 N (%)	Factor #4 N = 386 N (%)	Factor #5 N = 386 N (%)	Combined N = 1930 N (%)
Mother/Father	73 (18.9)²	38 (9.8)	43 (11.1)	33 (8.5)	28 (7.3)	215 (11.1)³
Siblings	5 (1.3)	4 (1.0)	10 (2.6)	9 (2.3)	7 (1.8)	35 (1.8)
Other Relative	7 (1.8)	12 (3.1)	6 (1.6)	8 (2.1)	14 (3.6)	47 (2.4)
High School Experience	8 (2.1)	12 (3.1)	14 (3.6)	14 (3.6)	18 (4.7)	66 (3.4)
Person in Field	7 (1.8)	0 (0.0)	19 (4.9)	26 (6.7)	17 (4.4)	69 (3.6)
Potential Income	35 (9.1)	57 (14.8)³	61 (15.8)¹	51 (13.2)²	31 (8.0)³	235 (12.2)²
Teacher/Professor	15 (3.9)	15 (3.9)	19 (4.9)	26 (6.7)	15 (3.9)	90 (4.7)
College Advisor	6 (1.6)	10 (2.6)	13 (3.4)	25 (6.5)	14 (3.6)	68 (3.5)
High School Counselor	0 (0.0)	0 (0.0)	1 (0.3)	1 (0.3)	2 (0.5)	4 (0.2)
Prior Work Experience	20 (5.2)	12 (3.1)	18 (4.7)	12 (3.1)	14 (3.6)	76 (3.9)
Own Reading	15 (3.9)	34 (8.8)	41 (10.6)	24 (6.2)	36 (9.3)²	150 (7.8)
Personal Interest	135 (35.0)¹	82 (21.2)¹	46 (11.9)³	34 (8.8)³	4 (1.0)	301 (15.6)¹
Friends	3 (0.8)	9 (2.3)	5 (1.3)	23 (6.0)	21 (5.4)	61 (3.2)
Potential for Success	39 (10.1)³	62 (16.1)²	49 (12.7)²	26 (6.7)	25 (6.5)	201 (10.4)
Advertising	0 (0.0)	2 (0.5)	2 (0.5)	4 (1.0)	10 (2.6)	18 (0.9)
Job Fair/Career Fair	0 (0.0)	4 (1.0)	3 (0.7)	1 (0.3)	8 (2.0)	16 (0.8)
Coach	1 (0.3)	4 (1.0)	5 (1.3)	4 (1.0)	6 (1.6)	20 (1)
Other	17 (4.4)	23 (6.0)	6 (1.6)	4 (1.0)	2 (0.5)	52 (2.7)
Unanswered	----	6 (1.6)	25 (6.5)	61 (15.8)¹	114 (29.5)¹	206 (10.7)

¹ Leading factor within Top Factor; ² Second most common factor; ³ Third most common factor.

To assess variations in factors influencing the decision of an academic field across business majors, the leading #1 factors for each major was determined. Table 5 shows the main (Top 3) #1 factors influencing each business major.

Table 5. Top Factors by Major

Major*	Factor #1 (%)	Factor #2 (%)	Factor #3 (%)
Accounting	Personal Interest (26.5%)	Parents (17.6%)	Teacher/Professor (11.8%)
BCIS	Personal Interest (28.6%)	Parents (28.6%)	Potential Income (28.6%)
Bus Admin	Personal Interest (40.0%)	Parents (30.0%)	Potential Income (20.0%)
Economics	Personal Interest (29.4%)	Own Research (17.6%)	Potential Income, High School experience, and Potential Success (11.8%)
Finance	Potential Success (30.4%)	Parents (26.1%)	Potential Income (21.7%)
Int'l Business	Personal Interest (47.8%)	Parents (13.0%)	Potential Income (13.0%)
Management	Parents (24.7%)	Personal Interest (20.8%)	Potential Success (18.2%)
Marketing	Personal Interest (41.72%)	Parents (15.5%)	Potential Income (7.1%)
MMIT	Personal Interest (37.5%)	Parents (25.0%)	Potential Success and Teacher/Professor (12.5%)

*Entrepreneurship was excluded due to small sample size.

The leading factor for seven out of the nine (77.8%) business majors was personal interest. However, the leading factor for the Finance major was the potential for success and the leading factor for the Management major was the parents' influence.

The second most important factor was parents' influence for seven of the nine (77.8%) majors. However, the second factor for Economics was the student's own research and for Management majors, it was personal interest.

The third most important factor in choosing a major was the potential income for six of the nine (66.7%) majors. The third factor for Accounting was teacher/professor influence. For Management majors it was the potential for success, while MMIT majors had both teacher/professor influence and the potential for success equally represented as a third factor. Economic majors had three factors equally likely for the third leading factor, including potential for success, high school experience, and the potential income.

Timing and Number of Changes in Academic Major/Minor

Of the 386 students, about one-third (144; 37.3%) decided their major prior to their freshman year of college, which means approximately two-thirds (242; 62.7%) of the students started their freshman year without deciding on a major.

Table 6. When did Students choose their Major/Minor?

Time Period	Decided Major N (%)	Decided Minor N (%)
Before High School	5 (1.3)	0 (0.0)
In High School	80 (20.7)	15 (3.9)
Between HS & College	59 (15.3)	12 (3.1)
Freshman Year	110 (28.5)	53 (13.7)
Sophomore Year	96 (24.9)	54 (14.0)
Junior Year	25 (6.5)	30 (7.8)
Senior Year	5 (1.3)	4 (1.0)
After College	1 (0.3)	0 (0.0)
Undecided	5 (1.3)	86 (22.3)
Total	386 (100)	254 (65.8)
Changed Major / Minor		
Yes	199 (51.6)	67 (23.7)
No	187 (48.4)	216 (76.3)

As would be expected, the vast majority of students (107 out of 254; 42.1%) decided on a minor in their freshman and sophomore years. A total of 132 students (34%) did not have a minor. Most business degree plans do not require a minor.

Another interesting observation from Table 6 is that 51.6% of the participants changed their major at least once. Only 23.7% of students changed their academic minor. A more detailed analysis of the data shows that 67% of students who changed their major only changed it once. However, 19% of students who changed their major did so twice.

About 11% of the students who changed their major did so three times. There were even students who changed their major five, six, and seven times.

We also asked the students who changed their major to explain why they made that decision. The number 1 reason (N=39; 19.5%) a student changed their major was that they lost interest in their first major. The second reason (N=27; 13.6%) was the influence of a college course they took. The third reason (N=14; 7%) was a change in their personal interests and the fourth reason (N=12; 6%) to change their major was the potential job market.

We also asked the students how difficult it was to choose a major on a scale from 1 (not difficult) to 5 (very difficult). The average score was 3.07 and the standard deviation was 1.31. So it doesn't appear that the decision of a major is too difficult or too easy.

The last section in the survey asked each student to indicate (on a scale of 1 to 5) how important 24 variables were in their decision of a major. These variables were divided into four major categories titled 'career values', 'career field', 'life values', and 'influential factors'. The most important 'career value' was a successful career. The most important 'career field' factor was job availability. The most important 'life value' was the ability to set personal goals. Finally, the most important 'influential factor' was interacting with co-workers.

The last question allowed each student to write anything they wanted to add about choosing their major and minor. Here are some of the more interesting comments:

- A person should do what they enjoy and love to do.
- I enjoy the courses in my major.
- My major was easy to decide but my minor was hard.
- My grandma said if I am going to be bossy, I might as well get paid for it.
- I really enjoy my major.
- I worry that my lack of experience will hurt me in the job market.
- I respect my parents' advice.
- My major fits my personality and skills.
- My professor influenced my choice of major.
- I've always heard there are a lot of jobs in business.

8. RECOMMENDATIONS

A major finding of this two-year study is the Top 3 factors that influence a college student's decision of an academic major are personal interest, their parents, and potential income. However, when the data was broken down by major, it was discovered that a few majors had different results. For example, for Economics majors the second most common factor was the student's own research. So, it is recommended that students who are interested in an Economics major be encouraged to conduct their own research about this academic field. An advisor or professor could even provide some useful research sources to the student.

Also, the top factor for Finance majors was the potential for a successful career. It is recommended that Finance professors educate students about the path to a successful career in the Finance field. Perhaps sharing some specific examples of success or having successful alumni talk to current students would be helpful.

Another major with different factors than the majority was Management. The top factor for Management majors was their parents. It is recommended that professors and advisors in the Management field focus on speaking with the student's parents to ensure the parents have a good understanding of this major's degree plan and path to success.

A finding of this study is that 63% of incoming college freshmen have not decided on an academic major. Therefore, it is recommended that university administrators, advisors, and professors focus on freshman with an undecided or undeclared major. These students need to be advised on how to find a major that fits their personal interests. There are a number of tests that help undecided college students decide on a major based on their answers to questions. It is recommended that colleges have students with an undeclared major to take one of these tests during their freshman year.

Another finding of this study is that 52% of students changed their major at least once. Also, the number one reason for changing their major was that they lost interest in their first major. So it is recommended that professors and advisors attempt to keep the students interested in their first major. Some ways to accomplish this is to periodically talk about different career paths in the major and share success stories in the major with the students. Another helpful strategy is to link the lessons to the real world. Students need to know how the lessons in their major links to the real world after college.

The second most common reason for changing majors is the influence of a course the students took. This is an opportunity for professors who offer an introduction or principle course which attracts many non-majors to attract new students into their major. It is recommended the professors add a lesson about their academic major in the introduction or principles course. For example, a principles of economics course should have at least one lesson about the Economics major that explains the different career paths and what a successful career in economics looks like. The lessons should also give examples of successful people in the field. It might even be useful to invite successful alumni to talk to the class about their decision of a major and their career path.

9. FUTURE RESEARCH

Since the most influential factor in choosing a major in this study was the student's personal interest in a field of study, future research should try to divide the category of "personal interest" into some subcategories to better understand exactly what this means.

The influence of the student's parents was the second most influential factor in choosing a major, so future research should try to determine if the father or mother is more influential. It could be that each parent is equally influential, but it would be interesting to determine if one parent was more influential than the other parent.

The third influential factor was the potential for success, so future research would want to define how students measure "success" in their career. It might mean achieving career goals, job advancement, or achieving a high level of income.

This study asked each student when they chose their current major. For those students who changed their major, it would be interesting to determine when they chose their first major, second major, and subsequent majors.

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