



**Assessment of Core Courses and Factors that
Influence the Choice of a Major:
A “Major” Bias?**

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ABSTRACT

The authors of this paper conducted a survey to assess the influence of undergraduate students' specialization within the business major on how they evaluated their satisfaction with; interest in; and usefulness of the core course in their area of specialization. The results of this study indicate that students evaluate courses in their major area as being more interesting, useful, and satisfying than other business core courses.

Also investigated by the authors were environmental factors influencing students' choice of a specialization within the business major. Differences were found between students that are associated with which specialization they chose.

The authors conclude that, when analyzing current and former students' evaluation of the business core courses they took in order to determine if they appropriately contribute to the business program, it is important that what they specialized in be taken into account.

INTRODUCTION

Many departments, colleges, and universities conduct surveys of their alumni to assess how different sets of courses are rated (e.g., general elective courses, required business courses). Alumni are often asked questions designed to determine how satisfied they were with the core courses they took and whether, in hindsight, the courses were useful and increased the likelihood they would be successful in their careers. More often than not, such data obtained from alumni is reported in aggregate form and discussed by faculty and administrators as they consider modifications to a program's required set of courses. In short, post hoc assessments of a course's value are often used for program improvement.

A safe assumption is that students select majors based upon on interest in the subject matter of that major (e.g., Malgwi, Howe, and Burnaby, 2005). It would also logically follow that students would find courses in their major to be more interesting and useful than would students not in that major. However, it is less obvious how satisfied students might be with the introductory course in their major.

The reasons for this could include the student's expectations of the class, having non-major students in the class, or the student's perception on the usefulness of an introductory class. More likely is that due to a natural affinity with the topic, a student would be more satisfied with a course in his/her area of interest (relative to other areas' introductory courses), or that the student would pay particularly critical attention to the related required introductory course, due to its significance to the student's future

education and occupational prospects. Paying more critical attention to a course could lead to lower rated levels of satisfaction and usefulness simply because the student cares so much about this course relative to introductory (core) courses dealing with other areas within a business degree program.

From an assessment point of view, if a student's field of study has a significant influence on his/her ratings of various introductory core courses, omnibus tests and aggregated data reporting may be a bit misleading when trying to understand the true value of the core set of introductory courses for the purpose of improving the curriculum.

In this study, we investigated the following propositions:

- **Proposition 1** - The highest ratings of Interest for a course would be associated with the course's affiliated major (e.g., marketing students would find the introduction to marketing course more interesting than the introductory courses for any other area).
- **Proposition 2** - The highest ratings of Usefulness would be associated with the course's affiliated major (e.g., marketing majors will find introduction to marketing more useful than other courses, and they will rate the course higher than non-marketing students would).
- **Proposition 3** - The highest **or lowest** ratings of Satisfaction would be associated with the course's affiliated major. It is possible that students would report being more satisfied with introductory courses from their area of interest because they find it intrinsically more interesting or less satisfied because their expectations and demands for the introductory course in their specialization are seen as more critical than introductory courses in other areas of business.

No research to date has examined the impact of the required introductory course in the student's major field. Our research examines the level of interest, usefulness, and satisfaction associated with the course's affiliated major. Students' evaluation of these three factors likely influence an individual's choice of major. However, in all likelihood, numerous non-course related factors also have a significant influence on students' choice of a major.

There have been numerous studies whose objective was to determine why students select a specific business major. These studies reveal that everything from the parent's occupation to the instructor of a course in that major can affect a student's choice (Malgwi, et al., 2005; Kim, Markham, & Cangelosi, 2002; Pritchard, Potter, & Saccucci, 2004; DeMarie & Aloise-Young 2003).

As has already been noted, one of the more recent studies by Malgwi, et al. (2005) examined the initial choice of major by freshman and transfer students and the reasons

influencing later change in major. The results of this study indicate that the most important factor is students' interest in the subject matter. This study also examined gender differences. Results in this area showed narrowing differences as the students progressed through their degree programs. Indicated by these results is that there is almost no difference between male and female students at the senior level in terms of the five most important factors influencing their choice of a major. These factors are: (1) interest in the subject, (2) job opportunities, (3) compensation, (4) introductory course, and (5) discussion with other students.

Another study on selection of a business major examines the effect of quantitative skills on a student's choice (Pritchard et al, 2004). This research used scores from the math portion of a basic college skills placement test and compared these scores by major. The results of this research indicate that accounting and finance students have higher quantitative skills test scores than do marketing and management majors. While this seems like a fairly obvious conclusion, it does indicate that in addition to interest factors, student skill levels may also influence their choice of major.

Similarly, Cohen and Hanno (1993) found that students' quantitative skills played a major role in determining the selection of accounting as an area of specialization. In addition, the research identified success or failure in the introductory accounting course and influence of the instructor as significant influences on whether or not students choose to specialize in accounting.

Research into students' interest in their major was done by DeMarie and Aloise-Young (2003). They surveyed 465 undergraduate students of which 155 were business majors. The survey focused on determining the students' level of interest in their major. As might be expected, 99.4 percent of business students were either very interested (74.7 percent) or somewhat interested (24.7 percent) in their major. The survey also examined other reasons for selecting a major. For the business students, career was rated higher than interest in the area, with enjoyment of learning as the third highest factor.

One of the factors that many studies include as a possible influence on the selection of a major is the students' parents. Pearson and Dellman-Jenkins (1997) found that about 19 percent of incoming freshmen stated that parents were the most significant factor influencing which major to pursue. These students also indicated that teachers were the second most influential. The importance of siblings, friends, and the media combined was less than that of parents.

Interestingly, the most common answer to "Who or what most influenced your choice of a major?" was "other". In order to understand this factor better, Pearson and Dellman-Jenkins (1997) then conducted a follow-up survey, asking a subset of the original respondents to explain their "other" responses. The results of this survey showed that students' selection of a major was most influenced by things such as: job, personal interest, or money. Still, about 25 percent of the students listed "I don't know" to the explanation of the response of "other". This study did not differentiate between

majors selected by the students; thus, the authors were not able to determine whether responses differed according to students' area of specialization. In short, research has shown that factors both internal (e.g., interest) and external (e.g., potential salary) to the student affects choice of major.

Several of the previously referenced studies indicated that "interest in the subject" was the top or one of the top influencing factors in the section of a business major (Malgwi et al., 2005; Kim et al., 2002; DeMarie et al., 2003).

Our study disaggregates the business major into areas of specialization (accounting, finance, marketing, etc.).

Research Question: Are the factors students reported as having affected their choice of specialization within the business major different for students within each specialization?

METHOD

To assist in the development of the survey instrument and explore the topic, two focus groups were conducted. One focus group was held with a set of 12 senior business students while the other was with three freshman prebusiness students. The objective was to understand better the factors that influenced, or were perhaps going to influence, a student's desire to pursue a particular major in the College of Business. A survey was developed based upon information obtained in the focus group and the adaptation of questions from published research on this topic (e.g., Pappu, 2004; Strasser, Ozgur, & Schroeder, 2002). A small pilot study was conducted to ensure that the survey was easy to understand.

Data were collected from 206 upper-division College of Business students using an online survey. The College of Business is an AACSB accredited college with 2,200 students at a public university that enrolls about 16,000 students. Students were entered into a drawing as incentive for participation. The sample was composed of 63 (31.3 percent) juniors and 138 (68.7 percent) seniors with gender being evenly split (50.7 percent male, 49.3 percent female). The sample included 89 (44.3 percent) students from marketing, 39 (19.4 percent), from management, 28 (13.9 percent) from accounting, 22 (10.9 percent) from finance, 15 (7.5 percent) from human resources management, 8 (4.0 percent) from management information systems (MIS), and 5 (2.4 percent) from production/operations management (POM). Due to the exceptionally small sample sizes, majors in MIS and POM were excluded from the analyses, leaving a usable sample size of 193 respondents.

Results

Students were asked to rate how satisfied they were with the required business courses, how useful they felt the courses were, and the degree to which they viewed required business courses as interesting. These ratings were all analyzed by major to determine if students that pursued a particular major evaluated the required course in that field higher than majors from other fields.

Tables 1, 2, and 3 (below) present the mean responses to the questions of satisfaction, interest, and usefulness of each core course. In Table 1, both of the introductory accounting courses were rated the highest by accounting students, the human resource management course was rated highest by human resource management students, and the finance course was rated highest by the finance students. A similar pattern was demonstrated in tables 2 and 3 in which all core courses were rated as most useful and interesting by students in the aligned major.

Table 1*Mean Satisfaction with Required Course*

Introductory Required Courses	Student's Major Field of Study					Overall (n = 193)
	Accounting (n = 28)	Finance (n = 22)	Human Resource Management (n = 15)	Marketing (n = 86)	Management (n = 39)	
Financial Accounting	4.7	4.2	3.7	3.6	3.9	3.9
Managerial Accounting	4.3	3.8	3.6	3.3	3.4	3.5
Human Resource Management	3.4	4.0	4.2	3.5	3.8	3.7
Management	3.9	3.5	3.6	3.5	3.8	3.6
Marketing	4.1	3.7	4.1	4.0	3.9	4.0
Finance	3.2	3.5	1.4	2.6	3.0	2.8

Note: Numbers represent mean ratings on an itemized scale anchored by 1= Very Dissatisfied and 5 = Very Satisfied.

Shaded rows indicate that there are significant differences ($p \leq .05$) in responses among the majors.

Table 2*Mean Perceptions of Usefulness of Required Courses*

Required Courses	Student's Major Field of Study					Overall (n = 193)
	Accounting (n = 28)	Finance (n = 22)	Human Resource Management (n = 15)	Marketing (n = 86)	Management (n = 39)	
Financial Accounting	4.9	4.5	4.1	4.0	4.0	4.2
Managerial Accounting	4.6	4.4	3.6	3.9	3.7	4.0
Human Resource Management	3.5	4.2	4.7	3.8	4.1	3.9
Management	3.5	3.9	3.7	3.9	4.0	3.8
Marketing	3.1	3.9	4.4	4.6	4.0	4.2
Finance	3.8	4.7	2.8	3.7	3.9	3.8

Note: Numbers represent mean ratings on an itemized scale anchored by 1= Very Useless and 5 = Very Useful.

Shaded rows indicate that there are significant differences ($p \leq .05$) in responses among the majors.

Table 3*Mean Rating of Degree to Which Required Course Content was Considered Interesting*

Required Courses	Student's Major Field of Study					
	Accounting (n = 28)	Finance (n = 22)	Human Resource Management (n = 15)	Marketing (n = 86)	Management (n = 39)	Overall (n = 193)
Financial Accounting	4.4	3.9	3.3	2.9	3.5	3.4
Managerial Accounting	4.1	3.7	3.3	2.6	3.1	3.1
Human Resource Management	3.0	3.7	4.3	3.3	3.8	3.5
Management	3.3	3.4	3.3	3.4	3.9	3.5
Marketing	3.9	4.1	3.9	4.4	3.8	4.2
Finance	3.4	4.1	2.5	2.4	2.8	2.9

Note: Numbers represent mean ratings on an itemized scale anchored by 1= Very Uninteresting and 5 = Very Interesting.

Shaded rows indicate that there are significant differences ($p \leq .05$) in responses among the majors.

Proposition 1 stated that for each core course, the highest ratings of interest would be associated with the course's affiliated major. **Proposition 2** stated that for each core course, the highest ratings of usefulness would be associated with the course's affiliated major. **Proposition 3** stated that for each core course, the highest **or lowest** ratings of satisfaction would be associated with the course's affiliated major.

While the ratings for each affiliated major were not necessarily statistically higher than the ratings for all other majors for each evaluative question, there were differences between majors within most cells, indicating significant variance in how different majors viewed these courses. The findings in Tables 1, 2, and 3 are summarized in Table 4 (below). As shown in Table 4, the directions of the means are consistent with the propositions in 16 of the 18 possible pairings between a major and its affiliated required course. In other words, there appears to be a revealing pattern of support for all three propositions, with the ratings of satisfaction being highest (not lowest) by students in the affiliated major. This pattern for Proposition 3 can be seen in Tables 1 and 4 in which course satisfaction ratings were highest when the introductory course was rated by a student in an affiliated major in four of the six pairings.

Table 4*Summary Results for Satisfaction (S), Usefulness (U), and Interest (I) Between Majors*

	Student's Major Field of Study				
Required Courses	Accounting	Finance	Human Resource Management	Management	Marketing
Financial Accounting	S, U, I				
Managerial Accounting	S, U, I				
Finance		S, U, I			
Human Resource Management			S, U, I		
Management	S			U, I	
Marketing			S		U, I

Notes: **S = Mean satisfaction rating for this course was highest in this particular major.**

U = Mean usefulness rating for this course was highest in this particular major.

I = Mean interest in content for this course was highest in this particular major.

Shaded cells indicate that results are consistent with the propositions.

The study also investigated the influence of environmental factors on choice of a business major. Table 5 (below) illustrates that a general sense of “personal fit” was the most influential factor overall, followed by the major sounding interesting or exciting, income potential and then desire to work with people. These results are consistent with statements from students in our focus groups. One student noted in the focus group that

“The major found me. I didn’t really find it. It just fit.” Another student stated that he was looking for “Personal fit and something that interests me.”

Analysis by major illustrates that the accounting and finance majors were most influenced by income potential and an innate sense of being good with numbers. This result is consistent with those of Cohen and Hanno (1993). Interestingly, the accounting and finance majors rated personal fit, job sounds interesting or exciting, and desire to work with people relatively low. In the focus groups, one student stated “I’m not into marketing. I like the idea of it, but trying to figure out people’s minds isn’t as fun to me as the numbers. A five is always a five.” Overall, the accounting and finance majors seemed to be driven more by money, status, and job security, which are quite different from the factors noted by the other majors.

The pattern of results in Table 5 (below) are consistent with the general premise of this research that researchers need to be careful with any omnibus analysis as ratings vary greatly by major, and answer the Research Question affirmatively.

Table 5*Influence Factors on Choice of Major Overall and by Major*

Influence Factor	All Majors					Human Resource Management
	Overall	Accounting	Finance	Marketing	Management	
A general sense of "personal fit"	52.8	32.1	38.1	61.4	51.3	60.0
Sounds interesting/exciting	49.0	18.5	27.3	66.3	43.6	40.0
Income potential	46.8	60.7	77.3	43.8	43.6	6.7
Desire to work with people	44.4	10.7	19.0	57.5	46.2	66.7
Personality/career/interest tests	39.3	30.8	57.1	42.0	34.2	33.3
Interest in related fields (e.g. law, computer science)	35.0	29.6	31.8	40.4	33.3	26.7
Being your own boss	34.5	25.0	36.4	31.5	57.9	20.0
Status of the job	32.5	40.7	40.9	32.6	38.5	0.0
Desire to pursue more advanced coursework in area (e.g. MBA, JD)	26.8	22.2	33.3	25.0	35.9	26.7
Being good with numbers	22.6	53.6	61.9	9.1	15.4	6.7
Job availability/ease of finding employment	21.7	37.0	28.6	15.9	30.8	6.7
Prior job experience (outside of family business)	20.5	14.3	18.2	18.2	30.8	26.7
Job security	19.6	35.7	23.8	11.4	28.2	13.3
Influence of parents	17.0	25.9	18.2	14.6	15.4	13.3
Currently working in the field	15.6	22.2	18.2	11.4	20.5	13.3
Media (TV, print, movies)	14.1	3.7	4.8	21.6	17.9	0.0
Influence of students already in the option	10.6	11.1	13.6	9.0	7.7	13.3
A particular faculty member	10.1	3.6	4.8	12.5	5.1	26.7
Reputation of the option's faculty	9.1	3.7	0.0	11.4	7.7	20.0
Influence of family members	8.0	15.4	9.1	4.5	12.8	0.0
Influence of friends	7.5	3.7	0.0	9.0	12.8	6.7
Working in family business	7.1	0.0	4.5	5.7	18.4	6.7
Advising office	4.0	0.0	9.5	5.7	2.6	0.0
Career planning office	3.0	0.0	0.0	6.8	0.0	0.0
Desire to avoid working with people	1.0	3.7	0.0	0.0	0.0	6.7

Note: Numbers represent percent of respondents who rated the influence factor a 6 or 7 on a degree of influence scale anchored by 1=Not at all and 7=Quite a lot.

Shaded regions represent the top-two influence factors within each major.

Shaded factors indicate that there are significant differences ($p \leq .05$) in responses among the majors.

DISCUSSION

As far as we were able to determine, this is the first study to examine the relationship between satisfaction with required courses and the student's major. We found that, generally, students reported the most satisfaction with the core classes that were affiliated with their chosen course of study. Rather than being the most demanding and critical of "their" core courses, which could have led to lower satisfaction ratings, students reported being positively predisposed about their core classes – at least in retrospect.

It should not be too surprising that a student from a particular major would report that his/her affiliated core course was the most useful of all core courses. And, while some students might find that a class outside of their main course of study might be somewhat interesting, it makes sense that one would choose to major in the field that generally is more interesting than the alternatives.

Given the strong trends, as reported in Tables 1, 2, and 3, it seems that influences such as quality of the instructor or received course grade were not major factors in students' retrospective reports of the value of their core courses. If there were strong instructor or grade (bias) effects, we would expect to see certain courses uniformly being appraised as high or low. If all students generally shared the same value for a particular course instructor or "easy" classes, then we would expect those courses to be rated highly by students in all areas of business study. The same idea holds for unpopular instructors and courses where high grades are hard to come by.

The most telling results are in the summary of findings in Table 4. These data provide strong inference that a student's major is associated with the rated satisfaction of, interest in, and perceived usefulness of the affiliated introductory core course.

The main contribution of this study is finding that students from a major report more favorably about the introductory course in their major versus other introductory courses. Assessment programs that ask graduates post hoc how they view the value of their coursework need to consider the impact of this rating bias. So, for example, if an alumni survey indicates that overall the introductory marketing course was highly rated while the introductory management course was not, those acting upon those data need to consider the mix of alumni who responded. Were there a lot of marketing, and few management, majors in the respondent group? This finding potentially sheds new light on how previous studies that did not parse results according to area of specialization should be interpreted (e.g., DeMarie & Aloise-Young, 2003).

The major limitation to this study was that we were not able to determine whether these results came from a general halo around courses dealing with the respondents' major, or if these three evaluative criteria are in fact separate constructs for the students. Nor could we determine whether cognitive dissonance (e.g., "I've invested so much in a marketing education that it must mean that I really liked that first marketing

course”) played a strong role in the results. In addition, we did not directly measure whether one’s career interest in a field of study led to greater focus on the initial course in that field, affecting perceptions and affective responses for that course.

We acknowledge that the relatively small cell sizes and simple ways in which the three dependent variables were measured can affect the degree to which our findings can be generalized. However, the small cell sizes reduced analytical power (Cohen, 1988), meaning that there might be more support for our Propositions beyond the obvious trend patterns.

It also is possible that the mechanism behind our findings is that, having found a core course that was particularly interesting and satisfying, the student then decided to choose the affiliated major. We currently are extending our research to address this question.

Additional research in this area should move beyond cross-sectional analysis and pursue longitudinal studies. That is, do these influence factors and perceptions about classes change over time? It would be interesting to gather data on this topic from Freshman and examine whether the factors reported here change while one is in college and whether or not the changes continue as students become alumni. Do recollections about the quality and importance of critical courses continue to evolve when students are five, ten, or fifteen years beyond graduation? How consistent will ratings be over time? If ratings vary greatly, is it due to changes in life experiences and attitudes or is it due to retrieval biases (e.g., a tendency to remember the most salient events, or only recall the most polarizing aspects of an experience) and fading and reconstructed memories?

In summary, we believe we found that a student’s chosen course of study is positively associated with how they view the courses that began their career paths. In addition, we discovered significant differences based upon a student’s major (or area of specialization within the major) in the factors that influence a student to pursue a field of study. These findings suggest it is imperative that when administrators are assessing a program and trying to figure out what influences students to pursue a particular major that results not be interpreted in aggregate. In fact, interpretation of the aggregated data could be quite misleading. It is critical that subgroup analysis based on major be conducted to understand if courses are appropriately contributing to a program.

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