



Distinctive Academic Programs as a School Choice Factor: An Exploratory Study

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Abstract

Previous research into what influences a high school student's selection of a college or university for undergraduate study have found that many factors may impact this decision. This study is an initial exploration of the potential influence of a previously unidentified factor in undergraduate school choice, the presence of a distinctive or unique academic program. It was found that the particular first-year engineering and engineering honors programs studied had been a notable influence on the school choice of the students surveyed. It is plausible that this factor may be substantially influential for a wide variety of institutions offering distinctive or unique academic programs.

Introduction

Previous research into what influences a high school student's selection of a college or university for undergraduate study have found that many factors may impact this decision.¹⁻⁷ Dozens of potential candidate factors have been identified and tested, some of which have been found to be highly influential in several studies and can be considered to have substantial evidence behind them^{3,4,8-10}. This body of evidence supports the assertion that several important school choice factors are known. Examples of such factors include the cost of tuition, the overall academic reputation of the institution, and whether the institution offers the student's target major.

However, these and many other factors have also been shown to vary in influence between populations of potential students and between potential students of different types of institutions.¹¹ Wajeeh and Micceri⁸ show that students choosing a 'traditional' university are influenced by different factors than those selecting a 'metropolitan' university serving a more diverse and less affluent student body. Student athletes may be influenced by factors such as athletic facilities and coaching staff.¹² The factors influencing the potential students of international institutions may be directed by political and social situations distinct from those in the United States.^{4,13-15} Thus, for each institution and for each potential student it is likely that somewhat different school choice factors are at work.

The practical questions of interest for an educator or educational administrator are first, which factors are highly influential for their target population of students, second, whether their institution is well positioned to attract students based on those factors, and third, what might be done to attract more qualified students from the target population? Answering these practical questions with confidence may require study of the specific educational institution or system of interest, with potential factors and research methods suggested by the literature. This study suggests that a factor absent from previous school choice literature (or implicitly included as a part of a much broader construct) may be influential enough to merit consideration as a standalone school choice factor when such inquiries are made. This factor is the presence of one or more distinctive, unique, or special academic programs or offerings below the level of the

overall department or major. Examples might include co-op, honors, study abroad, first-year engineering, or undergraduate research programs.

While factors like ‘academic reputation of university’^{4,8} or ‘distance from home’^{1,4} have been previously identified as potentially powerful influences on school choice, it is plausible that these factors are comprised of component factors. If the presence of distinctive, unique, or special academic programs has been previously accounted for in school choice research, it may have been through implicit inclusion in a large construct such as those above. It is also possible that other known factors such as perceived job opportunities may partially account for the presence of distinctive programs. However, the author is not aware of distinctive, unique, or special academic programs having been previously shown to be a meaningful standalone factor in undergraduate school choice.

Furthermore, *prima facie* consideration of distinctive, unique, or special academic programs as a potential influence on undergraduate school choice is very supportive of this concept. Taken to the logical extreme, some institutions of higher education can be said to be entirely composed of unique academic programs. For instance, Deep Springs College¹⁶ requires students to herd cattle and engage in democratic self-governance of the school during their studies. All students of Berea College¹⁷ must perform regular labor on campus or in the community as a part of the school’s ideal of learning through work. Private institutions serving specific religions, such as Bob Jones University,¹⁸ can offer classes and recreational activities shaped by religious views. Students of these institutions seem less likely to have selected them based on common school choice factors such as cost or distance from home when such strong academic and experiential differentiators are present. These unique institutions draw students with their distinctive offerings – so it is reasonable to believe that distinctive offerings on a scale below that of the institution may also be affecting school choice.

Stepping back into more common but still potentially differentiating academic offerings such as co-op programs, honors programs, study abroad programs, undergraduate research programs, first-year engineering programs, and so on, it seems reasonable to believe that students may be influenced in their undergraduate school choice decision by the availability of a desirable and distinctive program of interest. This exploratory study assesses the impact of a specific First-Year Engineering Program and Engineering Honors Program on the undergraduate school choice of engineering students at a large Midwestern research university featuring those programs.

Methods

A twelve-question survey instrument was prepared to determine if the presence of the specific First-Year Engineering and Engineering Honors Programs extant in the university had been influential on current students’ undergraduate school choice. The survey included Likert-scale and standard multiple-choice questions, a rank-order prompt, and opportunities for free text response. The key questions to be addressed were approached from several angles and with different question types, to allow for triangulation and ensure that any one question prompt would not determine overall findings. Additional questions not directly related to the study but useful for understanding other aspects of the Engineering Honors Program made up a portion of the survey. Figure 1 shows the text of the relevant survey questions.

For question 4, which asks students to rank ten factors according to how influential each factor was in that student’s choice of university, eight established factors were drawn from the literature and two were added for the purposes of this study. The eight established factors from literature were selected for appearing in similar forms in previous studies, principally Rocca³ and Briggs,¹³ though with different wordings these factors appear in other studies. The two factors added for this study were “Availability of Honors First Year Engineering” and “Availability of the First Year Engineering Program (non-Honors)”.

The instrument was administered with online survey software to students of the Engineering Honors Program in-class in three sections of a required freshman course. The survey software allowed for the randomization of potential multiple-choice selections for each participant and this feature was employed in all appropriate cases, lessening the likelihood that the order of potential multiple-choice answers had an influence on study results. The survey was optional and anonymous, and no inducements were offered for completion of the survey.

Ques. No.	Question Text	Response Type
4	Please rank these factors from most important (1) to least important (10) in your decision to attend [university name]. Overall cost of attendance Amount of financial assistance received Overall academic reputation of the university Academic reputation of your chosen major or department Distance from home Availability of Honors First Year Engineering Availability of the First Year Engineering Program (non-Honors) Perceived social opportunities of the university Size of university Personal 'fit' with the institution	Ranking (initial order of items randomized for each participant)
5	If other factors substantially influenced your decision to attend [university name], please list those factors here.	Free Response
6	The Engineering Honors Program was a draw for me to attend [university name].	5-Pt. Likert Scale
7	The First-Year Engineering Program (not the Engineering Honors Program) was a draw for me to attend [university name].	5-Pt. Likert Scale
8	Was the presence of any specific academic program at any college or university a draw for you to attend that college or university, regardless of your eventual school choice?	5-Pt. Likert Scale
9	Do you think if you had known more about the [university name] Engineering Honors Program when choosing schools to apply to or attend that it would have made [university name] more attractive?	5-Pt. Likert Scale

Figure 1 – Survey Questions Relevant to School Choice Factors

Of the 181 students present in the three different sections of the course, 161 started the survey and 150 completed it. Incomplete survey responses were not discarded, but only data from completed questions were included in the analysis. This represents a completion rate of 83% for students of the course who were present in the class during the time when the survey was offered, and a 74% completion rate for the 201 total freshman students of the Engineering

Honors Program. These completion rates make it unlikely that sampling error influenced the results.

Results

The results of the survey questions germane to this study, numbers 4 through 9, will be reported in the order the questions appear in the survey. The exact text of these questions can be seen in Figure 1. In question 4 students were asked to rank ten school choice factors in order of influence on their decision. These factors are shown in Table 1. The ‘Average Rank’ indicates what rank, on average, a given factor was assigned out of ten for importance in relation to school choice, with one being the highest and ten the lowest rank.

Table 1 – Results of Survey Question 4

Ranked Text	Ranking										Avg. Rank
	1	2	3	4	5	6	7	8	9	10	
	Number of Responses										
Academic reputation of your chosen major or department	80	39	20	8	5	1	3	0	0	0	1.94
Overall academic reputation of the university	22	49	28	25	14	6	3	6	2	1	3.25
Overall cost of attendance	16	24	19	14	19	18	16	12	10	8	4.86
Personal 'fit' with the institution	21	11	18	20	19	12	17	18	14	6	5.08
Amount of financial assistance received	10	19	28	20	17	16	8	12	11	15	5.09
Availability of Honors First Year Engineering	2	4	14	22	15	19	17	15	25	23	6.56
Size of university	0	3	7	11	21	16	21	37	24	16	6.99
Perceived social opportunities of the university	0	1	12	12	13	25	26	21	19	27	7.00
Availability of the First Year Engineering Program (non-Honors)	3	2	5	12	18	24	18	16	33	25	7.08
Distance from home	2	4	5	12	15	19	27	19	18	35	7.15

Question 5 was a free response prompt that the participant was enjoined to complete in the event that the factors other than those ranked in Question 4 “substantially influenced” the participant’s undergraduate school choice decision. Fifteen text responses were collected. Factors mentioned include personal connections to current faculty or students, athletic team membership, research opportunities, the “attitude” of the campus, job placement rates, and a co-op program. It should be noted that many of these responses are attributable to undergraduate school choice factors identified by earlier researchers that were omitted from this ranking exercise to maintain simplicity. The single response relating to the co-op program is an essentially anecdotal example of a distinctive academic program having an influence on school choice. The co-op program was also omitted as a potential factor for simplicity.

While question 4 asked participants to rank the influence of various pre-determined factors on their school choice, question 6 asked participants directly if the availability of the Engineering Honors Program had been a factor in their school choice decision and 68% of respondents indicated that they agreed or strongly agreed that this program was a school choice factor. In question 7, the participants were asked if the First-Year Engineering Program’s availability had been influential: 52% agreed or strongly agreed. Question 8 asked if a specific academic

program belonging to any school had been a factor in their school choice deliberations, and 75% agreed or strongly agreed with this idea. Finally, question 9 asked if, in the participant’s opinion, that the influence of the availability of the Engineering Honors Program could have been increased by distributing more information about it to prospective students, to which 50% of respondents agreed or strongly agreed. The results of all three questions can be seen in Table 2.

Table 2 – Results of Survey Questions 6, 7, 8, and 9

Answer		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Total
Question 6	Response	6	23	36	61	28	154
	%	4%	15%	23%	40%	18%	100%
Question 7	Response	5	16	54	54	26	155
	%	3%	10%	35%	35%	17%	100%
Question 8	Response	0	11	27	70	47	155
	%	0%	7%	17%	45%	30%	100%
Question 9	Response	3	22	52	68	10	155
	%	2%	14%	34%	44%	6%	100%

Discussion

The results show that the availability of distinctive academic programs can be meaningfully influential on undergraduate school choice. In examining the results in Table 1, it can be noted that the availability of both programs, while not among the highest ranking factors, are competitive with other well-known potential school choice factors such as ‘size of university’, ‘perceived social opportunities of the university’, and ‘distance from home’. The results of questions 6 through 8 show that a majority of participants believed that two specific academic programs known to them had been influential on their school choice and that fully 75% of participants considered some specific academic program somewhere as a factor in their undergraduate school choice decision. It should also be noted that nearly 13% of participants identified the availability of the Engineering Honors Program as one of their top three most important school choice factors, showing that some participants rank this factor as highly influential. This evidence suggests that individual distinctive programs have, in this case, influenced students’ school choices.

There are several limitations in the methods employed. First, it should be noted that the sample taken is a convenience sample that is unlikely to be representative of any broader population and should not be generalized. The Engineering Honors Program students studied have demographics substantially distinct even from those of its host engineering school and university, including a much higher percentage of female students, fewer international students, and higher overall high school and university GPAs. The sample itself is also not completely random inside the population under study, as the participants are self-selecting both by choosing whether to attend class and by choosing whether or not to complete the survey once attending the class when the survey was administered. Furthermore, at the time of the survey, participants

were at least a year past the time when they made their undergraduate school choice decisions, so it is possible that their memory of the process was incomplete or altered by the passage of time, which could impact their answers to the survey questions.

Therefore, it is not expected that results such as the relative strength of school choice factors pertaining to the particular First-Year Engineering Program and Engineering Honors Program examined in this study would be equivalent to those obtained if students of different academic programs at other institutions were surveyed. Differences might be due to items like program quality, program marketing, and students' desired educational outcomes.

However, the purpose of the study is not hampered by a sample unfit for generalization; recall from the introduction that school choice factors are known to differ greatly between different institutions. This study serves as a demonstration that two specific distinctive academic programs were comparably influential on the school choices of this sample of students to known school choice factors. Other distinctive academic programs are likely to exist that are more compelling as school choice factors than those studied, and nearly certain that less compelling but still measurably influential distinctive academic programs exist elsewhere as well. It is advisable that researchers studying undergraduate school choice consider the availability of distinctive academic programs as a school choice factor, in addition to those factors already identified in the literature.

It remains a future work to understand the relationship between known powerful undergraduate school choice factors such as 'overall academic reputation' and the influence of distinctive, unique, or special academic programs at an institution. This relationship may differ from institution to institution and that a specific and local understanding of school choice factors will require specific and local research, due to varying target population characteristics.

Conclusion

This exploratory study indicates that the availability of distinctive, unique, or special academic programs may be a meaningful factor in undergraduate school choice. As with other school choice factors, this availability is not expected to be a major factor for every student of every institution, but rather to be of greater or lesser influence depending on the student, the institution, and the program in question. Faculty or administrators interested either in understanding what draws students to an institution or in increasing the attractiveness of their educational institutions may wish to include this factor in their considerations. Some practical effects of this might include starting new and distinctive academic programs attractive to the target student population, or enhanced marketing of or improvements to existing distinctive academic programs.

Future works may include examining methods for enhancing the impact of distinctive academic programs on school choice, deploying this survey instrument or an improved version more widely to generate results representative of wider populations of students, and studying the relationship between the availability of distinctive programs and other potentially interrelated school choice factors.

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