
Graduate School Choice and Recruitment

An Assessment of the Martin School Applicant Data
System and Its Utility for Supporting Administrative
Decisions

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Table of Contents

| | |
|---|----|
| Executive Summary | 3 |
| Definition of the Problem | 4 |
| School Choice & Recruitment Strategies | 5 |
| Research Design | 8 |
| Discussion | 11 |
| • Accepted & Rejected Applicants | 12 |
| • Student Attendance | 16 |
| ▪ Student Characteristics | 16 |
| ▪ Student Graduate School Selection Factors | 19 |
| Recommendations | 23 |
| Caveats | 28 |
| Summary | 28 |
| References | 30 |
| Appendices | 32 |

Executive Summary

Student recruitment and retention are issues of importance for both graduate schools and graduate programs alike. Administrative decisions must be made, regarding these topics, which will best benefit the school or program. Within the Martin School of Public Policy and Administration, those decisions can be influenced by data collected on current and past students. Analysis of data obtained from the student admissions application and a survey sent to students accepted into the Martin School can inform these management decisions. The information developed can highlight areas of recruiting concern such as attracting a higher number of high-quality in-state applicants, increasing diversity, providing relevant internship opportunities for international applicants, and maintaining the academic excellence of students accepted into the program. Additionally, learning what influences a student's choice to attend a particular graduate school or program can help the Martin School tailor recruitment practices.

The utility of current Martin School data in aiding administrators when making recruitment decisions was the focus of this study; specifically identifying any limitations of the data. An analysis of two sets of data obtained from the Martin School pinpoints several areas of potential recruiting interest. The analysis finds students whose applications were rejected by the Martin School between 2000 and 2010 were more likely to be male with an unknown ethnicity and reside in a country outside of the United States. Applicants who were accepted into the Martin School were more likely to be Caucasian females from the United States who reside in a state other than Kentucky. Once admitted, students who chose to attend the Martin School were more likely to be Caucasian, live in Kentucky, and list the faculty and the academic program as influential factors leading them to select a graduate school. Students who chose not to attend the Martin School were more likely to have higher GRE scores, particularly quantitative scores, than students who did attend. Additionally, these students were more likely to not have their ethnicity included in the database; to be from a country outside of the United States; to be from a state other than Kentucky, if they are a United States resident; and to not complete the survey.

Recommendations are made for future collection and maintenance as the incompleteness of the data in its current state hinders the ability of analysis to draw accurate conclusions. Adjustments focus on collecting data which is consistent and complete. It is also recommended that the survey be altered. Adding new questions and altering current questions, creating an online survey form, and attempting to increase the response rate for students who did not attend the Martin School are among the recommended survey improvements. The Martin School datasets do have some utility in assisting administrators in making informed recruiting decisions. Yet, the flaws in each dataset undermine the ability of the data to help administrators as much as is possible. This analysis was unable to complete several interesting comparisons and may have made wrong assumptions due to holes in the data, but with the recommended changes, future analyses will be better equipped to make informative comparisons as well as address the questions which analysis left unanswered.

Definition of the Problem

The issues of attracting ideal students and retaining them are of importance for graduate schools and graduate programs. In reference to these issues, graduate program administrators must make decisions which ultimately affect the success of recruitment efforts. Within the University of Kentucky's Martin School of Public Policy and Administration, data retrieved from admissions applications and a survey of students can inform one set of administrative decisions. These decisions include which students should receive financial aid or scholarships and the amount of assistance, where department money should be spent, which professors to hire, what classes to offer, as well as any other decisions that could ultimately affect the Martin School and its ability to attract high quality students. The intended results of recruitment consist of students with preferred characteristics selecting the Martin School as the graduate school of choice. Prior to making these recruitment decisions, it is helpful to examine the current state of affairs within the school. Therefore, it becomes important for administrators to collect useful data and understand how the analysis of that data can benefit the school as a whole.

Relevant data is obtained by the Martin School through the student admissions application and the survey attached to the Admissions Reply Form sent to students upon acceptance to the school. The ability of this data to adequately support administrative decisions, particularly regarding recruitment, is the question to be addressed in this study. A brief background on recruitment and student choice is presented below. This background information will illustrate why it is such an essential assessment to make. Following the background information an analysis of the Martin School database and data obtained from the survey will highlight areas of interest as well as areas of concern to Martin School administrators. The usefulness of the information gathered from the data analysis can help in making appropriate management decisions regarding the recruitment of students. Following the analysis, several recommendations are made on ways in which to improve the data and data collection process to

allow Martin School administrators to more effectively use the resulting information to support administrative and recruitment decisions.

School Choice & Recruitment Strategies

In institutions of higher learning, particularly at the graduate level, the topic of attracting students with preferred qualities is important. For students interested in choosing a graduate institution, the problem of which institution to choose is a major life and career decision. The topics of graduate student recruitment and the methods students use in selecting an academic institution to attend have long been topics of research. These areas are particularly important to graduate institutions and departments as they attempt to increase the numbers of high quality students through various recruitment strategies. As graduate institutions attempt to recruit the preferred student it becomes more important to know what factors affect student choice as well as which types of recruitment tools are most effective.

Understanding the factors which lead students to select a graduate institution can influence decisions about the recruitment methods used. Generally, research on postsecondary school choice and student recruitment has focused on the choice of undergraduate schools; although, a small number of researchers have focused on the choice of graduate school. It should be noted that much of the pertinent research focused at the graduate level is dated and does not support a thorough understanding of current graduate student decisions (Kallio, 1995; Lei and Chuang, 2010; Pooch and Love, 2001).

Undergraduate students are both similar to and different from graduate students in terms of how they select an academic institution, making research at the undergraduate level an important base to begin research at the graduate level. Both undergraduate and graduate applicants consider factors including the academic reputation of the institution, program size and quality, tuition, residency status,

and amount of financial aid when selecting a school (Kallio, 1995; Lei and Chuang, 2010). Graduate students, on the other hand, often consider additional factors such as individual grade point averages, scores required for standardized tests, educational and living expenses, and employment opportunities for themselves or a spouse (Olson and King, 1995).

In a further analysis of the student considerations in selecting a graduate school, Lei and Chuang reviewed pertinent literature to summarize important demographic characteristics, both academic and nonacademic, which might affect a final decision (Lei and Chuang, 2010). Among the demographic characteristics were age, gender, socioeconomic status, ethnicity, enrollment status, marital status, and citizenship. Three of those factors will be discussed further. Academic factors played a larger role for men, whereas social factors, such as finances and job availability, played a more substantial role in women's choices (Ethington and Smart, 1986; Lei and Chuang, 2010). Pooch and Love found ethnic minority students, excluding African-Americans, were more heavily influenced by the geographic region of the institution, the sensitivity to the needs and interests of minorities and women, financial aid opportunities, and the diversity of course offerings (Pooch and Love 2010). When an applicant has a spouse, the job opportunities for the spouse are likely to be a concern for the applicant regardless of the academic discipline they choose (Kallio, 1995). Among the issues which international students must face is the cost of tuition. A graduate education is often more expensive for international students than domestic students. The United States is a large country with graduate schools spread throughout. International students often search for institutions based upon the reputation of the departments and programs; they also consider whether or not they have friends attending the school, expenses for both education and living, and the amount of financial assistance awarded (Lei and Chuang, 2010).

Once the factors which may affect a student's choice of graduate programs are identified, graduate institutions can begin to tailor recruiting efforts using this knowledge. Research in this area has produced several findings in regards to graduate institutions' preferences for recruitment; findings

include the most successful forms of recruiting as well as concerns about future recruiting. The top four strategies listed by Council of Graduate Schools include providing financial assistance, distributing graduate school publications, distributing promotional material focusing on specific programs, and maintaining personal contacts (Baron, 1987). The Council determined the provision of financial aid via scholarships, personal contact, and maintaining a close contact with colleagues at other institutions are a few of the most effective recruitment methods (Baron, 1987). It is beneficial to note those strategies have aged nearly 25 years and may now not be an accurate reflection of strategies used in recent years. More current research has found the facilitation of personal contact through campus visits and recruitment or career fairs to be the strategies of choice (Quarterman, 2008). In terms of the Martin School, knowing what makes a student select a program can help administrators make better management decisions about how to recruit students.

Graduate schools and departments do face barriers in terms of the ability to recruit students. Several barriers listed by program administrators are the need for planned recruitment, a lack of financial resources, and a diminishing pool of eligible applicants (Quarterman, 2008). An additional barrier to student recruitment at the graduate level is the targeting of minority students. Quarterman explains that there is not enough room for all of the African-American applicants in traditionally African-American colleges and that traditionally or predominantly Caucasian institutions could benefit from targeting recruitment efforts towards minority students (Quarterman, 2008). The following analysis will add the limitations of data regarding applicants' characteristics to the list of recruitment barriers. Better information on student applicants could improve the ability to break down barriers and to develop modern strategies for recruitment and retention of high quality students.

Research Design

This analysis utilizes data obtained by the Martin School from the student admission application as well as the survey included in the Admissions Reply Form, which is sent to students after they have been accepted. Confidentiality was maintained through the use of identification numbers in place of student names; all other personal identifying information was removed from the dataset. An analysis of this type of data is best done through cross-tabulations, with tests of differences between groups of interest carried out using Pearson's Chi square test for categorical and ordinal data and difference-of-means t-tests for comparisons of interval data by group. The purpose of this analysis was to show the differences in characteristics of current and past students in a way that highlighted information which may be of use to administrators when making future recruitment decisions. The statistical significance criterion was met if the tests resulted in P values less than 0.05. The variables were analyzed for four groups.

- applicants who were accepted into the Martin School;
- applicants who were rejected by the Martin School;
- students who, once accepted, chose to attend the Martin School; and
- students who, once accepted, chose not to attend the Martin School, and most likely attended a different graduate program.

The frequency with which each set of students appeared within their respective groups is found in Table 1 below. Different demographic characteristics were available for comparisons between the groups, including gender, ethnicity, Graduate Record Examination scores, and residency. Particular characteristics were chosen as they could potentially influence administrators' recruitment and retention strategies as distinguished in previous literature.

TABLE 1: Applicants to the Martin School

| 1980 - 2010 | | |
|---|------------------|-------------------------|
| Student Group | Frequency | Percent of Total |
| Applicants accepted | 839 | 83% |
| Applicants rejected | 171 | 17% |
| Total applicants | 1,010 | 100% |
| Students who attended | 478 | 57% |
| Students who did not attend | 361 | 43% |
| Total admitted | 839 | 100% |
| 2000 - 2010 | | |
| Student Group | Frequency | Percent of Total |
| Applicants accepted | 684 | 81% |
| Applicants rejected | 164 | 19% |
| Total applicants | 848 | 100% |
| Students who attended | 365 | 53% |
| Students who did not attend | 319 | 47% |
| Total admitted | 684 | 100% |
| Source: author analysis of Martin School student database | | |

The first set of data, obtained from the Martin School application form, includes the following relevant information.

- Residency (country and U.S. state)
- Ethnicity
- Gender
- Grade point average (graduate, undergraduate, international)
- Test scores (Graduate Record Exam - GRE, Test of English as a Foreign Language Exam TOEFEL)
- Information regarding undergraduate and graduate careers (institution, program, degree)
- Application information (semester/year applied, admission status, attendance)

The data is stored in a database which contains students who applied to the school beginning in 1980.

There were a total of 1,010 students included in the data reflecting applications to the program between 1980 and 2010. A total of 139 applicants were dropped from the set due to an inability to decipher the year the student applied. The year of application is crucial as it was used to separate student applicants allowing the analysis to capture the most recent and relevant information. One of the concerns about

this dataset is the amount of missing information. Variables missing student information include the state and country of residency, semester/year the student applied, the type of undergraduate degree received, and student ethnicity. Information in these categories was unavailable for between 150 and 467 students. Several of the remaining variables were missing information on students as well; however those variables were missing information for less than 100 students.¹

The second set of data consisted of responses to a survey sent to applicants who were accepted into the Martin School.² This data included information regarding other graduate schools to which the student applied as well as their personal ranking of those schools (one through four), whether or not funding was awarded and if so how much, and factors that were important to the student when selecting a graduate school. The potential influencing factors listed on the survey included the faculty, the academic program, individual research interests, the affordability of tuition and living expenses, and financial aid offers. Surveys were sent through traditional mail. The Martin School currently keeps returned survey forms for three years and does not enter the information contained into any sort of database; once a form has been held for three years, it is then discarded. A total of 184 students were sent a survey alongside their acceptance letter in the last three years of data (2008-2010). A few of the major concerns with this data are the rarity with which surveys were returned fully completed and the number of surveys returned as undeliverable.

In the analysis of the two sets of Martin School data, comparisons were examined between the four sets of student groups. Applicants who were accepted were compared to applicants who were rejected and students who chose to attend the Martin School were compared to students who decided not to attend. While the information on students begins in 1980, the analysis only includes the most recent ten years. There are several reasons the years were limited. The Martin School has had several different program directors over the years, and each has preferred different student characteristics to

¹ A full list of variables missing data can be found in Appendix A Table A

² A copy of the Martin School Admissions Survey can be found in Appendix B

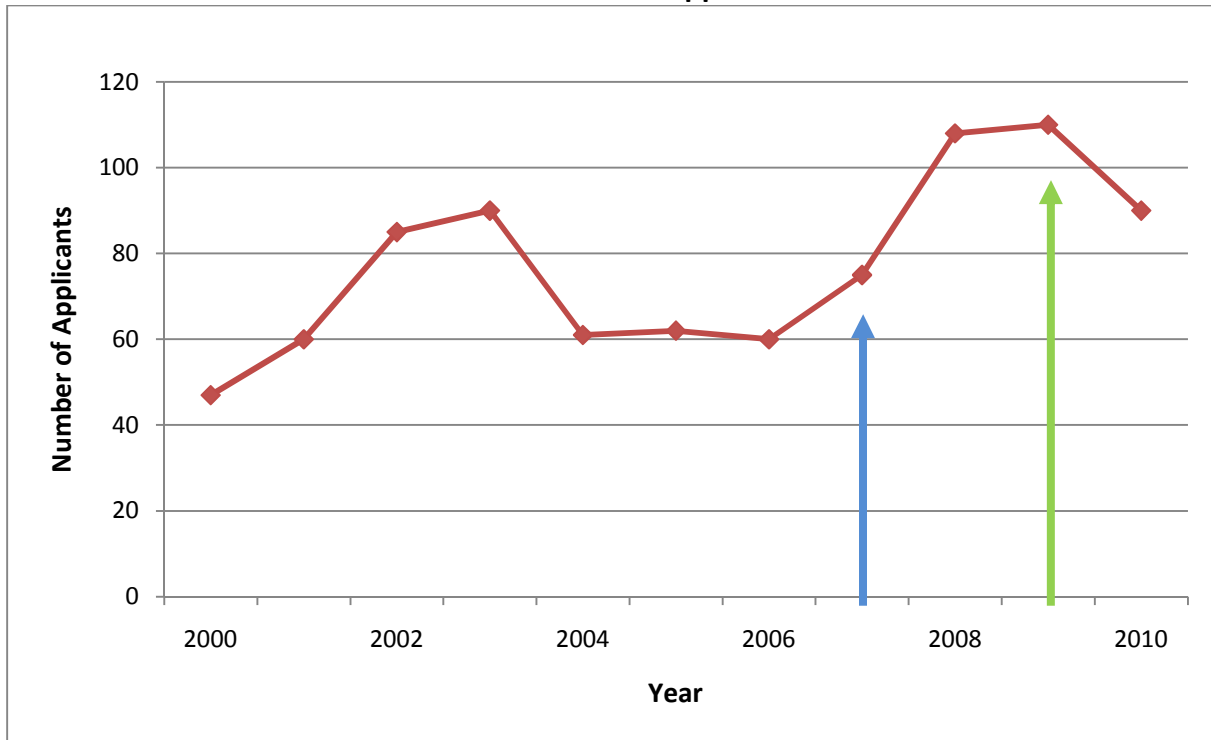
be included in the dataset. Due to these differences, the same information is not available for each student each year. Analyses were done using the most recent 10, 15, and 20 years worth of information; those analyses offered very similar results for each set of years. The more recent years hold the most valuable and applicable information as it applies to student recruitment strategies, thus the following analysis included data from 2000 to 2010.

Discussion

The distribution of applicants to the Martin School and the growth seen over a number of years can be found in Chart 1. In terms of recruiting students, administrators might want to focus on determining why the number of applicants to the school experiences rapid growth between 2006 and 2008, as well as why a decrease occurred in 2010. A potential explanation of that rapid growth followed by a decline could be the most recent recession. The arrow in blue marks the beginning of the most recent recession and the green arrow signifies the end. At the beginning of the recession, jobs were becoming scarce and as it appears below, more students may have chosen to attend graduate school instead of entering a deteriorating workforce. Towards the end of the recession, there is a drop in applicants which may mark the creation of more jobs. A more likely explanation for the drop in applicants in 2010 lies in the movement of the Master of Health Administration program from the Martin School to the College of Public Health.³ As this program moved it is likely a number of Martin School applicants did as well, which is indicated by the decrease seen in 2010 and Chart B which can be found in Appendix A.

³ See Chart A in Appendix A for the distribution of applicants by program

CHART 1
Distribution of Martin School Applicants 2000-2010



Blue Arrow –Beginning of the recession (December 2007)

Green Arrow – End of the recession (June 2009)

Source: author analysis of Martin School student database & Recession.org

Accepted & Rejected Applicants

Scores on standardized tests can demonstrate the level of academic excellence required by the Martin School of its students. Table 2 shows average GRE scores were higher for those students who were accepted into the Martin School than those who were rejected. Table 3 shows that the difference in GRE composite scores between the two groups was statistically significant. This information indicates to administrators that the current recruitment efforts are resulting in applicants with a varying GRE scores and that those applicants with higher scores are indeed being accepted into the program.

The analysis suggests the Martin School admitted slightly fewer women than men. Women were admitted at a higher rate than were men; of the female applicants 84 percent were admitted whereas

only 75 percent of the male applicants were admitted. Male applicants were rejected a more frequently than female applicants. Examining the distribution of male and female applicants over time illustrates what appears to be a relatively even trend between the two genders.⁴ When statistical analysis is run, it is clear from Table 3 below, there is a statistically significant difference in the gender makeup of the accepted and rejected applicants. Male applicants were more likely to be rejected while female applicants were more likely to be accepted to the Martin School within the last ten years.

Literature and past research listed ethnic minorities as groups that graduate institutions are now more heavily focused on recruiting. Between 2000 and 2009, the University of Kentucky Graduate School admitted between 3.2 percent and 8.6 percent African-American students, with an average of approximately 7 percent. (University of Kentucky: College Profile Report, 2009).⁵ The average number of African-American students admitted to the Martin School was only 2.34 percent. However, of the African-American applicants, 76 percent were admitted. Furthermore, of the various other ethnicities listed in the dataset, the Martin School accepted on average 80 percent of the students who applied from each ethnic group. These statistics would suggest the Martin School is doing well in regards to admitting a diverse group of students. Conversely, many more Caucasian students applied to the Martin School than did students of any other ethnicity, which may indicate the need for recruitment of a more diverse pool of applicants.

A major problem with this data is the large number of students who fall into the “unknown” category. Data about the ethnicity of students was unavailable for approximately 36 percent of applicants admitted to the Martin School and approximately 68 percent of the applicants rejected. From the data available, the analysis found there was a statistically significant difference between the group of applicants who were accepted into the Martin School and the group that was rejected. Caucasian applicants were admitted more frequently than were students from any other ethnicity. The

⁴ See Chart B in Appendix A for the distribution of applicants by gender

⁵ The number of applicant per race was unknown

ethnicity of the majority of the applicants rejected from the Martin School was unknown. The lack of data on the ethnicity of many students could affect the statistical significance.

There was a significant difference in the distribution of student nationalities between the two groups, as seen in Table 3. Nationality refers to country of residence. Approximately one quarter of the applicants who were accepted into the Martin School were from residences outside of the United States. Slightly more than half of the rejected applicants were also from a country outside of the United States. Additionally, out-of-state residents were more likely to be rejected by the Martin School than were their counterparts residing in Kentucky. A relevant supplementary analysis would be the examination of the distribution of students among the 50 states; and how concentrated or how spread out the student population was from Kentucky. Due to the lack of information on which state the students come from, that analysis could not be performed at this time.

In summary, applicants who were rejected from the Martin School between 2000 and 2010 were more likely to be male with an unknown ethnicity and reside in a country outside of the United States. Students who were accepted into the Martin School during the same ten year period were more likely to be Caucasian females from the United States, but reside in a state other than Kentucky. Based upon the knowledge of the statistics presented above, Martin School administrators may want to focus on recruiting more ethnically diverse male applicants, who reside in Kentucky. It may also be pertinent to revisit standards for admittance and the acceptance process to ensure the population of students accepted matches those standards on each of the characteristics above as equally as is possible.

TABLE 2: Characteristics of Applicants Accepted & Rejected 2000-2010

| | Admitted | | Rejected | |
|--------------------------|--------------------|------------------|--------------------|------------------|
| | Number of Students | Percent of Total | Number of Students | Percent of Total |
| Gender | | | | |
| Male | 335 | 49% | 98 | 60% |
| Female | 348 | 51% | 65 | 40% |
| Total | 684 | 100% | 163 | 100% |
| Ethnicity | | | | |
| Caucasian | 406 | 59.36% | 42 | 25.61% |
| African-American | 16 | 2.34% | 5 | 3.05% |
| Asian | 4 | 0.58% | 1 | 0.61% |
| Hispanic | 5 | 0.73% | 1 | 0.61% |
| Mexican-American | 1 | 0.15% | 1 | 0.61% |
| Pacific Islander | 8 | 1.17% | 2 | 1.22% |
| Puerto Rican | 0 | 0% | 1 | 0.61% |
| Unknown | 244 | 35.67% | 111 | 67.68% |
| Total | 684 | 100% | 164 | 100% |
| Residency | | | | |
| USA | 440 | 64.33% | 53 | 32.32% |
| International | 172 | 25.15% | 89 | 54.27% |
| Unknown | 72 | 10.53% | 22 | 13.41% |
| Total | 684 | 100% | 164 | 100% |
| Kentucky Resident | 320 | 47% | 42 | 26% |
| Not a Kentucky Resident | 364 | 53% | 122 | 74% |
| Total | 684 | 100% | 164 | 100% |
| Average GRE Score | 1189 | | 1128 | |

Source: author analysis of Martin School student database

TABLE 3: Demographic Differences Between Applicants: Accepted & Rejected 2000-2010

| Variable | Total Number of Students | Degrees of Freedom | Chi2 | P Value |
|---|--------------------------|--------------------|-------|---------|
| Gender* | 848 | 1 | 4.44 | 0.035 |
| Ethnicity* | 848 | 7 | 66.57 | 0.000 |
| KY Residency* | 848 | 1 | 24.24 | 0.000 |
| Nationality * | 848 | 2 | 60.76 | 0.000 |
| GRE Total* | 838 | 836 | | 0.000 |
| GRE Verbal Score* | 827 | 825 | | 0.000 |
| GRE Quantitative Score* | 828 | 826 | | 0.001 |
| TOEFEL Score | 94 | 92 | | 0.810 |
| Undergrad GPA* | 781 | 779 | | 0.000 |
| * Significant at the 0.05 level | | | | |
| Source: author analysis of Martin School student database | | | | |

Student Attendance

The analysis of students who attended the Martin School and students who chose not to attend can be accomplished by observing characteristics of the student, as seen in the analysis above, as well as the factors of student choice found via the student survey. Prior to administrators making recruiting decisions, it is helpful to know both the demographic makeup of students as well as what students find important when choosing a graduate institution. Thus, the analysis will discuss each area separately.

Student Characteristics

The average GRE scores were higher for those students who, once admitted to the Martin School, chose not to attend, as can be seen in Table 4. The statistical significance of the differences in GRE scores between students who attended the Martin School and students who opted not to attend is indicated in Table 5. More specifically, there is a difference in the quantitative scores between the groups; the quantitative scores were higher for students who chose not to attend the Martin School than those who did choose to attend. Investigating why students with higher test scores are not attending one of the Martin School programs has the potential to draw attention to the recruitment

efforts of competing graduate schools and programs. Countering or mimicking the recruitment strategies employed by competing schools is one way to entice students to attend the Martin School as opposed to a competing program.

The students who choose to attend the Martin School are very similar in ethnic diversity to the students who choose to not to attend the Martin School. Yet, there is a statistically significant difference in the ethnicities of the two populations analyzed; Caucasian students were far more likely to attend the Martin School than not, while the students whose ethnicity was unknown were more likely not to attend. As was the case for the admitted and rejected applicant analysis, the “unknown” category contains a substantial number of students. The ethnicity of 23 percent of the students who attended the Martin School is unknown and the same is true for about half of the students who did not attend the Martin School. The influence of the missing data may again affect the results. Otherwise, the ethnic makeup of these two populations of students is fairly similar.

More students chose to attend the Martin School when they were residents of Kentucky than students who lived out-of-state, 64 percent compared to 36 percent. Students who were United States residents were more likely to attend the Martin School compared to students who lived outside of the United States. The latter group of students was more likely to not attend. Administrators should look into why international students are choosing not to attend the Martin School. Examining which factors students selected on the survey as influencing their choice of graduate schools is one way to discover why the students, based on the demographic characteristics above, chose not to attend. The results of which can influence the recruitment strategies selected by administrators.

TABLE 4: Characteristics of Students: Attended & Did Not Attend 2000-2010

| | Attended | | Did Not Attend | |
|--|--------------------|------------------|--------------------|------------------|
| | Number of Students | Percent of Total | Number of Students | Percent of Total |
| Gender | | | | |
| Male | 187 | 51%% | 170 | 53% |
| Female | 178 | 49% | 148 | 47% |
| Total | 365 | 100% | 318 | 100% |
| Ethnicity | | | | |
| Caucasian | 264 | 72.33% | 142 | 44.51% |
| African-American | 9 | 2.47% | 7 | 2.19% |
| Asian | 0 | 0% | 4 | 1.25% |
| Hispanic | 3 | 0.82% | 2 | 0.63% |
| Mexican-American | 1 | 0.27% | 0 | 0% |
| Pacific Islander | 4 | 1.10% | 4 | 1.25% |
| Puerto Rican | 0 | 0% | 0 | 0% |
| Unknown | 84 | 23.01% | 160 | 50.16% |
| Total | 365 | 100% | 319 | 100% |
| Residency | | | | |
| USA | 281 | 76.99% | 159 | 49.84% |
| International | 51 | 13.97% | 121 | 37.93% |
| Unknown | 33 | 9.04% | 39 | 12.23% |
| Total | 365 | 100% | 319 | 100% |
| Kentucky Resident | 234 | 64% | 86 | 27% |
| Not A Kentucky Resident | 131 | 36% | 233 | 73% |
| Total | 365 | 100% | 319 | 100% |
| Survey | | | | |
| Completed | 63 | 51% | 43 | 41% |
| Incomplete | 60 | 49% | 62 | 59% |
| Average GRE Score | 1170 | | 1210 | |
| Source: author analysis of Martin School student database & student survey | | | | |

TABLE 5: Demographic Differences of Students: Attended & Did Not Attend 2000-2010

| Variable | Total Number of Students | Degrees of Freedom | Chi2 | P Value |
|--|--------------------------|--------------------|-------|---------|
| Gender | 683 | 1 | 1.49 | 0.221 |
| Ethnicity* | 684 | 6 | 62.97 | 0.000 |
| Kentucky Resident* | 684 | 1 | 94.36 | 0.000 |
| Nationality* | 684 | 2 | 59.99 | 0.000 |
| Completed the Survey | 684 | 1 | 1.79 | 0.181 |
| Undergrad GPA | 643 | 641 | | 0.29 |
| GRE Total Score* | 675 | 673 | | 0.00 |
| GRE Verbal Score | 665 | 663 | | 0.66 |
| GRE Quantitative Score* | 666 | 664 | | 0.00 |
| TOEFEL Score | 66 | 64 | | 0.53 |
| Faculty* | 192 | 1 | 4.31 | 0.038 |
| Academic Program* | 192 | 1 | 6.71 | 0.010 |
| Research | 192 | 1 | 1.81 | 0.178 |
| Affordability | 192 | 1 | 2.98 | 0.084 |
| Financial Aid | 192 | 1 | 0.002 | 0.965 |
| Funding Grad School 1 | 39 | 1 | 1.04 | 0.307 |
| Funding Grad School 2 | 28 | 1 | 0.77 | 0.371 |
| Funding Grad School 3 | 22 | 1 | 0.05 | 0.82 |
| Funding Grad School 4 | 13 | 1 | 1.73 | 0.18 |
| Grad School Status 1 | 95 | 3 | 3.25 | 0.35 |
| Grad School Status 2 | 49 | 3 | 2.24 | 0.52 |
| Grad School Status 3 | 36 | 4 | 4.84 | 0.30 |
| Grad School Status 4 | 22 | 2 | 1.73 | 0.42 |
| * Significant at the 0.05 level | | | | |
| Source: author analysis of Martin School student database & student survey | | | | |

Student Graduate School Selection Factors

The survey included on the Admission Reply Form asked students to list their top four school choices, but did not ask which they attended if they chose not to attend the Martin School. The Martin School does have access to such information as it is covered on the first page of the admission response form found in Appendix II. That information was not included on the second page, which is the survey page used in the analysis and thus could not be analyzed. Adding this question to future surveys will

enable better analyses. While the survey data did not illustrate which school the student chose if they did not attend the Martin School, it did highlight other schools to which students applied. In the survey schools are listed as the student's first, second, third, and fourth choice schools. As can be seen in Table 6 below, there are several schools which are repeatedly mentioned; Eastern Kentucky University, George Washington University, the University of Kentucky, the University of Georgia, and Syracuse University are among those schools mentioned frequently. It is expected that the University of Kentucky would appear within each choice category; however the analysis is unable to determine if the Martin School is the program of choice at the University of Kentucky as the survey did not ask for specific programs to which the student applied. Table 7 does show the University of Kentucky was mentioned as the student's first choice school more frequently than other schools.

TABLE 6: Top Competing Graduate Schools as Ranked by Students (by frequency) 2008-2010

| Rank | School |
|---|------------------------------|
| 1 st Choice | Eastern Kentucky University |
| | Indiana University |
| | New York University |
| | Syracuse University |
| | University of Kentucky |
| | University of Georgia |
| 2 nd Choice | Eastern Kentucky University |
| | George Washington University |
| | Syracuse University |
| | University of Kentucky |
| | University of Georgia |
| 3 rd Choice | American University |
| | Florida State University |
| | Ohio State University |
| | Rutgers State University |
| | University of Kentucky |
| | University of Louisville |
| 4 th Choice | George Washington University |
| | University of Kentucky |
| *Schools are listed alphabetically | |
| Source: author analysis of Martin School student survey | |

TABLE 7: University of Kentucky as School of Choice 2008-2010

| Rank | Number of times UK was mentioned | Number of times a different school was mentioned | UK as percentage of row total |
|------------------------|----------------------------------|--|-------------------------------|
| 1 st Choice | 61 | 103 | 59% |
| 2 nd Choice | 21 | 53 | 39% |
| 3 rd Choice | 5 | 38 | 13% |
| 4 th Choice | 6 | 24 | 25% |

Source: author analysis of Martin School student survey

The results of the analysis of the student survey responses did illustrate interesting points. The results of survey completion are particularly interesting and can be found in Tables 4 and 5. In terms of the students who did attend the Martin School, the split between students who completed the survey and students who did not is about 50 percent. As may be expected, more students completed the survey when they chose to attend the Martin School as compared with those who decided to take a different path. However, the difference between the two groups and each group's likelihood of completing the survey is not statistically significant, which tells Martin School administrators that students who choose to attend are just as likely to complete or not complete the survey as students who chose not to attend.

While it is valuable to know what factors influenced students who ultimately chose to attend the Martin School, it is arguably more valuable to know what factors influenced those students who likely chose other universities. Martin School administrators need to know what factors are important to students when they chose not to attend because such information may highlight traits of competing schools. These results are shown in Table 8. When examining strictly the number of times each factor was selected, the importance of the academic program stood out the most being mentioned 78 times. This has important implications for the way the Martin School recruits students. With this knowledge,

the administration can decide to possibly put more money and effort into advertising what programs are offered. Financial aid was chosen less frequently than any of the other factors. Interestingly, those students who were residents of Kentucky selected financial aid as an important factor less often than their out-of-state counterparts. Out-of-state students selected financial aid 22 times while residents of Kentucky listed it only four times. One explanation of this result concerns the tuition costs of in-state and out-of-state students; tuition is usually higher for out-of-state students. A number of students who attend the Martin School are employees of the University of Kentucky and do not pay tuition, which could also explain why fewer Kentucky residents thought financial aid was important. Between the two groups of students, those who attended the Martin School and those who potentially attended graduate school elsewhere, there were significant differences in the selections of the faculty and academic programs as influential factors. More students selected the faculty and academic programs when they chose to attend the Martin School than when they chose not to attend. These two factors would then be what the Martin School administrators should focus on. Advertising the various programs offered by the Martin School as well as the many achievements of the faculty are recruitment methods which may attract students. Once more, adding a question referring to why the student did not attend the Martin School may help highlight ways in which recruitment strategies can be altered to entice those students to choose the Martin School.

In summary, students who chose to attend the Martin School were more likely to be Caucasian, live in Kentucky, and list the faculty and academic program as influential factors leading them to choose a graduate institution. Students who chose not to attend the Martin School were more likely to have higher GRE scores, particularly quantitative scores. These students were also more likely to be from the group of students whose ethnicity was not known, reside in a country outside of the United States or a state other than Kentucky, and not complete the survey. Previous literature marked international student's unique concerns when choosing a graduate school. More international students were likely to

not attend the Martin School than domestic students. Administrators should look further into why these students are turning away from the University of Kentucky. While the analysis does not show any significant difference between domestic and international students who chose not to attend the Martin School in regards to selecting any one factor as being important, these statistics can still help alert administrators to reasons why the Martin School was not chosen. Future analyses may be able to obtain different results once the number of students whose nationality was unknown could be corrected. These results could likely influence the ways in which the school recruits international students.

TABLE 8: Primary Factors in Choosing a Graduate School as Selected by Students 2008-2010

| Factors | Number of Student Selections | Percentage of Total Selections: Attended | Percentage of Total Selections: Did Not Attend |
|---|------------------------------|--|--|
| Faculty | 31 | 74% | 26% |
| Academic Program | 78 | 69% | 31% |
| Personal Research Interests | 33 | 70% | 30% |
| Affordability (Tuition & Living Expenses) | 33 | 73% | 27% |
| Financial Aid Offer | 26 | 58% | 42% |
| Source: author analysis of Martin School student survey | | | |

Recommendations

Based upon the analysis above, several recommendations can be made in order to improve the collection of the Martin School applicant data, which will allow administrators to make more informed decisions about recruitment efforts. These recommendations are specific for each dataset. The Martin School database does contain useful information; however there are many holes within the dataset which cause any analysis to be incomplete. If the Martin School administration is planning to use the information contained in the applicant database to make important management decisions, consistency in the characteristics included in the dataset and database maintenance should be the focus. The analysis using database information could have examined the differences over time in more detail.

However, due to the lack of data on the year the students applied, an analysis could not be completed. Additional variables with data missing included the state and the country in which students reside. To do a more in-depth analysis of international students, having the specific country they are from would be beneficial.

The characteristics that are recommended to be included in the database from this point forward include:

- Gender
- Ethnicity
- Nationality
- State & country of residence
- Semester & year applied
- Test scores both individual & composite as applicable (GRE, GMAT, TOEFEL)
- Program to which the student applied
- Year of birth
- Undergraduate school
- Undergraduate G.P.A
- Undergraduate degree
- Previous graduate school
- Previous graduate program
- Previous graduate G.P.A
- Previous graduate Degree

In order to adopt these recommendations, the Martin School administrators should develop a list of characteristics and remain consistent in the collection of data on those characteristics. One of the limitations of this data is in the consistency of how information is entered. For example, the ethnicity of student, at one point in time, was specified by a number; ethnicity was later specified using a letter. The confusion between the numbers and letters make the data difficult to use. A codebook describing these characteristics and how they should be entered should be created. Once chosen, characteristics in the database should be changed as infrequently as possible to ensure the data is consistent and therefore appropriate for analysis.

In regards to the survey, administrators need to make an important decision. First and foremost, the Martin School needs to decide whether to improve the current survey in order to better obtain the information of interest or whether to eliminate it completely. The information potentially gained from such a survey could be valuable to the Martin School's effort to attract and retain students. Therefore it is recommended that the survey be modified and continue to be distributed.

Several changes to the survey form would improve the validity and reliability of information. Validity refers to the survey's ability to measure what it is attempting to measure (Langbein, 2006). For example, if the attempt is made to capture important factors in student's school choice, areas need to be added where the student can list new factors other than those included in the survey. Reliability refers to the survey's ability to obtain similar results for each student, ensuring that each student understands what the survey questions ask and therefore answer appropriately (Langbein, 2006).

If administrators are interested in finding out why students chose to attend other graduate schools instead of the Martin School, the current survey would need to be altered to allow such knowledge to be collected. By adding in an option for job availability for the student or their spouse and an option to select "other" as factors which influenced the student's decision, the survey will be able to more validly measure the factors which influence graduate student school choices. As cited in previous literature, the employment factor can weigh heavily on a student's ability to select a graduate school. Leaving a line blank or at least giving the option to select "other" may allow the student to list factors which influenced them personally, factors which would not normally be caught by the closed-ended options currently included.

The survey in its current format does not ask the student why they chose a different school if indeed that was the decision made. A question of that nature should be added to the survey, as the answer could provide administrators with valuable information pertaining to competing graduate programs. Simply because the student chose not to attend the Martin School, does not mean the

student chose to attend a different university. While a similar question is included on the first page of the Admissions Reply Form, such a question is not on the second page, which contains the actual survey.⁶ The survey page was the only page analyzed out of the form due to confidentiality maintenance. A question concerning what the student chose to do if they chose not to attend graduate school would result in beneficial information if added to the survey page. In addition, a section should be added where the student can specify the graduate program they applied to within each school. The analysis assumes that the Martin School is the program referred to when the University of Kentucky is listed as a school to which the student applied. However, it is possible the student applied to the Patterson School or a different program within the University.

Making more of an effort to increase the response rate is important. Response rates for mailed surveys range between 30 and 40 percent (Langbein, 2006). While the Martin School has a response rate of 40 percent and higher each year, a higher response rate is always preferred, especially when considering students who chose not to attend.⁷ Moving from a mailed survey to an online survey may improve the response rate. There will be some additional costs to get the electronic survey operational, but once those initial costs have been absorbed, the future costs would be relatively small. Using a resource such as SurveyMonkey.com⁸, the Martin School could have all of the surveys analyzed without the costs accrued had a staff person been used to analyze the data. This resource, for example would also allow the survey to be secured, require questions to be answered, and report results in various formats. The SurveyMonkey program can require each question to be answered before the student can move to the next question, which would assist in solving the problem of getting surveys returned to the Martin School without being filled out in entirety.

⁶ See the Admissions Reply Form in Appendix B

⁷ Response rates can be found in Appendix A Table B

⁸ <http://www.surveymonkey.com/>

An additional modification of the student survey deals with collection. It is recommended that the administration focus on obtaining responses from those students who attend a competing school instead of the Martin School. In order to entice this group of students to take the time to fill out a survey, the Martin School could offer an incentive such as entering the student's name into a drawing for anything from a gift card to a new electronic device. The item to be raffled off will depend on the ability of the department to fund the purchase of the item. Such a project would ideally be handled by a graduate assistant or by a staff person whose main job is to handle these two sets of data. Ensuring that these datasets are as complete as possible is too large a job to add onto existing staff persons. Potentially, a Capstone project could be done in the coming years in which the student attempts to obtain responses, specifically from students who did not attend, then analyzes them in relation to existing responses.

The final and potentially the most important recommendation is to keep survey data for more than three years and enter it into a database that is updated with each new batch of surveys. Changes over time and trends can prove to be more demonstrative of the information of interest and answer potential management questions than the results of the current analysis. Making use of graduate assistants and future Capstone projects is central to implementing these recommendations. Creating a set of procedures which are clear enough that graduate assistants can follow them easily from year-to-year as assistants change would be helpful in regards to entering the data from applications each year. There will be confidentiality concerns in having students handle such information which will need to be considered. Future Capstone projects may be able recommend more specific procedures or delve deeper into the survey in general. Perhaps a good project for the program evaluation class would be the development of a survey instrument which could more accurately collect the desired information. Currently the questions on the survey may be interpreted differently by each student which affects the reliability of the survey. By using the program evaluation class to develop the survey instrument and

validate the survey through pre-tests, the Martin School will be able to reliably collect the information of interest.

Caveats

The analysis presented was limited in addressing questions important to the administrative task of recruiting high quality students due to the incompleteness of both datasets. The inconsistency of characteristics contained in the student database prevented the analysis from examining a number of relationships, such as between the applicant's country or state of origin and likelihood of that student being accepted into the Martin School or choosing to attend the Martin School. Problems may also exist with the analysis of test scores; the Martin School accepts both the GRE and the GMAT standardized test scores, however information on GMAT scores is not included in the database. Test scores were missing for the majority of the International students as well. The addition of GMAT scores as well as the addition of a variable noting which test scores were provided by each student would allow for a better analysis. Assumptions had to be made in the analysis which may be incorrect. One assumption is that a program within the Martin School is what the students were referring to when they listed the University of Kentucky as a school preference. It is plausible that this assumption is incorrect, thus further distorting results. Administrators cannot truly know which factors influence a student's decision to attend the Martin School because of a lack of accurate feedback on the survey. Future analyses will be more accurate with the completion of the recommendations made to improve both sets of data as the caveats all relate back to the incompleteness of data.

Summary

Student recruitment and retention are important issues for both graduate schools and graduate programs. In regards to the Martin School, decisions about strategies for attracting applicants can be

aided by data retrieved from admissions applications and a survey of students. It becomes key then for administrators to collect and adequately maintain useful data and understand how the analysis of that data might benefit the department.

The analysis of Martin School data illustrated that students who were rejected from the Martin School were more likely to be male with an unknown ethnicity and reside in a country outside of the United States. Students who were accepted into the Martin School were more likely to be Caucasian females from the United States, but reside in a state other than Kentucky. Once admitted, students who chose to attend the Martin School were more likely to be Caucasian, live in Kentucky, and list the faculty and academic program as influential factors leading them to choose a graduate institution. Students who chose not to attend the Martin School were more likely to have higher GRE scores; to not have their ethnicity included in the database; to be from a country outside of the United States; if a United States resident, to reside in a state other than Kentucky; and to not complete the survey.

The analysis highlighted ways in which the Martin School student database and the student survey can be altered to allow for more complete data collection. These adjustments focus on collecting data which is consistent and complete. It is recommended that the survey be changed in multiple ways to better capture the information intended. Adding new questions and altering current questions, creating an online survey form, and attempting to increase the response rate for students who did not attend the Martin School are among the recommended survey improvements.

The Martin School datasets do have some utility in assisting administrators in making informed recruiting decisions. Yet, the flaws in each dataset undermine the ability of the data to help administrators as much as is possible. While this analysis was unable to complete several interesting comparisons, with the recommended changes, future analyses will be better equipped to make informative comparisons as well as answer the questions this analysis left unanswered.

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Appendix A

Additional Charts & Tables

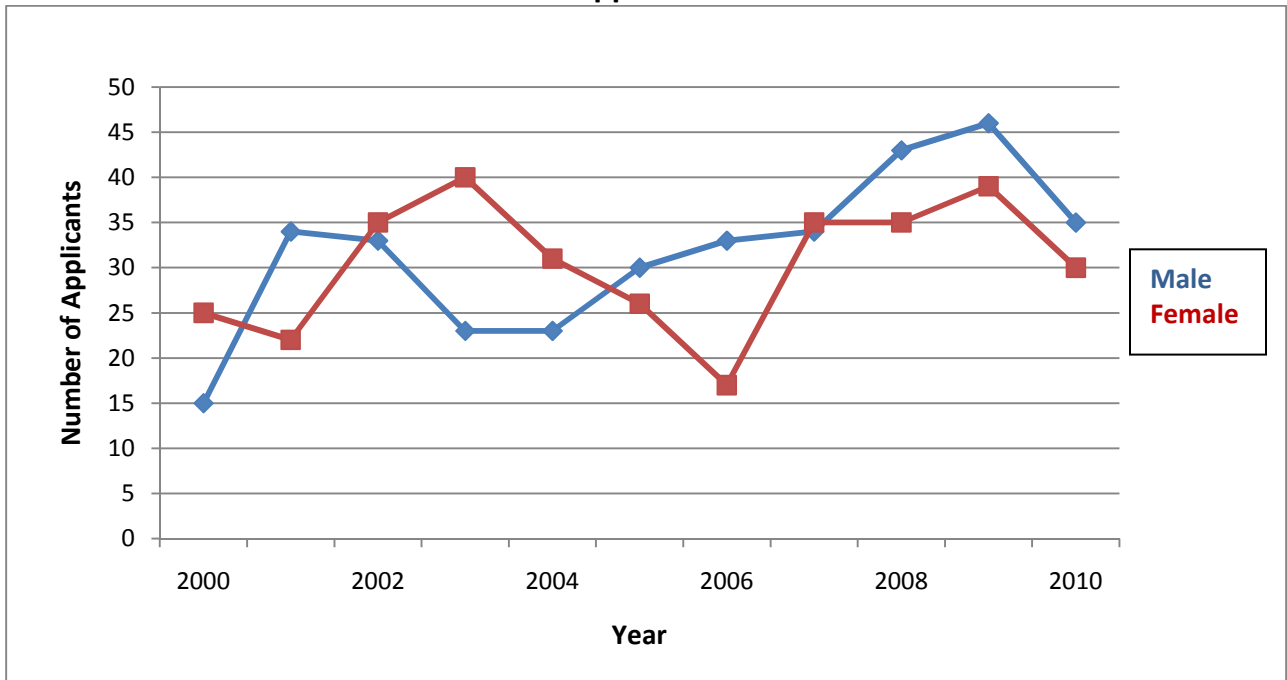
TABLE A: Variables Missing Data 2000-2010

| Variable | Frequency |
|--|-----------|
| Country* | 467 |
| Ethnicity* | 390 |
| State* | 164 |
| Nationality | 94 |
| Undergraduate GPA | 75 |
| Undergraduate Degree | 54 |
| GRE Verbal Score | 20 |
| GRE Quantitative Score | 20 |
| GRE Total Score | 11 |
| Undergraduate School | 7 |
| *missing a large number of students Source: author analysis of Martin School student database | |

TABLE B: Survey Response Rates per Year 2008-2010

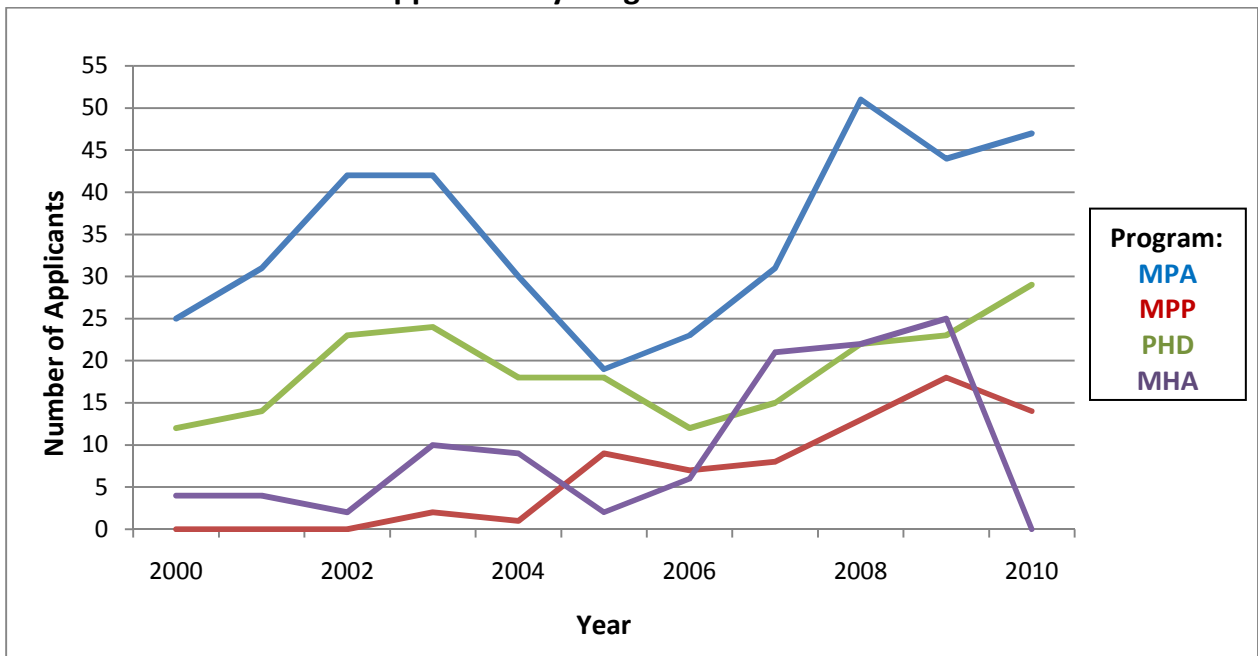
| | Total Population | | | Students Who Attended | | | Students Who Did Not Attend | | |
|---|------------------|-----------|------|-----------------------|-----------|------|-----------------------------|-----------|------|
| | Sent | Completed | Rate | Sent | Completed | Rate | Sent | Completed | Rate |
| 2008 | 53 | 22 | 39% | 31 | 15 | 48% | 25 | 7 | 28% |
| 2009 | 63 | 39 | 62% | 40 | 25 | 68% | 22 | 14 | 64% |
| 2010 | 64 | 4 | 70% | 32 | 23 | 72% | 32 | 22 | 69% |
| Combined | 184 | 106 | 58% | 103 | 63 | 61% | 79 | 43 | 54% |
| Source: author analysis of Martin School student survey | | | | | | | | | |

CHART A
Male & Female Applicants 2000 – 2010



Source: author analysis Martin School student database

CHART B
Applicants by Program 2000 – 2010



Source: author analysis of the Martin School student database

Appendix B

UK UNIVERSITY OF KENTUCKY

Martin School of Public Policy and Administration

CURRENT ADMISSIONS REPLY FORM

Please complete the entire form and return it to the Office of Student Services in the enclosed self-addressed stamped envelope within two weeks. The return of this form constitutes an official response to our officer of admission. If you have any questions regarding your admission or this form, please contact the Student Affairs office via telephone at 859-257-5594, email: solee@uky.edu; or fax (859-323-1937).

Please check *one* of the following:

- I _____ **accept** the offer of admission for:
 Spring 2011 Fall 2010
- I am unable to attend the Martin School of Public Policy and Administration in academic year 2009-10 and would like to request deferral of admission to academic year 2010-11. I understand that I will need e-mail this request to my Graduate Admissions Officer
- I plan to _____ rather than attending graduate school.
- I have been accepted to _____ and plan to pursue graduate work in the field of _____.

Mailing Address (through August 2010)

| | | | |
|----------------|-------|-------------|---------|
| Street Address | | | |
| City | State | postal code | Country |
| Telephone | | e-mail | |
| Signature | | Date | |

Degree (program to which you were admitted): MPA MPP Ph.D. Joint _____

Continued on the Back Side

Please list in order of your preference the Graduate Schools to which you applied (including UK). Indicate which schools offered you admission and the type of funding offered by the school and the amount:

| Choice | Graduate School | Admitted | Funding | Amount |
|--------|-----------------|----------|---------|--------|
| First | _____ | _____ | _____ | _____ |
| Second | _____ | _____ | _____ | _____ |
| Third | _____ | _____ | _____ | _____ |
| Fourth | _____ | _____ | _____ | _____ |

If you are pursuing a graduate degree, whether or not you plan to join the Martin School of Public Policy and Administration, please check below the primary factors in selecting a graduate program:

- The faculty
- The academic program
- My particular research interests
- Tuition and living expenses are more within my financial reach at this institution.
- Financial aid offer

What one thing could we have done to make your admission/application experience better or more efficient?

Please use the space below for any comments you would like to share with us about our school's admissions program.

Thank you for completing this form and for your help in improving our program!

Name: _____ Date: _____

Please select the factors listed below that influenced your choice of graduate schools:

- The faculty
- The academic program
- My particular research interests
- Tuition and living expenses are more within my financial reach at this institution.
- Financial aid offer
- Job availability for me or my spouse
- Other _____
- Other _____

Please list in order of your preference the Graduate Schools to which you applied (including UK). Please indicate the:

| | School | Academic Program | Admission Status | Funding Awarded & Amount |
|-----------------|---------------|-------------------------|-------------------------|-------------------------------------|
| 1 st | _____ | _____ | _____ | _____ |
| 2 nd | _____ | _____ | _____ | _____ |
| 3 rd | _____ | _____ | _____ | _____ |
| 4 th | _____ | _____ | _____ | _____ |
| 5 th | _____ | _____ | _____ | _____ |

Are you an employee of the University of Kentucky? _____

If you chose to attend a graduate program other than the Martin School, please specify the school and the program. _____

Continued

If you chose to attend a graduate program other than the Martin School, please describe why?

If you chose not to attend any graduate program, please describe why you made that decision.

Please use the space below for any comments you would like to share with us.

Thank you for completing this form and for your help in improving our program!