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***Research Article***

# The Impact of Different Demographic Variables on Determinants of University Choice Decision: A Study on Business Administration Students of the Foundation Universities in Istanbul

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**Abstract**

By examining the relevant literature, many factors can be determined as effecting factors on university choice process. However, existing literature does not fully explore the effect of demographic variables on these factors. This research is aimed at identifying the relationship between university selection criteria and demographic variables, defined in the study as gender, family income level, types of high school graduated from, and whether working or not during the education period in the business administration departments of the foundation universities in Istanbul. The study was designed by descriptive research method using a survey. The face-to-face questionnaires were conducted to the students during the 2014-2015 academic year of selected foundation universities. Convenience sampling method was used to determine the participants of the study. A total of 600 questionnaire forms were delivered to the students in these universities, the 510 questionnaire forms were counted as valid. At the end of the study, based on the relevant literature, 13 determinants that play an influential role on students' decisions were obtained. Next, the ranking of the university choice criteria on Turkish students' decisions was proposed. Lastly, the relationships between demographic variables outlined above and determinants of the university choice process are then presented.

**Keywords**

Higher education • Demographic variables • Determinants of students' university choice decision • Business administration departments • Foundation universities

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Students are now more careful and selective in choosing their universities. Nowadays, as there are many alternatives, the university choice process is highly complicated for them. It has long-term implications related to financial costs as well as psychological costs for any student. Therefore, to develop effective recruitment strategies has gained importance for university managers. They need to have a clear understanding of how and why the students select a university and the determining factors in decision-making process of students order to design their strategies. Even though understanding this process is not easy, identifying the relationship between some demographic variables and the factors influencing the process can be seen as a necessary activity. By using research results, higher education institutions can develop a better understanding of how demographic variables affect the determinants of the students' decision-making process for the universities. Understanding of this relationship has become an instrument for developing a recruitment strategy to establish a strong position against competitors.

The subject of students' decision-making process for university choice has been widely examined by researchers. In the existing literature, many studies mention various criteria. Webb (1993) claimed that academic reputation, accreditation, proximity, costs, and potential marketability of the degree obtained are important factors for university choice process. Chapman (1993) proposed that the quality of the faculty and its degrees as well as overall academic reputation are significant determinants in students' decision-making process. Coccari and Javalgi (1995) indicated the following factors as influential: quality of faculty, degree programs, costs, variety of offerings, and classroom instruction. Kallio (1995) emphasized that residency, academic environment, reputation, and quality of institution, along with course diversity, institution size, and availability of financial aid are the elements that have significant importance on university choice process. Kaynama and Smith (1996) found that the opinions of others are important along with job availability for determining pre-business students' university choices. In a study conducted by Connor, Pearson, Court, and Jagger (1996) revealed that the availability of the subject of interest is the most important factor in university choice as well as tuition fees and other costs.

Strasser, Ozgur, and Schroeder (2002) state that determinants of university choice process can be classified into three groups: interest of study, influence of others, and career prospects. Soutar and Turner (2002) sorted the factors of university choice process into two categories: university-related and personal factors. The university-related factors are as follows: type of course, academic reputation of the institution, campus, quality of the teaching staff, and type of university, and the personal factors are as follows: distance from home, family opinion, and university choices of friends. Mazzarol and Soutar (2002) identified six broader categories: institution characteristics, knowledge and awareness of the host country, recommendations from friends and

relatives, environment, cost, social links, and geographic proximity. Belanger, Mount, and Wilson (2002) determined that campus, staff, and networking are important factors that influence students' choice for university. Donnellan (2002) emphasized the influence of personal contacts, parents, location, and social life on choice process. Hoyt and Brown (2003) listed the most important choice factors as academic reputation, quality of faculty and instruction, location, cost, scholarship offers, financial aid, and student employment opportunities. They also state that the other important factors are the size of institution, surrounding community, friendly service, availability of graduate programs, variety of courses offered, extracurricular programs, admission requirements, admission to the graduate school, affiliation, attractiveness of campus facilities, class size, and quality of social life. Price, Matzdorf, Smith, and Agahi (2003) conducted face-to-face interviews with 87 students from four different universities in England. They emphasized the quality of education, academic prestige as well as the availability of subject major, library, and informational technology facilities as determinants for university choice. In a separate study by Sidin, Hussin, and Soon (2003), five factors were determined as influential: personal factors, academic quality and facilities, campus, socialization, and financial aid.

According to Donaldson and McNicholas (2004), reputation, nature of courses, location and address, financial considerations, facilities, social climate of the department, program structure, accreditation factors and the course for postgraduate studies influence the students' university choice. Veloutsou, Lewis, and Paton (2004) surveyed high school seniors in Scotland, Northern Ireland, and England. They found that the programs, academic prestige of departments, academic prestige of the university, dormitory and campus facilities, and job placement of graduates are the most significant factors for the university choice. Shanka, Quintal, and Taylor (2005) stated that closeness to home, education quality and variety, cost of living and tuition, family recommendation, and safety greatly affected the university choice process. Yamamoto (2006) emphasized on some marketing tools in university decision process. She states that the brochures, posters, meetings, sponsorships and billboards, web pages, TV and newspaper advertisements are mostly used as communication tools for university selection. In a similar study as of Yamamoto's, Lee and Chatfield (2011) and also Steele (2002) emphasized the impacts of advertisements and some communication tools in their studies.

Holdsworth and Nind (2006) emphasized the importance of quality and flexibility in terms of degree/course combinations, availability of accommodation, costs, and proximity to home. Maringe (2006) identified the most important factor of choice process as job prospects. Briggs (2006) found the following ten factors that influence students' choice of higher education: academic reputation, distance from home, personal perception, graduate employment, social life, entry requirements,

teaching reputation, quality of the faculty, information supplied by university, and research reputation. Foskett, Roberts, and Maringe (2006) stated the flexibility of fee payments, availability of financial aid, and reasonable accommodation costs to exert a significant influence on students' choices of a higher education institution. Chen (2007) mentioned about the internationalization activities, such as faculty exchange programs, collaborations, attending international conferences, and publishing research papers, played a crucial role in guiding these students' choice process. Alvez and Raposa (2007) listed academic excellence, job market prospects, and location as the most significant factors that determine academic choices.

Strayhorn, Blakewood, and Devita (2008) suggested that three sets of factors influence university choice decisions: academic, financial, and individual traits or experiences. Tavares, Justino, and Amaral (2008) specified the main institutional characteristics as influential factors on choice process. They described the factors as teaching quality, scientific research quality, prestige, infrastructure, computer facilities, library, location, quality of the curriculum, administrative support, extra-curricular factors such as sports, leisure or canteens, and availability of exchange programs with foreign universities. Ho and Hung (2008) determined 14 decisive factors that can be classified into five categories. These include the following factors: living conditions (location, convenience, and campus), learning environment (faculty, curriculum, and research), reputation (academic and alumni), economy (tuition fee, subsidies, and employability) and strategy (exam subjects, exam pass rate, and graduation requirements). Employability, curriculum, academic reputation, faculty, and research environment were the most important elements found in this study. Wagner and Fard (2009) stated that proposed factors such as cost of education, degree content and structure, physical aspects and facilities, value of education, and institutional information all have significant relationships with students' intentions for higher education.

Ming (2010) said that the independent variables which influence the students' college choice decision have been identified as location, academic programs, college reputation, educational facilities, cost, availability of financial aid, employment opportunities, advertising. Kusumawati, Yanamandram, and Perera (2010) determined that total expenses, reputation, proximity, job prospects, and influence of parents were the five most importance choice criteria for Indonesian students. They also stated that the next five factors, namely academic quality, friends, psychological factors, facilities, and campus environment are also important for students. Agrey and Lampadan (2014) interested in discovering what factors influence students' choice of university, reviewed the various elements that have an impact on the decision-making process. From this study, five factors emerged as follows: (i) support systems, both physical (e.g. bookstore, counselling office) and non-physical (scholarships, credit transferability); (ii) learning environment (modern learning environment and facilities, reputation,

beautiful campus, library and computer lab) and job prospects; (iii) having good sporting facilities; (iv) a strong student life program (health care services, residential accommodation) and activities (wide range of extracurricular activities); (v) a safe and friendly environment (safe campus as well as supporting faculty). Manoku (2015) mentioned about the importance of reputation of the institution, location and the opportunities of exchange programs in university choice process.

As literature on university choice process is limited (Çokgezen, 2012; Sezgin & Binatlı, 2011) for Turkey, all of the articles cited above are based on the data of other countries. When all the relevant literature has been examined, it can be easily observed that while there have been many studies conducted on the process of choice criteria of a university in many countries, little research exists on the determinants for university choice of Turkish students. This research has also aimed to contribute filling the gaps in Turkish university choice process literature.

Yamamoto (2006) focused on the importance of the university entrance exam scores and influence of family in university selection. The study of Tatar and Oktay (2006) tried to investigate students' behaviors in search and choice during university placement, and also to examine how students' choice process effects on their persistence decisions. Sezgin and Binatlı (2011) demonstrated that academic characteristics of the university and technological infrastructure in education are significant factors in influencing students' choice of university. They proposed that the most important choice factors for students in Turkey are related to academic characteristics of the university. Çokgezen (2012) proposed that the factors affecting students' choices can be classified in two broad categories: the characteristics of the prospective student (consumer) and those of the school (product). Student characteristics refer to students and their environment. School characteristics refer to services provided by universities that meet the expectations of students and the cost of these services. His article indicated that a student typically makes his/her choice by comparing future prospects and the services provided by the university with the costs. Even if, the researches outlined above have been conducted on the university choice decision for Turkish students, they are not enough to provide a better understanding about this process. In addition all studies on this topic refer only to the determinants of the university choice process, not relating it to the effect of demographic factors. The purpose of this study is to determine students' university selection criteria and the relationship between the demographic variables. Therefore, the aim of this study can be identified as determining the effect of demographic variables on university choice determinants on business administration departments of the Foundation Universities in Istanbul. As the aim of this study is to contribute towards filling these gaps in the research with an examination of choice factors alongside their relationship with demographic variables, the main research question of the study is determined as

follows: Do *demographic factors* create differences with respect to *the determinants of university choice decisions of Turkish students?* In accordance with this purpose, this research question is expanded into four sub-questions related to the chosen demographic variables:

Do *students' university choice decisions' determinants* differ due to *gender?*

Do *students' university choice decisions' determinants* differ due to *family income levels?*

Do *students' university choice decisions' determinants* differ due to *type of high school graduated from?*

Do *students' university choice decisions' determinants* differ due to *having a job during the study period?*

## Method

### Research Design

The study was designed using the descriptive research method. It was selected because of its high degree of representativeness and the ease in which a researcher could obtain the participants' opinion (Polit & Beck, 2004). The descriptive research method is pretty much as its name indicates, describe the situations or phenomenon being studied, that is, it does not make accurate predictions, and do not determine cause and effect (Jackson, 2009). There are three main kinds of descriptive research methods: observational methods, case-study methods and survey methods. In this study, the survey method was preferred.

### Sampling

Convenience sampling method was used to determine the participants of the study. It is the least rigorous technique, involving the selection of the most accessible subjects (McDaniel & Gates, 1999). Also, this method is the least costly to the researcher, in terms of time, effort and money (Marshall, 1996). The question forms were delivered to the students during the 2014-2015 academic year of selected foundation universities. Universities involved in this study had to be similar according to the some features such as proximity to the city center, foundation period, the language of instruction, faculty-department type and education cost to construct homogeneity of study. For instance, universities which are close to the city center can be more attractive than those which are not. Asking the students who study in the university which is too far from the city center, "How much did the proximity of the university affect your selection decision?", the students' response will not be meaningful. That is why, the intended population

is limited by the following criteria: (i) the foundation universities in Istanbul, (ii) the students of business administration departments which are studying in English, (iii) operating more than ten years and, (iv) proximity to the city center of Istanbul. In addition, first and second year students, who are closer to the process of selection their universities than older ones, are selected as a fifth criteria to determine more appropriate sample. There are 40 foundation universities in Istanbul. 23 of them have business administration department whose academic language is English. As 9 universities that have been operating for less than ten years and 8 of them are far from the city center, these were excluded from the research. Finally 6 universities (Bahçeşehir University, Beykent University, Doğuş University, Haliç University, İstanbul Aydın University, and Istanbul Bilgi University) were determined for the research. On the basis of the factors identified from the literature, a questionnaire was prepared and delivered on a convenience base to the first and second year students in the business administration department (studying in English) of determined foundation universities. A total of 600 questionnaire forms were delivered to the students, regardless of their scholarship status. 510 questionnaire forms (267 of them were the first year students, 243 of them were the second year students) were counted as valid, excluding 90 partially filled out questionnaires. Hence the valid questionnaire rate was 85%. According to OYSM data, the number of students registered at business administration department in determined universities can be seen in Table 1.

Table 1
*The Number of Students Registered at Business Administration Department*

| | 2013 | 2014 | Total |
|---|---|---|---|
| Bahçesehir University | 60 | 45 | 105 |
| Beykent University | 36 | 70 | 106 |
| Doğus University | 19 | 17 | 36 |
| Haliç University | 32 | 15 | 47 |
| Istanbul Aydin University | 39 | 51 | 90 |
| Istanbul Bilgi University | 150 | 146 | 296 |
| Total | 336 | 344 | 680 |

Table 2 shows the distribution of sample according to universities and years of students.

Table 2
*Distribution of Sample According to the Universities and Years (N = 510)*

| | *1st Year* | *2nd Year* | *Total* |
|---|---|---|---|
| Bahçeşehir University | 33 | 26 | 59 |
| Beykent University | 16 | 37 | 53 |
| Doğuş University | 10 | 5 | 15 |
| Haliç University | 15 | 7 | 22 |
| Istanbul Aydın University | 35 | 49 | 84 |
| Istanbul Bilgi University | 140 | 137 | 277 |
| Total | 249 | 261 | 510 |

Table 3 shows the frequencies of the demographic variables. According to the descriptive statistics, the frequency of the respondents' gender was approximately equal. Of the respondents, 246 were female (48.2%) and 264 were male (51.8%). The majority of the respondents graduated from private schools and ordinary high schools, the frequencies of which were equal (154 students, 30.2%). The number of students who graduated from Anatolian schools did not differ significantly. The number of students who graduated from science and vocational schools was relatively lesser than the others. The income of the families of the respondents was also distributed in an approximate, equal manner. The majority of the sample lay in the 5,000–10,000 group (173 students, 33.9%). Approximately one in four students has to work at a job during their university education period. The results of the frequency analysis can be seen in Table 3.

Table 3
*Frequencies of Demographic Variables of Participants (N = 510)*

| | *f* | % |
|---|---|---|
| *Gender* | | |
| Female | 246 | 48.2 |
| Male | 264 | 51.8 |
| *High School Graduation* | | |
| Private School | 154 | 30.2 |
| Anatolian High School | 127 | 24.9 |
| Science High School | 15 | 2.9 |
| Vocational High School | 60 | 11.8 |
| Ordinary High School | 154 | 30.2 |
| *Income of the family (TL)* | | |
| 2,500< | 103 | 20.2 |
| 2,500–5,000 | 107 | 21.0 |
| 5,000–10,000 | 173 | 33.9 |
| >10,000 | 127 | 24.9 |
| *Employed or Non-employed* | | |
| Yes | 135 | 26.5 |
| No | 375 | 73.5 |

## Data Collection Tool

The questionnaire was used as an instrument for collecting data in this research. When designing questions of the survey, the closed-ended questions were used. To prepare the survey questions, first, the relevant literature has been reviewed. Second, four experts who are managers in the foundation universities and give lectures at business administration department were consulted. The question form was revised according to their opinions. Based on the review of the existing literature and experts views, the study identified the following 13 factors that play an influential role on students' decisions: staff quality, exchange program opportunities, scholarship opportunities, job prospects, social facilities and physical conditions, proximity to city center, opportunities for double major and internal transfers, recommendations from friends and relatives.

Finally, the questionnaire of the study consisted of 17 close-ended questions, 4 of them are related with demographic variables, defined in the study as gender, family income level, types of high school, and whether they have a job during the study period. These determinants were measured on a five-point Likert-type scale, with responses ranging from 1 (strongly disagree) to 5 (strongly agree). To determine the Likert scale ranges, the width of the class interval was found by dividing the data range with the chosen number of classes (Kan, 2009). The difference between the minimum and maximum limits was then found (5 − 1 = 4). After this process, the number was divided by the numbers of choices in the analyses, that is (4/5 = 0.80). In this case, the average of the scores obtained from the measurement scale was evaluated as per Table 4.

Table 4
*Class Intervals of Likert Scale*

| Points | Evaluation | Range |
|---|---|---|
| 5 | Strongly agree | 4.21–5.00 |
| 4 | Agree | 3.41–4.20 |
| 3 | Neutral or Slightly agree | 2.61–3.40 |
| 2 | Disagree | 1.81–2.60 |
| 1 | Strongly disagree | 1.0–1.80 |

Table 5
*Choice Criteria and Relevant References*

| University Choice Selection Criteria | Cited from |
|---|---|
| Staff quality | Soutar and Turner (2002); Belanger, Mount, and Wilson (2002); Sidin, Hussin, and Soon (2003); Strayhorn, Blakewood, and Devita (2008) |
| Exchange program opportunities | Tavares, Justino, and Amaral (2008); Chen (2007); Manoku (2015) |
| Scholarship opportunities | Hoyt and Brown (2003); Kallio (1995); Sidin, Hussin, and Soon (2003); Foskett, Roberts, and Maringe (2006); Agrey and Lampadan (2014) |
| Job prospects | Alvez and Raposa (2007); Veloutsou, Lewis, and Paton (2004); Kusumawati, Yanamandram, and Perera (2010); Strasser, Ozgur, and Schroeder (2002) |
| Social facilities and physical conditions | Matzdorf, Smith, and Agahi (2003); Veloutsou, Lewis, and Paton (2004); Mazzarol and Soutar (2002); Briggs (2006); Wagner and Fard (2009); Sezgin and Binatlı (2011) |
| Proximity to city center | Alvez and Raposa (2007); Kusumawati, Yanamandram, and Perera (2010); Donaldson and McNicholas (2004); Tavares, Justino, and Amaral (2008) |
| Opportunities for double major and internal transfers | Coccari and Javalgi (1995); Kallio (1995); Soutar and Turner (2002); Mazzarol and Soutar (2002); Ho and Hung (2008) |
| Recommendations from friends and relatives | Strasser, Ozgur, and Schroeder (2002); Mazzarol and Soutar (2002); Donnellan (2002), Çokgezen (2012) |
| The cost of education | Connor, Pearson, Court, and Jagger (1996); Brown (2003); Holdsworth and Nind (2006); Strayhorn, Blakewood, and Devita (2008) |
| Proximity from home | Donnellan (2002); Donaldson and McNicholas (2004); Shanka, Quintal, and Taylor (2005); Kusumawati, Yanamandram, and Perera (2010) |
| Advertising | Steele (2002); Yamamoto (2006); Ming (2010); Lee and Chatfield (2011) |

The questionnaire of study comprised of two parts. The first part consisted of four demographic variables questioning students' *gender*, *type of high school* where

they graduated from (five options), *level of family income* (four options), and the existence of *a requirement to work* in the period of their university education (yes/no). The second part of the questionnaire contained 13 questions based on the existing literature. List of criteria and relevant references can be seen in Table 5.

Following the preparation of the questionnaire, face-to-face surveys were conducted with students in determined universities. During the survey, students were informed about the purpose of the study, and further clarifications were made when they needed.

### Data Analysis

Based on the basic assumption of parametric analysis of variance, the data should be normally distributed. Therefore, in order to be able to use parametric tests, data were initially tested in terms of whether they had normal distribution or not. To find out whether the data revealed normal distribution or not, Kolmogorov-Smirnov test was used. The data is not normally distributed according to Kolmogorov Smirnov test, instead of *t*-test and ANOVA, the non-parametric alternatives, Kruskal Wallis and Mann Withney U were used in the study.

### Validity and Reliability

The items of study are the criteria that influence the students' university choice decision. In the study, as the each criteria was measured by one factor, the reliability analysis was not conducted. Validity can be defined as whether what we tried to measure was actually measured (McDaniel & Gates, 1999). It can be examined from a number of different perspectives, including face, content, criterion-related and construct validity. To ensure the validity of the study, content validity was used. It means the degree to which the instrument items represent the universe of the concept under study (McDaniel & Gates, 1999). First, the variables were defined precisely to indicate what was to be measured. Second, an exhaustive literature search was conducted to determine all items for inclusion on the questionnaire. Third, expert opinions were taken to control whether an item should be included.

## Findings

### Ranking of the University Selection Criterion

According to the respondents, *the quality of staff* was the most important selection criterion, with a score of 3.88. The least important criterion from the results was the *advice of high school teachers*. The mean and ranking of the responses are provided in Table 6.

Table 6
*Mean and Rank of the University Choice Criteria*

| | Mean | Rank |
|---|---|---|
| Staff quality | 3.88 | 1 |
| Exchange program opportunities | 3.50 | 2 |
| Scholarship opportunities | 3.48 | 3 |
| Job prospects | 3.44 | 4 |
| Social facilities and physical conditions | 3.44 | 5 |
| Proximity to city center | 3.36 | 6 |
| Opportunities for double major, minor, and internal transfers | 3.36 | 7 |
| Recommendations from friends and relatives | 3.05 | 8 |
| The cost of education | 3.05 | 9 |
| Proximity from home | 2.97 | 10 |
| Advertising | 2.86 | 11 |
| Friends who have studied at the same university | 2.72 | 12 |
| Advice of high school teachers | 2.67 | 13 |

## The Gender Factor

In order to determine the differences between gender and criteria of university choice decisions, Mann-Whitney U test was performed. The results are follow:

Table 7
*Gender Factor (N = 510)*

| | *U* |
|---|---|
| The cost of education | 31.101 |
| Proximity to city center | 29.700 |
| Proximity from home | 30.002 |
| Staff quality | 30.602 |
| Social facilities and physical conditions | 29.621 |
| Friends who have studied at the same university | 29.799 |
| Exchange program opportunities | 27.826[a] |
| Scholarship opportunities | 32.063 |
| Job prospects | 29.689 |
| Advice of high school teachers | 31.913 |
| Advertising | 31.472 |
| Recommendations from friends and relatives | 32.213 |
| Opportunities for double major, minor, and internal transfers | 30.069 |

[a] Group means are significantly different in 95% level ($p < .05$)

Table 8
*The Mean Ranks of Gender (N = 510)*

| | | *N* | Mean Rank |
|---|---|---|---|
| Exchange program opportunities | Female | 246 | 274,39 |
| | Male | 264 | 237,90 |

According to the Mann-Whitney U statistics, Table 7 indicates that from among all the 13 criteria, only “exchange program opportunities” was statistically different.

In Table 7 it is seen that a significant difference did not occur in terms of *gender* in twelve of the criteria. In addition, Table 8 shows mean rank results. The results also indicate that female students placed more emphasis on opportunities for exchange programs than male students in choice process.

**Family Income Level**

In order to determine the differences between family income level and criteria of university choice decisions, Kruskal–Wallis Test was performed. The results are follow:

Table 9
*Family Income Level (N = 510)*

| | Chi-Square |
|---|---|
| The cost of education | 84.938[a] |
| Proximity to city center | 31.368[a] |
| Proximity from home | 12.272[a] |
| Staff quality | 6.729 |
| Social facilities and physical conditions | 5.628 |
| Friends who have studied at the same university | 17,612[a] |
| Exchange program opportunities | 3,693 |
| Scholarship opportunities | 74.385[a] |
| Job prospects | 30.915[a] |
| Advice of high school teachers | 19,637[a] |
| Advertising | 28.259[a] |
| Recommendation from friends and relatives | 21,106[a] |
| Opportunities of double major, minor, and internal transfers | 42.456[a] |

[a] Significant in 95% level (df = 3, $p < .05$).

According to the tests' statistics, as seen in Table 9, with the exception of three criteria (*staff quality*, *social facilities and physical conditions*, and *exchange program opportunities*), the score means for all the other criteria were statistically different between (at least two) *income groups*. This means that ten of the criteria significantly differ for *family income levels*. In addition to this finding, mean ranks were listed to show in which groups of *income levels* the differences had occurred. For example, *scholarship opportunities* and *job prospects* are more important criteria for families who have an income level of less than 5,000 TL. While *cost of education* is a more important criterion for families with an income level of less than 2,500 TL than those with an income less than 10,000 TL. The results of Kruskal–Wallis Test can be seen in Table 10.

Table 10
*The Mean Ranks of Family Income (N = 510)*

| | | *N* | Mean Rank |
|---|---|---|---|
| The cost of education | 2500< | 103 | 350,64 |
| | 2500-5000 | 107 | 250,91 |
| | 5000-10000 | 173 | 260,71 |
| | >10000 | 127 | 175,11 |
| Proximity to city center | 2500< | 103 | 201,23 |
| | 2500-5000 | 107 | 230,52 |
| | 5000-10000 | 173 | 293,76 |
| | >10000 | 127 | 268,43 |
| Proximity from home | 2500< | 103 | 235,57 |
| | 2500-5000 | 107 | 252,78 |
| | 5000-10000 | 173 | 285,12 |
| | >10000 | 127 | 233,61 |
| Friends who have studied at the same university | 2500< | 103 | 296,05 |
| | 2500-5000 | 107 | 213,16 |
| | 5000-10000 | 173 | 253,95 |
| | >10000 | 127 | 260,39 |
| Scholarship opportunities | 2500< | 103 | 330,36 |
| | 2500-5000 | 107 | 310,64 |
| | 5000-10000 | 173 | 214,45 |
| | >10000 | 127 | 204,25 |
| Job prospects | 2500< | 103 | 296,62 |
| | 2500-5000 | 107 | 295,85 |
| | 5000-10000 | 173 | 237,09 |
| | >10000 | 127 | 213,23 |
| Advice of high school teachers | 2500< | 103 | 285,73 |
| | 2500-5000 | 107 | 243,72 |
| | 5000-10000 | 173 | 275,71 |
| | >10000 | 127 | 213,38 |
| Advertising | 2500< | 103 | 302,16 |
| | 2500-5000 | 107 | 222,75 |
| | 5000-10000 | 173 | 275,38 |
| | >10000 | 127 | 218,17 |
| Recommendations from friends and relatives | 2500< | 103 | 302,37 |
| | 2500-5000 | 107 | 225,58 |
| | 5000-10000 | 173 | 265,92 |
| | >10000 | 127 | 228,50 |
| Opportunities for double major, minor, and internal transfers | 2500< | 103 | 319,70 |
| | 2500-5000 | 107 | 232,15 |
| | 5000-10000 | 173 | 270,36 |
| | >10000 | 127 | 202,85 |

**The Types of High School Graduated from**

In order to determine the differences between high school types and criteria of university choice decisions, Kruskal–Wallis Test was performed. The results are follow:

Table 11
*The Types of High School Graduated from (N = 510)*

| | Kruskal–Wallis Test, Chi-Square |
|---|---|
| The cost of education | 89,149[a] |
| Proximity to city center | 16,361[a] |
| Proximity from home | 49,622[a] |
| Staff quality | 18,695[a] |
| Social facilities and physical conditions | 21,775[a] |
| Friends who have studied at the same university | 27,088[a] |
| Exchange program opportunities | 8,746 |
| Scholarship opportunities | 34,533[a] |
| Job prospects | 18,545[a] |
| Advice of high school teachers | 36,529[a] |
| Advertising | 66,030[a] |
| Recommendations from friends and relatives | 46,404[a] |
| Opportunities of double major, minor, and internal transfers | 71,107[a] |

[a] Significant in 95% level (df = 4, $p < .05$).

According to the tests' statistics, were shown in the Table 11, the score means of all criteria, with the exception of one (*exchange program opportunities*), were statistically different between (at least two) *types of high school* groups. This result indicates that a significant difference occurred in terms of *types of high school* in twelve of the criteria. In addition to these results, mean ranks were listed to show in which *type of high school* the differences had occurred. The results of Kruskal–Wallis Test can be seen in Table 12.

Table 12 provides a number of ideas on the subject, referring to the impact of *type of high school* on *determinant of university choice process*. For example, *the cost of education* is a more important criterion for students who have graduated from the vocational and ordinary high school than those who did not; *the recommendation from friends and relatives* is a more important criterion for students who have graduated from the vocational high school than who have graduated from the Anatolian School; *the proximity to city center* is the least important criterion for students who have graduated from the Vocational School.

Table 12
*The Mean Ranks of Graduated High School Types (N = 510)*

| | | *N* | Mean Rank |
|---|---|---|---|
| The cost of education | Private School | 154 | 203,66 |
| | Anatolian School | 127 | 207,00 |
| | Science School | 15 | 224,73 |
| | Vocational School | 60 | 362,26 |
| | Ordinary High School | 154 | 308,74 |
| Proximity to city center | Private School | 154 | 264,56 |
| | Anatolian School | 127 | 253,95 |
| | Science School | 15 | 277,47 |
| | Vocational School | 60 | 187,87 |
| | Ordinary High School | 154 | 271,93 |
| Proximity from home | Private School | 154 | 216,35 |
| | Anatolian School | 127 | 220,54 |
| | Science School | 15 | 321,20 |
| | Vocational School | 60 | 257,10 |
| | Ordinary High School | 154 | 316,45 |
| Staff quality | Private School | 154 | 222,68 |
| | Anatolian School | 127 | 244,21 |
| | Science School | 15 | 272,43 |
| | Vocational School | 60 | 286,33 |
| | Ordinary High School | 154 | 283,97 |
| Social facilities and physical conditions | Private School | 154 | 288,84 |
| | Anatolian School | 127 | 267,52 |
| | Science School | 15 | 234,83 |
| | Vocational School | 60 | 252,98 |
| | Ordinary High School | 154 | 215,24 |
| Friends who have studied at the same university | Private School | 154 | 278,93 |
| | Anatolian School | 127 | 201,13 |
| | Science School | 15 | 212,70 |
| | Vocational School | 60 | 277,05 |
| | Ordinary High School | 154 | 272,69 |
| Scholarship opportunities | Private School | 154 | 239,44 |
| | Anatolian School | 127 | 224,71 |
| | Science School | 15 | 216,17 |
| | Vocational School | 60 | 347,94 |
| | Ordinary High School | 154 | 264,76 |
| Job prospects | Private School | 154 | 232,22 |
| | Anatolian School | 127 | 267,02 |
| | Science School | 15 | 191,87 |
| | Vocational School | 60 | 315,68 |
| | Ordinary High School | 154 | 252,04 |
| Advice of high school teachers | Private School | 154 | 211,18 |
| | Anatolian School | 127 | 236,96 |
| | Science School | 15 | 255,63 |
| | Vocational School | 60 | 285,63 |
| | Ordinary High School | 154 | 303,35 |
| Advertising | Private School | 154 | 206,68 |
| | Anatolian School | 127 | 212,76 |
| | Science School | 15 | 270,87 |
| | Vocational School | 60 | 305,60 |
| | Ordinary High School | 154 | 318,55 |
| Recommendation from friends and relatives | Private School | 154 | 222,58 |
| | Anatolian School | 127 | 210,76 |
| | Science School | 15 | 261,60 |
| | Vocational School | 60 | 307,10 |
| | Ordinary High School | 154 | 304,62 |
| Opportunities of double major, minor, and internal transfers | Private School | 154 | 204,18 |
| | Anatolian School | 127 | 218,78 |
| | Science School | 15 | 202,40 |
| | Vocational School | 60 | 328,28 |
| | Ordinary High School | 154 | 313,92 |

**Being Employed or Non-employed**

In order to determine the differences between being employed or non-employed and criteria of university choice decisions, Mann–Whitney U test was performed. The results are follow:

Table 13
*Effects of Being Employed or Non-employed (N = 510)*

| | Mann–Whitney U Test |
|---|---|
| The cost of education | 16.665[a] |
| Proximity to city center | 23.729[a] |
| Proximity from home | 20.170[a] |
| Staff quality | 22.141[a] |
| Social facilities and physical conditions | 22.261[a] |
| Friends who have studied at the same university | 23.279[a] |
| Exchange program opportunities | 21.096[a] |
| Scholarship opportunities | 20.382[a] |
| Job prospects | 18.209[a] |
| Advice of high school teachers | 20.274[a] |
| Advertising | 18.204[a] |
| Recommendations from friends and relatives | 21.116[a] |
| Opportunities for double major, minor, and internal transfers | 18.817[a] |

[a] Significant in 95% level ($p < .05$).

Table 14
*Mean Ranks Having a Work or not During Education Period (N = 510)*

| | | *N* | Mean Rank |
|---|---|---|---|
| The cost of education | *Yes* | 135 | 318,56 |
| | *No* | 374 | 232,06 |
| Proximity from home | *Yes* | 135 | 292,60 |
| | *No* | 374 | 241,43 |
| Staff quality | *Yes* | 135 | 278,00 |
| | *No* | 374 | 246,70 |
| Social facilities and physical conditions | *Yes* | 135 | 232,90 |
| | *No* | 374 | 262,98 |
| Exchange program opportunities | *Yes* | 135 | 224,27 |
| | *No* | 374 | 266,09 |
| Scholarship opportunities | *Yes* | 135 | 291,03 |
| | *No* | 374 | 242,00 |
| Job prospects | *Yes* | 135 | 307,12 |
| | *No* | 374 | 236,19 |
| Advice of high school teachers | *Yes* | 135 | 291,83 |
| | *No* | 374 | 241,71 |
| Advertising | *Yes* | 135 | 307,16 |
| | *No* | 374 | 236,17 |
| Recommendation from friends and relatives | *Yes* | 135 | 285,59 |
| | *No* | 374 | 243,96 |
| Opportunities of double major, minor, and internal transfers | *Yes* | 135 | 302,61 |
| | *No* | 374 | 237,81 |

According to the tests' statistics in Table 13, with the exception of two criteria (*proximity to city center,* and *friends who have studied at the same university*), score

means for all the other criteria are statistically different between *having to work during the study period* groups. This demonstrates a significant difference in the response from the *having to work during the study period* groups on eleven of the criteria. In addition to these results, the mean ranks were listed to show differences between the students who have a work during higher education period and those who have not. The results of Mann-Whitney U test can be seen in Table 14.

It is seen in Table 14 that in terms of students having a work all factors are important with the exception of two university choice criteria (*social facilities and physical conditions* and *exchange program opportunities*) than those who having not a work.

## Discussion

In recent years, the higher education environment has dramatically changed in Turkey. The number of foundation universities has increased substantially. In 1984 there was only one foundation university but the by 2001, the number had increased to 23 and then reached 76 at the beginnings of 2015. This means that the competition among foundation universities has increased over the past 30 years. In such a competitive environment, universities need to position themselves against competitors to remain attractive. Students' selection process is important for universities to improve their strategies for student recruitment. In this study, survey conducted on the students from six foundation universities in Turkey has aimed to identify the impact of certain demographic factors on determinants of the students' university choice decision.

Based on the relevant literature, the study first identified 13 criteria that play an influential role on students' decisions. Next, the ranking of the university criteria on Turkish students' decisions was proposed. According to the descriptive analysis results, the students respectively agreed on the impact of *staff quality*, *exchange program opportunities*, *scholarship opportunities*, *job prospects*, and *social facilities and physical conditions* on their decision. They partially agreed with *proximity to city center*; *opportunities for double major*, *minor, and internal transfers*; *recommendations from friends and relatives*; *the cost of education*; *proximity from home*; *advertising*; *friends who have studied at the same university;* and *advice of high school teachers*. As mentioned above, there have been many studies done on the determinants of the university choice process (Çokgezen, 2012; Foskett et al., 2006; Mazzarol & Soutar, 2002; Veloutsou et al., 2004). However, few of them used a ranking of the students' university choice criteria. For example, Yamamoto (2006) observed that family is a more influential element than the advice of teachers. In a similar study, Burns (2006) had listed the most important criteria as scholarships, availability of financial aid, and social facilities. Burns (2006) also demonstrated that the least influential individuals were high school teachers. As consistent with

these findings, Sidin et al. (2003) identified the most important criterion as quality of teaching. They also emphasized job opportunities as another important criterion. In this study, secondary school counselors were again determined as the least significant criterion in the choice process.

This study is also aimed to exhibit the significant influences of demographic variables on the determinants of university choice. These demographic variables, which were determined as *gender*, *family income level*, *high school types*, and *whether having a work or not during the study period.* Firstly, *gender* was examined as a demographic factor. To state the relationship between *gender* and the *determinants of the university choice process*, Mann-Whitney U and Kruskal-Wallis were performed. According to the statistics, among all 13 criteria, only *exchange program opportunities* significantly differ for gender. The different genders evaluated universities' exchange opportunities differently; female students give more importance on this criterion than male students. It is seen that little research has been done examining the relationship between gender and the determinants of the university choice decision. Sojkin, Bartkowiak, and Skuza (2012) had revealed statistically significant differences for three criteria. In the study mentioned above male students perceived university reputation, courses offered, and cost of studies and accessibility of financial aid as more important than their female counterparts. Also, female students have presented a higher mean score with regard to social conditions. In contrast, male students were more satisfied if a chosen university delivered various good-quality courses or when professors' educational and research achievements were high. However, there are many studies which talk about the effect of gender in choice process. Purr (2010) referred to the impact of gender on the university choice process. Furthermore, Paulsen (1990) and McDonough (1997) also discussed gender as a determinant factor. Willich, Buck, Heine, and Sommer (2011) stated that in terms of gender any significant differences were not identified among the German students. Moreover, Obermeit (2012) has revealed in his research that gender does not directly affect students' university preference.

Secondly, *family income* was examined as a demographic criterion. In our study, the relationship between *family income* and the *determinants of the university choice process* was examined. According to the results, with the exception of three criteria (*staff quality, social facilities and physical conditions,* and *exchange program opportunities*), the score means for the ten other criteria were statistically different between (at least two) income groups. This indicates that *the level of family income* has an effect on *scholarship opportunities*; *job prospects*; *proximity to city center*; *opportunities for double major, minor, and internal transfers*; *recommendations from friends and relatives*; *the cost of education*; *proximity from home*; *advertising*; *friends who have studied at the same university*; and *advice of high school teachers.* The other three criteria's score means were not statistically different between (at least two)

income groups. In addition to this finding, mean ranks were listed to reveal the impact of *family income* levels on the *determinants of the university choice process*. These results can be seen in Table 10. They revealed several ideas on the subject of impact of the *family income* levels on the *determinants of the university choice process*. For instance, *scholarship opportunities* and *job prospects* are more important criteria for families who have an income level of less than 5,000 TL. While *cost of education* is a more important criterion for families with an income level of less than 2,500 TL than those with an income less than 10,000 TL. Income has been previously seen as a choice determinant in the existing literature but has not examined by means of income level. For instance, Sidin et al. (2003) stated that the family income of students is likely to affect their college choice decision in terms of public–private institutions. The lower the average family income, the less likely students would opt for a private establishment. Perna (2006) stated the importance of family income in her research. Consistent with these findings, Obermeit (2012) mentioned that the choice process is influenced by the financial resources of the family. Kusumawati et al. (2010) demonstrated that parents play major roles as the source of funding in their choice. However, income is seen as an important criterion in various researches in terms of the decision-making process of students (Heller, 1997; Obermeit, 2012; Perna, 2006); the impact of the criterion on the determinants remains limited. In similar with this study, in the study conducted by Sojkin et al. (2012) the results reveal that there are no significant differences among the participants' views in terms of family income level.

Thirdly, the effect of *high school type from which the participants have graduated* on university choice was examined. According to the findings, the score means of all criteria, except one (*exchange program opportunities*) are statistically different between (at least two) *the high school types*. This means that the selection criteria of *exchange program opportunities* did not significantly differ for *high school types*. In addition to these results, mean ranks were listed to show in which *type of high school* the differences had occurred. The results can be seen in Table 12. They revealed several ideas on the subject of impact of the *types of high school* on the *determinants of the university choice process*. For example, *the cost of education* is a more important criterion for students who have graduated from the vocational and ordinary high school than those who did not; *the recommendation from friends and relatives* is a more important criterion for students who have graduated from the vocational high school than who have graduated from the Anatolian School; *the proximity to city center* is the least important criterion for students who have graduated from the Vocational School. Likewise, previous studies acknowledge the importance of this criterion in the choice process, but the relationship between the demographic variables has not been specifically denoted. The types of high school had an obvious impact on the type of university chosen (McDonough, 1998; Obermeit, 2012). Manski and Wise (1983) and Rowan-Kenyon, Bell, and Perna (2008) also emphasized the impact

of high school background in their studies. Soutar and Turner (2002) also identified type of high school as an important criterion in the choice process. In similar with this study, Sojkin et al. (2012) also analyzed the impact of types of high school on educational choice factors. The outcome of this research revealed that there are no significant differences among the participants' views in terms of *high school types*.

Lastly, as a demographic criterion, the impact of whether *having a work or not during education* on the university choice was also examined. The results show that, exception of two criteria (*proximity to city center*, and *friends who have studied at the same university*), all of the other eleven criteria's score means were statistically different between whether *having a work or not during education period*. This reveals that there is a significant difference among the views on eleven criteria for students' university choice. In addition to these results, the mean ranks were listed to show differences between the students who have a work during higher education period and those who have not. Table 14 shows that in terms of students having a work all factors are important with the exception of two university choice criteria (*social facilities and physical conditions* and *exchange program opportunities*) than those who having not a work.

This study examines the influential criteria affect university selection in detail, with the effect of demographic factors in students' perspectives in Turkey. All of the obtained results were almost consistent with many other studies conducted in related literature. However, there were some differences in our study compared with those of others due to different cultural behaviors. Even so, the implications were that Turkish students' behavior is not significantly different than that of other counterparts. The findings of this research could be considered useful for higher education institutions in the planning and development of their strategies for student recruitment. The implementation of these strategies could potentially increase the number of enrollments. University managers involved with the decision-making process on strategic planning could potentially find the results of the study useful. Due to this study's outcomes, students can use appropriate determinants during their university preference.

However, there are 9 public and 40 foundation universities in Istanbul with several different departments, this study has been conducted on six foundation universities, one department which means only these students' opinions are included in the research. Moreover, further researches can be conducted in institutions not only in Istanbul but also in all Turkey. This means a very limited group of students were reached in this study. It is recommended that a future study include a wider geographic area involving a wider sample of both public and foundation universities. Also, the study has used 13 criteria, the number of choice determinants can be increased for further researches. If the other researches related with this topic include more universities with more determinants, this will provide a more comprehensive picture of the factors affecting university preference.

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