

Higher Education Major Preferences of Students in UAE: It's Implication to Recruitment

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Abstract

Recruitment of sufficient number of qualified students in United Arab Emirates (UAE) is challenging because of the number of available Higher Education Institutions (HEIs). The number of majors offered by the HEIs have grown extensively in a short period of time. In order to remain competitive, HEIs must identify and develop majors that would attract prospective students and optimize the effectiveness of offered majors. While most of the studies were conducted in developed countries, there is a lack of published research in GCC countries and particularly in the UAE. This paper attempts to determine the factors that impact UAE students' choice of majors in HEIs. Descriptive method was utilized on 510 sample size. The findings of the study may prompt the HEIs to assess the currency of the offered majors in the light of factors influencing students' choice of majors and identify new majors that would be attractive to prospective students.

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1. INTRODUCTION

In many countries the competition to attract bright students to higher education institutions is becoming fierce due to increasing number of higher education institutions and a limited number of high school graduates. In the case of UAE, where more than 85% residents are expatriates, the enrollment competition becomes even more severe as some of the prospective undergraduate students have the option of studying abroad, either in their home countries or in countries with reduced tuition fees. Also, as compared to many developed countries, the number of available HEIs per million population is quite high in the UAE.

The problem is further complicated as the number of programs offered by the HEIs have grown extensively in a rather short period. Despite the challenging environment, many universities in the UAE have done reasonably well in attracting qualified high school graduates. However, recently a number of universities are experiencing difficulty in enrolling sufficient number of high school graduates, particularly in some specific fields of study. In order to remain competitive, academic institutions must identify and develop majors that would attract prospective students and take other appropriate steps to optimize the effectiveness of offered majors.

Over the last two decades, there has been significant growth of Higher Education Institutions (HEIs) in the United Arab Emirates (UAE). Prior to 2000, there were only 8 HEIs licensed by the Commission of Academic Accreditation (CAA), the official federal licensing authority in the UAE Ministry of Education (CAA, 2011). Today, the number of HEIs licensed by CAA stands at 78 (CAA, 2018). Also, in comparison to only 12 majors or programs accredited by the CAA prior to 2000, the current number

of accredited programs is 946 (CAA, 2018; CAA, 2011). Table 1 shows that the number of available HEIs per million population in the UAE are the highest among US, UK, Canada, and Australia. The data for the number of accredited institutions was obtained from Commission for Academic Accreditation, 2018; Association of American Colleges & Universities, 2018; U. K. Government, 2018; Universities Canada, 2018; Australian Government, 2018.

Table 1: Comparison of accredited HEIs per million population

Country	Number of Accredited HEIs	Population (Million)	Accredited HEIs per Million Population
UAE	78	9.54	8.18
US	1400	326.63	4.29
UK	170	64.77	2.62
Canada	96	37.66	2.55
Australia	43	24.77	1.74

Table 1 reveals that the available HEIs per million population in UAE are 3.12 times those available in UK and 4.76 times as compared to Australia. This clearly shows that the recruitment market for UAE HEIs is much more competitive and they need to plan and implement effective strategies considering factors important to prospective students in choosing their institution and fields of study. It is also important to mention here that besides the HEIs licensed by the CAA, there are a number of other HEIs that are either licensed by some local agency or they operate as a branch campus of foreign universities. That makes the recruitment of students even more competitive. As a result, the recruitment and marketing strategies employed by HEIs play an important role in attracting sufficient

number of prospective students. In order to enhance such strategies for obtaining optimal results, it is essential to identify the factors considered by the prospective students in making decisions concerning their selection of majors. While some research work concerning the identification of factors considered by the prospective students in choosing their majors and HEIs has been published for high school graduates studying in other countries (Khalid, et al., 2018; Nicholls, 2018; Okojide, Adekeye, & Bakare, 2018; James-MacEachern and Yun, 2017; Palmer, Burke, & Aubusson, 2017; Alanezi, Alfraih, Haddad, & Altaher, 2016; Işık, Kanbay, & Aslan, 2015; Han, 2014; Maringe and Carter, 2007; Noble Calkins & Welki, 2006; Maringe, 2006) there is a dearth of such published work for

prospective students in the UAE. It is the objective of this paper to identify the relative importance of factors that influence students' choice of majors.

History of UAE and background of its Higher Education sector

The United Arab Emirates (UAE), established in 1971, has become the third largest economy in the Middle East in very short period (UAE's Ministry of Economy, 2018). Its population is approximately 9.5 million and it ranks 93rd in population among nations of the world (CIA World Fact Book, 2017). Only 12 percent of the population comprises of UAE citizens while the remaining 88 percent are residents coming from a large number of countries. The majority of the population, about 50 percent, is from South Asia, 23 percent from Arab and Persian lineage, and around 8 percent are from western countries. About 70 percent of the UAE population can be grouped in the range of 24-54 years, and around 14 percent are considered to be in the college age.

The higher education sector in UAE has seen significant growth in the past two decades for various reasons such as economic vibrancy, stability, openness to establish foreign institutions, and large proportion of expatriate population. A number of private universities from across the world, including countries such as UK, USA, Australia, India and Pakistan, have established their branch campuses in the academic free zones established by the government (Fernandes, Ross, & Meraj, 2013). The Commission for Academic Accreditation (CAA) in the Ministry of Education (MOE) has licensed 78

institutions of higher education (CAA, 2018). As many as 33 institutions are in Dubai, 28 in Abu Dhabi, and the rest in the other five Emirates of the UAE. In addition to the institutions licensed by the CAA, there are other institutions of higher education operating in specified academic free zones (Ahmed, 2016), and the total number of HEIs exceeds 100 (U.A.E. Education, 2019). Some of the HEIs operating in the free zones in Dubai are licensed by the Knowledge and Human Development Authority (KHDA) instead of the CAA of MOE. One reason for the popularity of branch campuses of western institutions among the expatriate students is the perceived prestige of acquiring degrees from western countries (Jose & Chacko, 2017). In the current challenging economic situation and with increasing number of academic institutions that rely solely on the tuition fees, the competition among HEIs to attract students is expected to become fierce.

2. REVIEW OF RELATED LITERATURE

In many countries the HEIs are facing an increasingly competitive market for recruiting students. The range of available majors and the number of institutions have significantly increased for students who, in general, critically evaluate the institutions and the type of majors offered by them. In order to devise appropriate recruitment strategies, it is imperative for HEIs to have a better understanding of the choice and decision-making process of prospective students (Maringe, 2006).

Students' decision-making process for university and major choice has been a subject of considerable interest. As for

university choice, the factors that impact students' choice have been examined by many researchers for different countries and reported in the literature. The survey of high school seniors in Scotland, Northern Ireland and England, conducted by Veloutsou, Lewis, and Paton (2004), revealed that the type of offered courses, academic reputation, dormitory and campus facilities as well as job placement of graduates are the most significant factors for students' university choice. Kusumawati, Yanamandram, and Perera (2010) determined that for Indonesian students the five most important choice criteria are overall cost, reputation, proximity, job prospects, and influence of parents. According to the study done by Tamtekin Aydın and Bayır (2016), the ranking of the institution and quality of staff were the most important factors for Turkish students. A study by Hermanson et al., 1995 reported that for Accounting majors the college instructors were the greatest influence, while friends, acquaintances, relatives, parents, and high school teachers and counselors were less influential. Studies such as those carried out by Sabot and Wakeman (1991) and Walstrom et al. (2008) have determined the influence of factors like job or income prospect on the selection of major. The role of personality in the choice of major has been reported by Didia and Hasnat (1998) and Bauer and Dahlquist (1999). Students' choice of major matching their personality and personal interest has also been observed by Worthington and Higgs (2004). According to Giladi et al. (2001), job prospect is the main reason for choice of major for most high school students. In a study conducted in USA, Calkins and Welki (2006) found the two most important factors

in the choice of majors are interest in subject and career concerns. The results of a recent study in Nigeria by Okojide, Adekeye and Bakare (2018) have shown that parents greatly influence students' choice. The other important factor identified in their study was the high school environment. Strong parents' influence on students' choice was also observed in a study conducted in Ghana by Owusu, et al. (2019).

Factors that impact students' choice in selecting a major or HEI need to be seriously studied and considered in developing the recruitment and marketing strategies in order to optimize the recruitment of students in all fields of study offered by an HEI. The important role of marketing in student recruitment has been well recognized by a number of authors (Vel, Shah, Mathur and Pereira, 2018; Bock, Poole and Joseph, 2014; Cubillo, Sanchez and Cervino 2006; Ivy 2001). The role of marketing in enhancing student recruitment has steadily increased with continued growth in the choice of majors and HEIs, and the need for universities to differentiate themselves in the highly competitive market (Lettice, & Nadeau, 2016; Canterbury, 2000).

This paper attempts to find out the relative importance of various factors that influence students' choice of their major or program of study. The paper argues that research-based knowledge of the reasons students choose their majors is quite important in developing appropriate institutional strategies in an increasingly competitive HE environment. Increasing the enrollment of students for most, if not all, of the offered majors is particularly important for private institutions that rely solely on tuition fees of

students and operate without any public financial support. The findings of this research may contribute in encouraging HEIs to thoroughly assess the currency of all offered majors and develop new majors that would be attractive to prospective students. The findings may also contribute in devising appropriate marketing and recruiting strategies.

3. METHODOLOGY

Aim and objectives of the research

The main aim of this research is to identify the factors that influence the choice of high school students in the UAE in selecting their majors for undergraduate studies. The two key objectives of this study can be stated as:

- to determine the relative importance of various factors influencing the choice of major for students of grades 11 and 12; and
- to identify some implications of this study in order to help HEIs review and enhance their strategies for improved positioning, marketing and recruitment.

Research population and sample size:

According to the UAE Ministry of Education, 626 schools (209 public and 417 private) are offering education to 156,814 high school students (UAE MoE, 2018). Convenience sampling technique was used to determine the participants of the study. This approach is valuable for the researcher who is time bound, looking to minimize finances without compromising study sample size (McDaniel & Gates, 2014; Taherdoost, 2016). The primary data gathering tool was the questionnaire

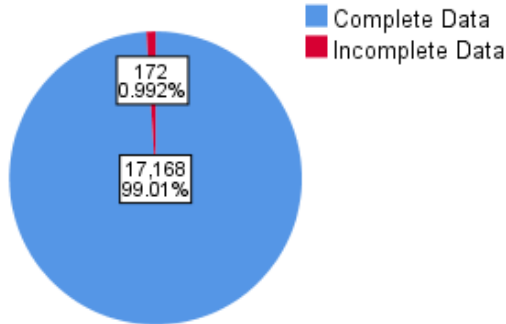
designed around aspects known to influence pupils' decision making process (Fricke, Grogger, & Steinmayr, 2018; Dao & Thorpe, 2015). Following previous research (Baker, Bettinger, Jacob, & Marinescu, 2017; Maringe, 2006; Ivy, 2002), high school students were asked to rank 12 choice factors on a five-point Likert scale. Ranking a factor as 1 meant that it was considered least important while ranking it 5 meant it was extremely important in selection of a major. The factors for choice of major included passion for subject, institution and course prestige, employment prospects, and advice from career counselors and parents among others. Simple descriptive statistic based on mean was used to estimate differences in the importance attached to various factors for choice of major. The questionnaire also solicited biographical information of participants including their sex; ethnic origin; type of school and intended field of study. Eight secondary schools from Abu Dhabi, Dubai, Ras Al Khaimah, Sharjah and Ajman were considered in the study such that a total of 510 students from grade 11 and 12 (251 male and 259 females; 49/51 % gender ratio) from the academic year 2018-2019 voluntarily participated in completing the questionnaire.

Validity:

Firstly, the variables that were going to be measured were defined clearly. Secondly, a comprehensive review of related literature was undertaken to ascertain all variables being incorporated in the questionnaire. Some items were rephrased to make them more illustrative of the intended constructs.

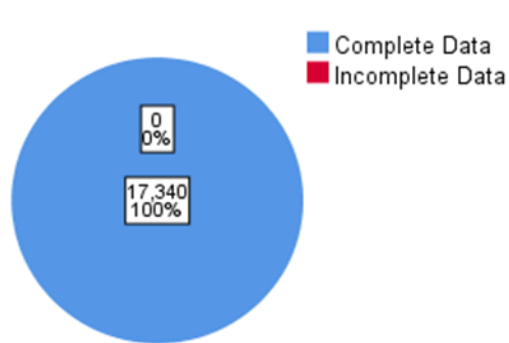
Multiple Imputation:

Missing Values before Mean Imputation



Values

Missing Values after Mean Imputation



Values

4. RESULTS AND DISCUSSION

Profile of the survey respondents

According to the descriptive statistics, the frequency of the respondents' gender was approximately equal. Of the 510 respondents, 251 were male (49.2%) and 259 female (50.8%). A very high percentage of respondents were from Arab origins (79%), followed by Asians (13%). European students were among the minority. Majority of respondents were studying in private schools (87.8 %). Among the male respondents, 78.8% were from Arab origins and 78.4% were studying in private schools. Among the female respondents, 79.1% were from Arab origins and 96.9% were studying in private schools.

Major or Intended fields of study

Major or field of study intentions have generated interesting patterns among this sample of high school students. Table 1 shows the choices for major by gender composition and Figure 1 shows the count by gender for choice of major. First, there are two subjects that are not popular among

high school students as their majors; these are Environmental Science and Sports Management. These were opted by only 2 and 4 students, respectively, out of a total sample of 510 respondents. Second, there are subjects that maintain a strong gender dichotomy for high school students in the UAE. According to the field of study preferences of this sample, Fashion Designing and Media are far more preferred by female students as compared to male students. For those who opted for Fashion Designing as their intended field of study, only 21% were male while 79% were female. Similarly, among those who selected Media as their intended field of study, 13% were male and 87% were female. Engineering and Information Technology remain male dominated fields of study in the context of UAE. On the other hand, female interest is significantly higher in medical&health sciences and business majors. Also, a substantial number of female high schoolstudents of both genders have shown some interest in combinations of unique majors.

Table 1: Major or field of study choices by gender composition

Major (Intended Field of Study)	Samples indicating this choice number	Percent	Gender Composition (% 0 d.p.)
Medicine & Health Sciences	161	31.6	39% male & 61% female
Engineering	95	18.6	67% male & 33% female
Information Technology	21	4.1	76% male & 24% female
Business & Management	42	8.2	40% male & 60% female
Fashion Designing	14	2.7	21% male & 79% female
Media	15	2.9	13% male & 87% female
Law	25	4.9	36% male & 64% female
Sports Management	4	0.8	50% male & 50% female
Environmental Science	2	0.9	100% male & 0% female
Combination of Unique Majors	53	10.4	51% male & 49% female
Other	78	15.3	59% male & 41% female

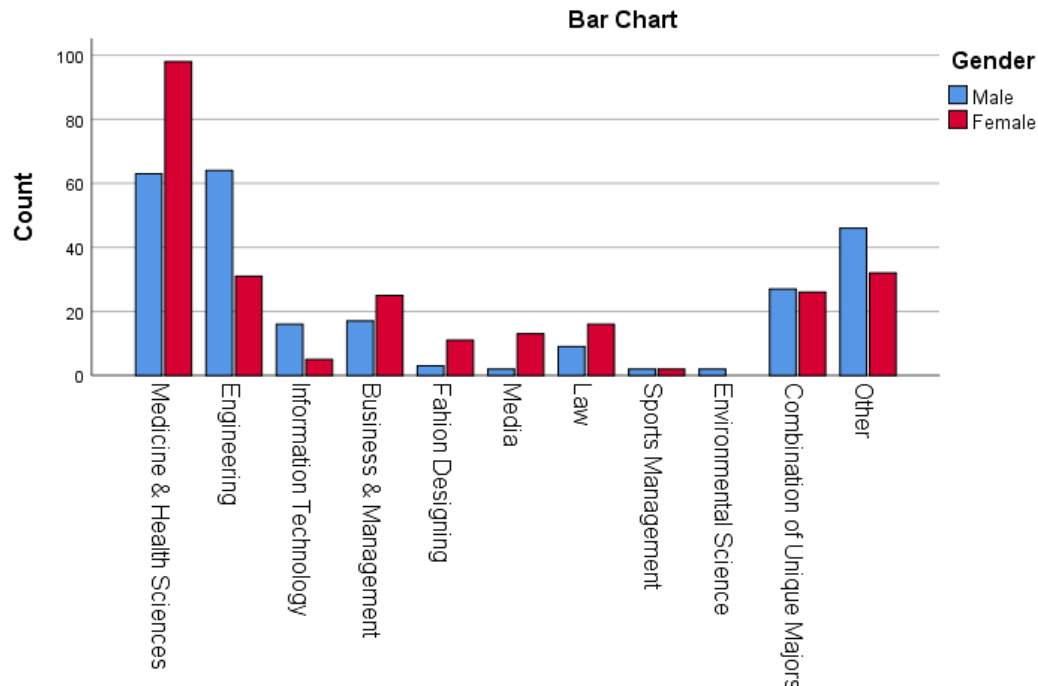


Figure 1: Count by gender for choice of major.

Relative importance of factors influencing the choice of Major

To determine the relative importance of various choice factors, five classes, based on the range of mean score, were defined as

extremely important, important, neutral, not important, or not at all important. Table 2 shows the range of mean score for each class representing the importance of the choice factors.

Importance of Choice Factor	Range of Mean Score
Extremely Important	4.21 – 5.00
Important	3.41 – 4.20
Neutral	2.61 – 3.40
Not Important	1.81 – 2.60
Not at all Important	1.00 – 1.80

Table 2: Class Intervals for importance of choice factors

A summary of the mean score and class for each of the 12 choice factors and their relative rankings, as determined from the results of this study, are summarized in

Table 3 below. A graphical representation of the mean score for different choice factors is shown in Figure 2.

Choice Factor	Mean Score	Class	Rank
Passion	4.67	Very Important	1
Job prospects	4.59	Very Important	2
Parent's advice	4.28	Very Important	3
Offered in English Language	4.02	Important	4
Prestige	3.87	Important	5
Previous educational experience	3.81	Important	6
Career counselor's advice	3.77	Important	7
Easiness (Easy to study)	3.76	Important	8
Duration of study	3.68	Important	9
Religious preferences	3.41	Important	10
Opportunity for double major with unique subject combinations	3.20	Neutral	11
Friend's advice	3.16	Neutral	12

Table 3: Mean, class, and rank of various factors for choosing a major

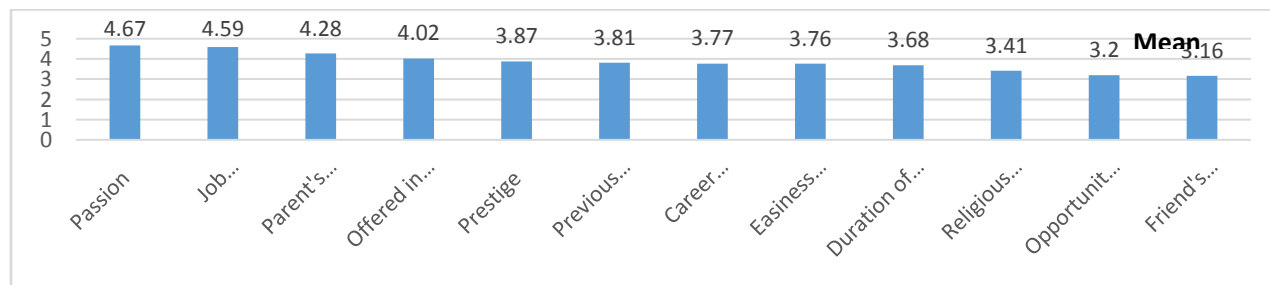


Figure 2: Graphical representation of the mean score for 12 choice factors

From the results shown above in Table 3 and Figure 2, it is obvious that students considered all the given 12 choice factors for their intended field of study as either extremely important, important, or neutral. None of these choice factors was considered as not important by any respondent. Nonetheless, it is noted that the students considered the following three choice factors as extremely important: passion towards studying the desired program, job prospects, and parents' advice. Overall, students were neutral about the following two choice factors; opportunity for double major with unique subject combinations and friend's advice. The remaining seven choice factors were considered as important in their decision making. These include: program being offered in English language, perceived

prestige associated with the program, previous educational experience, career counselor's advice, ease of studying the program, duration of study, and religious preferences.

For further analysis, the mean scores between 3.41 and 5 were aggregated to specify Important choice factor. Scores between 1 and 2.60 would indicate Not Important choice factor, while scores between 2.61 to 3.40 would indicate that respondents considered the importance of the choice factor as Neutral. Accordingly, the percentage of students who considered the 12 choice factors as Important, Neutral, and Not Important is given in Table 4 below.

Choice Factors:	Important (%)		Neutral (%)		Not Important (%)	
	Male	Female	Male	Female	Male	Female
Passion	94	93			1	2
Job prospects	89	93	5	5	3	0
Parent's advice	85	83	8	7	4	4
Offered in English Language	74	72	11	13	7	7
Prestige	67	71	19	21	10	11
Career counselor's advice	63	75	24	18	14	7
Previous educational experience	61	71	25	17	18	9
Easiness (Easy to study)	55	68	26	22	13	8
Duration of study	63	62	27	24	17	17
Religious preferences	47	50	20	21	26	21
Opportunity for double major with unique subject combinations	32	46	26	29	34	22
Friend's advice	35	38	34	32		
			42	43	23	19

Table 4: Percentage of students responding to the importance of 12 choice factors

While earlier studies such as Ahmed, et al. (2016) have examined the role passion plays in enhancing successful performance at work, it is noteworthy that this research has shed light on the significance of passion among high school students' selection of

their intended field of study at university level. Precedence of passion over job prospects, as observed in this study, is different from some earlier studies where career opportunities (Maringe, 2006) or job related factors (Perera, &Pratheesh,

2018) are the topmost reasons for students studying a particular major at a university.

The percentage of students, both male and female combined together, who considered passion, job prospects, and parents' advice as important is 94%, 91%, and 84%. While these three most important choice factors may appear to be in conflict with some earlier studies (Owusu, Bekoe, Okyere, & Welbeck, 2019; Palmer, Burke, & Aubusson, 2017), there is a plausible explanation for that in the context of UAE where this study was performed. In fact, there is a subtle common factor among these three choice factors. Unlike many other developed countries, students studying in HE institutions in UAE are mostly financially supported by their parents, not just during their studies but also for some time after their graduation until they find appropriate jobs. This gives students the liberty to choose a major in accordance with their passion. That also explains why the parents' advice is so important to them and why the results differ from some other studies (Foskett and Hemsley-Brown, 2001) that showed parents' persuasion on schooling decisions decline as their offspring's mature. It appears that as a result of their financial dependence on parents, high school students in UAE have not yet fully realized the importance of job prospects as compared to students in other developed countries who become somewhat financially independent at an earlier stage.

The fourth choice factor with high percentage of respondents (73%) is that the major is offered in English language. An obvious reason for this is that UAE is a multicultural society with over 88% expatriates (C.I.A., 2017) hailing from all over the world. In this situation, English plays the role of a common language linking

expatriates from different regions of the world. Proficiency in English language also helps in job employment in various multinational companies operating in the UAE.

Prestige of the major is considered important by 69% respondents and that is probably the reason why a large number of respondents have chosen medicine and engineering as their intended fields of study; the two majors associated with prestige in the Middle East. Duration of study is important to 63% respondents, while 62% respondents would like to opt for majors that are perceived to be easy to study. Whereas the percentage of male and female students is more or less the same for many choice factors, there are significantly more female respondents (68%) as compared to male respondents (55%) when the choice factor is ease of study. Another choice factor with noticeable difference between the two genders is the opportunity for double major with unique subject combinations. As compared to 32% male students, 46% female students prefer to opt for double major with unique subject combinations.

5. SUMMARY, IMPLICATIONS AND CONCLUSION

Considering that the sample for this study is limited to high school students in the UAE and that convenience sampling strategy was employed, the findings of this research have some limitations. Also, gender and ethnic differences in the choice process were not quantitatively investigated using inferential statistical tools. Despite these limitations, the results obtained using simple descriptive statistics provide valuable insight in the relative importance of various choice factors for UAE high school students in selecting their major or field of study. Some

implications of the findings of this study concerning the marketing of HE majors and attracting prospective students to join an institution of higher education are given below.

To be successful in a highly competitive HE recruitment market, institutions need to:

1. Regularly assess the currency of the offered majors and identify those majors that match the passion of high school graduates. Reputation of offering employment-oriented majors would also contribute in attracting prospective students.
2. Reach out to parents and provide them detailed information about the offered majors, including non-traditional majors, since parents' advice was found to be the third most important factor in influencing students' choice of major. Parents may be told that they have an important role in assisting their children to make informed choices of majors aligned with their interests and aptitudes.
3. Offer some select double majors with unique subject combinations, as per the market demand, since this is of interest to a segment of the prospective students.
4. Devise strategies to attract more females in majors strongly dominated by males and similarly attract more males in majors strongly dominated by females. This would gradually deconstruct the boundaries between different fields of study and result in fairly even participation across the gender lines in such fields.
5. Reevaluate and update the marketing and recruitment strategies in line with the best practices at global level but also taking into consideration the local trends based on

research studies.

The purpose of the study was to identify the relative importance of various factors which influence UAE high school students when they make a choice about their major for higher education. Unlike some other related studies that recruited university students as participants, this study is unique in the sense that it surveyed prospective students in high schools in UAE who are yet to make decisions about their higher education. While the findings of this research have similarities with the findings of some earlier studies, they also show some differences in the context of UAE environment where an overwhelming majority of residents is expatriate population and where a vast majority of university students are financially supported by their parents until their graduation. In a highly competitive HE environment, the findings have shown that high school students are no longer passive consumers and institutions need to take into consideration the relative importance of various choice factors in students' selection of their fields of study. The implications of the findings of this study for HE institutions concerning the marketing of offered majors were also discussed.

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