



**TECHNICAL REPORT**  
**AN ANALYTICAL STUDY OF STUDENT  
CHARACTERISTICS AND COLLEGE  
PERFORMANCE AT KUWAIT UNIVERSITY**

ASD-GEN

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This study was conducted to investigate the relationship between a student's personal and academic characteristics and his or her college performance in three different colleges at Kuwait University. It was found that the performance of the students can be assessed through appropriate information about them, and there was a general trend that the nationality and the secondary school performance appeared to be the best predictors of college success.

**KEY WORDS**
**اهم المصطلحات**

Sex - Nationality - Secondary School - Field.

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طلبة جامعة الكويت ينتمون الى خلفيات وخبرات شخصية وأكاديمية مختلفة، لذا تجد نظام القبول بالجامعة يأخذ جنسية ونوع وفرع التخصص بالثانوية العامة اضافة الى نسبة نجاح الطالب .

وهذه الدراسة كان الغرض منها اعطاء فكرة مبسطة عن العلاقة ما بين تلك الخلفيات والخصائص ومدى تأثيرها على التحصيل العلمي لطالب في ثلاث كليات بجامعة الكويت .

ولقد جمعت معلومات عن الطلبة من سنة ١٩٧٤ الى ١٩٨٥ ولقد توصلت هذه الدراسة الى قرار أنه يمكن حساب والتنبؤ بمدى نجاح الطالب في كل كلية من الكليات الثلاث وأيضا يوجد هناك اتجاه واضح ان جنسية الطالب ونسبته في الثانوية العامة هما أفضل عاملان للتنبؤ بمدى نجاحه بجامعة الكويت .

**KEY WORDS**

 أهم المصطلحات  
 جامعة الكويت - جنس - جنسية - التخصص - الثانوية العامة - التحصيل العلمي

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## Introduction

Kuwait University (KU) is the only university in Kuwait. It is joined with many third world universities in striving to keep pace with a rapid increase in student enrollment, and moving demand for skilled labor. In an effort to control this movement, KU proposed a new admission policy for better educational opportunity of its output. Enormous amounts of effort and resources were set aside to meet this goal.

In 1985, the KU council outlined the admission policies for the following years which to be administered as a national commitment to the development of higher education system. These policies were concentrated toward two objectives. First, to secure and support a high quality of education. Second, not to exceed the university's capacity.

Although the country has demonstrated its strong commitment to the university educational quality, many obstacles were remained in the path of attaining these policies. First, the enrollment of technical institutes was a serious problem, because of shortage of qualified staff, and a corresponding shortage of materials and facilities. Second, the misunderstanding of technical institutes' objectives have caused unfavorable attitudes toward the enrollment of these institutes, and demand for continuation in university level. Third, the social and economical status of the institutes' graduates have caused them to reject these policies, and demand for more university degrees. Finally, other problems that relate to the shift of percentage level for university admission and the distributions among the colleges.

In order to investigate these conflicts and their impact on the KU's administration and the society as a whole, a sample was selected to test the relationship between students characteristics and their performance at three different colleges.

## The Need of The Study

Kuwait University students come with different social and economical status, and different academic experiences. But, they all have to pass secondary school, and maintain a certain score in order to be admitted to the university. In addition to this score, the students' nationality, sex, and their fields of study at the secondary school are used as part of admission procedure to distribute students to different colleges. Therefore, a study was needed to investigate the relationship between the student's characteristics, his performance and the college success. The results of this study could be benefited for both KU officials, faculty, and the students to reevaluate the current admission criterias that were based on nationalities, sex, percent, and the field at the secondary school, and determine their effect on the students' performance at the college of Arts, Commerce, and Engineering as follows:

- Relationship among students' characteristics
- Relationship between students' characteristics and the performance at the college

This study aimed to help KU administrators and parents of students in resolving difficulties that were facing them in selecting the most appropriate colleges for the students, because the percentage score for the last year at secondary school is not the only criterion for the college success. It is not sufficient one and does not provide the decision makers with information regarding students background in different colleges, and their performance. This study could outlines some solutions for KU's officials regarding the low grade average, the increase of student drop-out rate, the excessive transfer between colleges, and the allocation of different nationalities. These problems occur because of the limited information regarding the relationship between the students' personal and academic characteristics and their college performance.

## Data Collection

The following information were collected to give a clear understanding of the problem and the interpretation of the results:

Variables' Name	Abbreviation	Variable's Code
Entry Year	ENY	1975-1984
Graduation	GRY	1=graduated 2=withdrawal 3=quieted 4=deleted
Nationality	NAT	1=K-Kuwaiti 2=WN=No-Nationality given 3=G=GCC Countries 4=O=Other nationality
College	FC	1=Arts 2=Commerce 3=Engineering
Field of Study (Secondary Sch.)	MC	1=Art background 2=Science background
Graduation Percentage (Secondary Sch.)	PERCENT	High: Exceed 85% Medium: 70-85% Low: Below 70%
Grade Point Average (GPA)	GRADE	Outstanding: GPA 7 => 9 Very good: GPA 5 = > 7 Good: GPA 4 = > 5 Fair: GPA 3 = > 4 Fail: GPA > 3

### Analysis of Student Characteristics

#### College of Arts

Effect of the Sex on the Field. Table 1 indicated that the females were more than the males, 3316 females to 1067 males. The table showed that there were such 11% of the females had a science background at the secondary school compare to 14% of the males; and 76% of the females had arts against 24% of the males. The field was found to be significantly



TABLE 1 THE EFFECT OF SEX AND NATIONALITY ON THE FIELD  
AT THE COLLEGE OF ARTS

STUDENT CHARACTERISTICS	N	SECONDARY SCHOOL FIELD		X-SQUARE
		ARTS (%)	SCIENCE (%)	
<b>SEX</b>				
F	3316	76.2	71.0	5.5
		89.0	11.0	
M	1067	23.8	28.6	
		86.6	14.000	
<b>NATIONALITY</b>				
K	3524	84.0	65.9	225.4
		92.0	8.0	
NK	97	2.0	1.7	
		90.000	11.0	
G	247	5.0	6.0	
		86.000	14.000	
O	518	9.0	26.4	
		69.0	31.0	
<b>TOTAL NK</b>				
	859	16.0	35.000	
		76.000	24.0	

\* Percent of total students

\*\*Percents of total females

..

associated with the sex in this college where the chi-square test ( $\chi^2$ ) was 5.5 at 5% level.

Effect of the Nationality on the Field. Table 1 shows that 31% of the non-Kuwaitis (Others) who had science background were the highest among all nationalities; whereas the Kuwaitis were the least, 8%; and were the most among of the arts students, 84%. Ninety two (92%) of the Kuwaitis had arts and 35% of the non-Kuwaitie had science.

Across the non-Kuwaitis who had arts, the Others, Gulf, and the Without with 69%, 85%, and 89%. The reason for these differences is that the Kuwait University admission policy differentiates among nationalities and the field. Therefore most of the nonKuwaitis with middle and high percent found it difficult to enter other colleges. The field was found to be significantly associated with the nationality, the  $\chi^2$  was 225.4.

Effect of the Sex on the Percent. Table 2 shows that out of all females, they present 91% and 90% of the high and the middle percents categories, and 70% of the lower percent; whereas the males did not exceeded 12% of the middle and high percents. The table also shows that 66% of the females had lower percent compare to 88% of the males. This indicated that the females had better percents than the males. The sex was found to be significantly associated with percent, the  $\chi^2$  was 192.8.

Effect of the Nationalty on the Percent. Table 2 shows that 69% of the high percents' students were non-Kuwaities and 87% of the low percent were Kuwaities. The non-Kuwaities (Others) were among the highest students who had middle and high percents, 65%; and the Kuwaities, Gulf, and Without percents were approximatly 22%,24%, and 35%. respectively. Each present less than 3% of the high percent groups. The Kuwaities were among the highest of those who had scored low percent, 87%, compare to 76%, 65%, and 35% for Without, Gulf, and Others repectively. It was found that the nationality and the percent of the students were significanty associated ( $\chi^2$  was 601).

TABLE 2 The Effect of Sex, Nationality and Field on Secondary School  
at the College of Arts

STUDENT CHARACTERISTICS	N	% OF STUDENTS			X-SQUARE
		HIGH	MD	LOW	
SEX					
F	3316.0	91.0 4.0	90.0 30.0	70.0 66.0	192.8
M	1067.0	9.0 1.0	10.0 11.0	30.0 88.0	
NATIONALITY					
K	3524.0	31.4 1.0	69.0 21.0	87.0 77.0	601.0
NK	96.0	0.7 1.0	2.0 23.0	2.3 76.0	
G	247.0	4.9 3.0	7.0 32.0	5.0 65.0	
O	518.0	63.0 17.0	22.0 47.0	8.0 35.0	
TOTAL NK	859.000	68.6 0.1	31.0 0.4	13.0 0.5	
FIELD					
ART	3883.0	89.0 3.0	89.0 25.0	88.0 71.0	0.3
SCIENCE	500.0	11.0 3.0	11.0 24.0	12.0 73.0	

\* Percent of Total Students

\*\* Percent of Total Females

Effect of the Field on the Percent. In the College of arts, 89% of the students of the high percent grade had an arts and less than 11% had science (Table 2). The Table shows 73% of the arts and science students had low percent and 3% had high percent, whereas close to 25% of the two sections fell in the middle percent. The majority of students in both sections fell in the low percent, and the rest were equally distributed between the high and middle. It was found that the field had no effect on the percent in this college,  $\chi^2$  was 0.3.

IT took 48% of the students more than 4 years to graduate, and 51% graduated in 4 years in both sectors. At the same time, there were 3% and 1% of the science and arts graduated in less than 4 years. These variation in the percents were found to be related to the secondary school grade, where 83% of those who graduated in 4 years or less were those with higher grade compared to 62% and 47% of those in the middle and low percents who graduated in more than 4 years. On the other hand, there were 1% of higher percent students, and 20% of middle who graduated in more than 4 years. The findings reflect the association between the high school percent, and the performance of the student increase by the number of graduation years. These findings indicate that the higher the secondary school percent, the more chance that the student will graduate in 4 years or less from the college of art (Table 3).

#### College of Commerce

##### Effect of Sex on the Field.

Contrary to the College of Arts, the number of males was increased, 63% of the males and 59% of the females had arts background compare to 51% of the males and 49% of the females who had science background. The females present 44% of the arts background and 49% of the science background compare with 76% and 71% in the College of Arts. When sex effect on the field was tested, it was found that the sex had a significant effect on selecting the field and the college,  $\chi^2$  was 5.2 (Table 4).

TABLE 3 THE EFFECT OF SEX, NATIONALITY, FIELD AND PERCENT ON  
NUMBER OF YEARS TO GRADUATE AT THE COLLEGE OF ARTS

STUDENT CHARACTERISTICS	N	YEARS TO GRADUATE		
		>4 YEARS	=4 YEARS	<4 YEARS
<b>SEX</b>				
F	3316.0	72.0 45.2	79.0 54.0	74.0 0.8
M	1067.0	28.0 56.2	21.0 43.0	26.0 0.8
<b>NATIONALITY</b>				
K	3524.0	84.0 50.0	78.0 49.7	35.0 0.3
NK	97.000	2.0 53.0	2.0 46.0	2.9 1.0
G	247.0	6.3 54.0	5.1 46.0	0.0 0.0
O	518.0	7.7 31.0	14.9 14.9	62.1 62.1
TOTAL NK	859.000	16.0 40.0	22.0 57.4	65.0 2.6
<b>FIELD</b>				
ART	3883.0	89.0 48.1	89.0 51.4	59.0 0.5
SCIENCE	500.0	11.0 47.0	11.0 50.0	41.0 3.0
<b>PERCENT</b>				
HIGH	142.0	1.0 17.0	5.0 81.0	8.8 2.0
MED	1102.0	20.0 38.0	29.0 60.0	62.0 2.0
LOW	3139.0	79.0 53.0	66.0 46.7	29.2 0.3

TABLE 4 THE EFFECT OF SEX AND NATIONALITY ON THE FIELD  
AT THE COLLEGE OF COMMERCE

STUDENT CHARACTERISTICS	N	SECONDARY SCHOOL FIELD		X_SQUARE
		ARTS (%)	SCIENCE (%)	
SEX				
F	1260.0	44.0 59.0	49.0 41.0	5.2
M	1489.0	56.0 63.0	51.0 37.0	
NATIONALITY				
K	2098.0	81.0 65.0	69.0 35.0	84.4
NK	100.0	4.0 70.0	3.0 30.0	
G	281.0	8.0 48.0	14.0 52.0	
O	270.0	7.0 40.0	15.0 60.0	
TOTAL NK	651.000	19.0 48.4	32.0 51.6	

Effect of Nationality on the Field. Table 4 shows that most of the non-Kuwaities in this college were coming from the science branch, 52%, and most of the Kuwaities were from the Art Branch, 65%. The Kuwaities presented 81% of the arts background, and 69% of the science; the non-Kuwaities were 3%, 14%, and 15% of the science students for Without, Gulf and Others students, and 4%, 8%, and 7% of the arts, respectively. It shows more Non-Kuwaities with science backgrounds in this college than the Kuwaities. This is because, Kuwaities with science background have better chance to be accepted in other scientific colleges, as stated before. When the association between nationality and the field was tested, it was found that the field was related significantly to the nationality,  $\chi^2$  was 84.4, Table 4.

Effect of the Sex on the Percent. There was a definite indication that the females had high better percent at secondary school than the males. Table 5 shows that 5% of the females fell in the high percent category compared with 1% of the males; 46% of them fell in the low percent compared with 72% of the males. Females represent 78% of the high percent students and 35% of the low percent. These findings and others from the table indicate that there was a strong association between sex and the secondary school percentage. This association may be due to social and cultural factors that force them to score higher percent for further education. When this association was tested, we found that the sex had a significant affect on the percent (  $\chi^2 = 208.7$  ).

Effect of the Nationality on the Percent. Table 5 shows that the Kuwaities were among the highest number of students who had low percent, 84%; and 38% of those who had high percent; and the Non-Kuwaities were 1% of those with lower percent, and 62% of the higher percent. However these percents changed when we look within each nationality. In the middle percent, there were 59% of the Gulf, 33% of the Kuwaities, 31% of the Without, and 49% of the Others; for the low percent, 66% of the Kuwaities, 38% of the Gulf, 34% of the Others and 67% of the Without. For the high percent, there were 17% of the Others

TABLE 5 THE EFFECT OF SEX, NATIONALITY AND FIELD ON SECONDARY SCHOOL AT THE COLLEGE OF COMMERCE

STUDENT CHARACTERISTICS	N	% OF STUDENTS			X-SQUARE	
		HIGH	MED	LOW		
SEX						
F	1260.0	78.0 5.0	61.0 49.0	35.0 46.0	208.7	
M	1489.0	22.0 1.0	39.0 27.0	65.0 72.0		
NATIONALITY						
K	2098.0	38.0 2.0	67.0 33.0	84.0 66.0	307.4	
NK	WN	100.0	2.0 2.0	3.0 31.0		4.0 67.0
		G	281.0	8.0 3.0		16.0 59.0
	O	270.0	52.0 17.0	13.0 49.0		6.0 34.0
TOTAL NK	651.0	55.0 62.0 8.4	331.0 32.0 59.8	256.0 1.0 40.8		
FIELD						
ART	1678.0	50.0 3.0	68.0 41.0	58.0 57.0	31.0	
SCIENCE	1071.0	50.0 4.0	32.0 31.0	42.0 65.0		



and 3% and less for the Kuwaities, Gulf and without. The Table shows that the nationality of the students affects significantly the percent,  $\chi^2$  was 307.

Effect of the Field on the Percent. There were equal percents of students with high percent from arts and science sectors at this college, 50%, but there were more arts students in the low percent than science students, 58% to 42%, and less than 4% from each sector with high percent. This means that the field has some effect on the percent, but it is not significant because across the two sectors the percentages of students who scored high, middle, and low were approximately the same (Table 6).

The Effect of the Sex, Nationality and the Field.

on the Graduation Years.

Over all the three graduation periods, there was no significant difference between percentages of the males and the females. There were 1% of the males who graduated in less than 4 years, 54% in 4 years, and 45% in more than 4 years. Similar findings were found for the females, 1% in less than 4 years, 55% in 4 years, and 44% in more than 4 years. Therefore the sex have no significant affect on the performance of the students as measured by the number of years (Table 6).

When nationality was considered, however, non-Kuwaities (Gulf) students were among the highest who graduated in more than 4 years, 57%, followed by the Kuwaities, 43%; and for the Others and the Without the percentages were 41% and 39%. The Others were among the highest who graduated in less than 4 years, 6%, followed by the Kuwaities, Gulf and Without students with 1% and less.

For the field effect, the students with science background had better performance than those with arts. The science students were 54% of those who graduated in less than 4 years, 34% of those who graduated in 4 years, and 45% of those who graduated in more than 4 years; but across both fields, there were approximately 2% of those who graduated in less than 4 years, and 98% with 4 years or more.

TABLE 6 THE EFFECT OF SEX, NATIONALITY, FIELD AND PERCENT ON  
NUMBER OF YEARS TO GRADUATE AT THE COLLEGE OF COMMERCE

STUDENT CHARACTERISTICS		N	YEARS TO GRADUATE		
			>4 YEARS	=4 YEARS	<4 YEARS
SEX					
F		1260.0	45.0	46.5	40.5
			43.7	55.1	1.2
M		1489.0	55.0	53.5	59.5
			45.0	53.6	1.5
NATIONALITY					
K		2098.0	75.0	78.0	44.0
			43.0	56.1	0.9
NK	WN	100.0	3.0	4.0	1.0
			39.0	61.0	
NK	G	281.0	14.0	8.0	9.0
			57.0	42.0	1.0
	O	270.0	9.0	10.0	46.0
			41.0	53.0	6.0
TOTAL NK		651.0	25.0	22.0	51.0
			47.3	49.8	2.9
FIELD					
ART		1678.0	55.0	66.0	46.0
			40.0	59.0	1.0
SCIENCE		1071.0	45.0	34.0	54.0
			51.0	47.0	2.0
PERCENT					
HIGH		88.0	2.0	4.0	3.0
			25.0	74.0	1.0
MED		1015.0	30.9	42.0	43.0
			37.0	61.0	2.0
LOW		1646.0	67.0	54.0	54.0
			50.0	49.0	1.0

For the percent effect, Table 6 shows that 75% of students with high percent had graduated with 4 years or less, 99% of the middle and low percents had graduated in 4 years or more; and there were 25%, 37%, and 50% of high, middle, and low percents who graduated in more than 4 years. It is obvious from Table 6 that there was a strong association between the percent at the secondary school and the performance of the students as measured by the number of years to graduates; students with higher percent are expected to graduate in less number of years than those with lower percents.

### College of Engineering

Effect of the Sex and the Nationality on the Field. Sex and nationality have no effect on the field because students in this college should have science background, only science student are accepted.

Effect of the Sex on the Percent. Of the three colleges, only in this one do the number of the males exceed the number of females in the high percent category, 56% to 48% (Table 7). It shows that there was less than 6% of both males and females fell into the low percent. This result contrasts sharply with the findings in both the colleges of Arts and Commerce where the females usually dominated the high percent category. This might be due to the fact that females with high percents prefer to study at the arts, education and commerce colleges where they are socially and economically more accepted. When these relationship were tested, it was found that sex had significant affected the percent in this college, ( $\chi^2$  was 6.4 ).

### The Effect of the Sex, Nationality and the Field.

#### on the Graduation Years.

This college was different from the other two. It requires five years for graduation, and students should have a scientific background ( Table 7). It shows that the males were more than the females in the high percent. Males also graduated in less number of years, 13% of the

TABLE 7 THE EFFECT OF SEX, NATIONALITY AND FIELD ON SECONDARY SCHOOL  
AT THE COLLEGE OF ENGINEERING

STUDENT CHARACTERISTICS	N	% OF STUDENTS			X-SQUARE	
		HIGH	MED	LOW		
SEX						
F	310.0	33.0	41.0	33.0	6.4	
		48.0	46.0	5.0		
M	547.0	67.0	59.0	67.0		
		56.0	37.0	6.0		
NATIONALITY						
K	291.0	9.2	60.0	80.8		337.5
		14.0	71.0	14.0		
NK	23.0	0.4	5.6	7.7		
		9.0	74.0	17.0		
G	82.0	10.2	10.0	0.0		
		57.0	43.0	0.0		
O	461.0	80.2	25.0	11.5		
		80.0	19.0	1.0		
TOTAL NK	566.0	90.8	40.0	19.2		
		73.5	247.0	1.8		

males graduated in less than 5 years against 1% of the females (Table 8). They represent 95% of those who graduated in less than 5 years, and the females represent 37% of those who graduated in more than 5 years and 99% of those who graduated in 5 years or more compare to 87% of the males.

The Table also shows the relationship between the nationality and the number of years to graduate. It shows that 1% of the Kuwaitis had graduated in less than 5 years whereas there were 10% of the non-Kuwaitis had graduated in same period. The Others were 93% of those who had graduated in less than 5 years, and the Kuwaitis, Gulf, and the Without students didn't exceed 4%. On the other hand, the Kuwaitis and the Without students were 35% and 39% of those who had graduated in more than 5 years compared with 24% for the Gulf and 15% for the Others.

When the two groups were compared, it was found that 64% of the Kuwaitis and 78% of the non-Kuwaities graduated in 5 years; and 52% of those who graduated in more than 5 years were Kuwaitis. These findings indicate that nationality had a significant effect on the performance of the students as measured by the number of years to graduate. Non-Kuwaitis performed better than the Kuwaitis, and the non-Kuwaitis (Others) were among the best of all the nationaliteis (Table 8).

For secondary school percent, the table shows that 40% of the low percent students graduated in more than 5 years agaist 39% and 9% of the middle and high students; and 93% of those who graduated in less than 5 years were from the high percent compareed with 5% and less for the middle and the low percent; 21% of high percent graduated in more than 5 years compared with 68% and 11% for the middle and low groups.

#### Effect on the Students' Grades

Based on the previous analysis, the students' characteristics significantly affected each other and the students' the performance as measured by the number of the graduation years. In this section, we analyzed the contribution to these characteristics on the students'

TABLE 8 THE EFFECT OF SEX, NATIONALITY, FIELD AND PERCENT ON  
NUMBER OF YEARS TO GRADUATE AT THE COLLEGE OF ENGINEERING

STUDENT CHARACTERISTICS	N	YEARS TO GRADUATE		
		>4 YEARS	=4 YEARS	<4 YEARS
SEX				
F	310.0	37.0	40.0	5.0
		24.0	75.0	1.0
M	547.0	63.0	60.0	95.0
		23.0	64.0	13.0
NATIONALITY				
K	291.0	518.0	32.0	4.0
		35.0	64.0	1.0
NK	23.0	45.0	2.0	0.0
		39.0	61.0	0.0
G	82.0	10.0	10.0	3.0
		24.0	73.0	2.0
O	461.0	337.0	56.0	93.0
		15.0	71.0	15.0
TOTAL NK	566.000	48.2	68.0	96.0
		12.8	77.8	9.4
PERCENT				
HIGH	458.0	21.0	59.0	93.0
		9.0	76.0	15.0
MED	347.0	68.0	36.0	6.0
		39.0	30.0	1.0
LOW	52.0	11.0	5.0	1.0
		40.0	58.0	2.0

grade point average (GPA) at the three colleges by assuming the following model:

$$\text{GPA} = F(\text{sex, nationality, field, percent, and constant})$$

To investigate the contributions of each characteristic on the GPA, two questions need to be analyzed: First, was there a significant contribution of sex, nationality, field, and percent on the GPA of the students in the three colleges?; and, Second, was there significant differences in the GPA among them?.

### College of Arts

Table 9 presents the findings for sex, nationality, field, and percent on the grade. It shows that 35% of the females and 22% of the males fell within the 'Very Good' and 'Outstanding' grades compared with 50% of the males and 32% of the females who fell within the 'Fair' and 'Fail' grades. It also shows that 63% and 48% of the females and the males had good and very-good grades; 88% and 83% of those who had an outstanding and very-good grades were females. On the other hand, males represent 51% and 32% of those who had fail and fair grades compared with 68% of the females who had good grade and better. These findings indicated that the females had better performance than the males. When the relationship between the sex and the grade was tested, it was found that it was significant, and  $\chi^2$  was 240.

For nationality, the performance of the non-Kuwaitis (Others) was much better than all other nationalities, especially within the Very-Good and Outstanding grades. They present 68% of these grades against 28%, 31% and 29% for the Kuwaitis, Without, and the Gulf students respectively. In contrast, 39% of the Kuwaitis and 41% of the Without and the Gulf students had Fail and Fair grades compared with 12% for the Others. The reason for these differences in the performance, is that Kuwait University admission policy differentiates among nationalities and their acceptance level.

The graduation percent from secondary school was shown to have a significant effect and contribution on the fields, and then on the performance of the students. Table 9 shows that less than 1% of the

TABLE 9 THE EFFECT OF SEX, NATIONALITY AND PERCENT ON PERFORMANCE  
AT THE COLLEGE OF ARTS

STUDENT CHARACTERISTICS	N	GRADES TYPES					X-SQRE	
		FAIL	FAIR	GOOD	V.GOOD	OUTSTANDING		
<b>SEX</b>								
F	3316.0	49.0 3.0	68.0 29.0	78.0 33.0	83.0 30.0	88.0 5.0	240.9	
M	1067.0	51.0 8.0	32.0 42.0	22.0 28.0	17.0 20.0	12.0 2.0		
<b>NATIONALITY</b>								
K	3524.0	86.0 4.0	87.0 35.0	85.0 33.0	72.0 25.0	46.0 3.0		
NK	WN	96.0	4.0 7.0	2.0 34.0	2.0 27.0	2.0 25.0	3.0 6.0	184.0
G	247.0	6.0 4.0	6.0 37.0	5.0 30.0	5.0 26.0	4.0 3.0		
O	518.0	4.0 1.0	4.0 11.0	8.0 21.0	21.0 49.0	47.0 18.0		
TOTAL NK	858.0	14.0 2.8	12.0 21.1	15.0 24.2	28.0 393.0	54.0 12.2		
<b>FIELD</b>								
ART	3883.0	91.0 4.0	91.0 34.0	90.0 32.0	85.0 27.0	81.0 4.0	6.5	
SCIENCE	500.0	9.0 3.0	9.0 25.0	10.0 29.0	15.0 36.0	19.0 7.0		
<b>PERCENT</b>								
HIGH	142.0	0.0 0.0	0.1 0.7	0.6 6.0	6.0 54.0	28.0 39.0	524.7	
MED	1102.0	8.0 1.0	7.4 10.0	22.2 28.0	47.0 52.0	54.0 9.0		
LOW	3139.0	92.0 5.0	92.5 42.0	77.2 34.0	47.0 18.0	18.0 1.0		



high percent students fell in the Fair and Fail grades compared with 11% and 47% of those who had middle and low percents, respectively; and 93% of the high percent students fell in the Very-Good and Outstanding grades against 61% and 19% for the middle and lower percents. In addition, there was 28% of the outstanding students had high percent, and 18% had low percents. On the other hand, none of the high percent students had failed compared to 92% of the failing students were from the lower percent. These findings indicate that the performance of the students as measured by their GPA was strongly affected by the secondary school percent.

With regard to the field of the study, the College of Arts was mainly for students with arts background, but some of science students have enrolled in it and have performed better than the arts students. The Table shows that 43% of the science students had had very-Good and Outstanding grades compared with 31% of the arts students, and 38% of the arts students obtained fail and fair grades compared with 28% of the science. It shows that 91% of the failing students were arts; and 4% of arts students had outstanding compared with 7% of the science students.

#### College of Commerce

Study in this college suits both the arts and science background, and the same characteristics as the College of Arts were used to investigate the relationships (Table 10).

For sex, the table shows the females performed better than the males in this college; 39% of them had obtained very-good and better compared with 26% of the males; and 29% had obtained fair or less compared with 43% of the males. The table also shows that 73% of the outstanding students and 53% of the very-good students in this college were females compared with 27% and 47% of the males.

For nationality, the non-Kuwait have shown better performance than Kuwaitis. They represent 56% of the outstanding students, and 29% of the failing students. The Kuwaitis were concentrated in the fail and fair grades, 71% and 78%, respectively. Among nationalities, 60% of the Others obtained very-good and outstanding grades compared with 30% for

TABLE 10 THE EFFECT OF SEX, NATIONALITY PERCENT ON PERFORMANCE  
AT THE COLLEGE OF COMMERCE

STUDENT CHARACTERISTICS	N	GRADES TYPES					I-SQRE	
		FAIL	FAIR	GOOD	V.GOOD	OUTSTANDING		
<b>SEX</b>								
F	1260.0	28.0 2.0	38.0 27.0	46.0 31.0	53.0 32.0	73.0 7.0	133.1	
M	1489.0	72.0 4.0	62.0 39.0	54.0 31.0	47.0 24.0	27.0 2.0		
<b>NATIONALITY</b>								
K	2098.0	71.0 3.0	78.0 34.0	83.0 34.0	72.0 27.0	44.0 3.0	47.3	
NK	WN	100.0	5.0 4.0	4.0 37.0	3.0 28.0	4.0 29.0		2.0 2.0
	G	281.0	16.0 4.0	12.0 39.0	8.0 25.0	10.0 28.0		10.0 4.0
	O	270.0	8.0 2.0	6.0 20.0	6.0 18.0	14.0 40.0		44.0 20.0
TOTAL NK		651.000	29.0 3.4	22.0 30.9	17.0 22.3	28.0 33.2		56.0 10.2
<b>FIELD</b>								
ART	1878.0	73.0 3.0	68.0 37.0	63.0 32.0	54.0 25.0	33.0 2.0	72.3	
SCIENCE	1071.0	25.0 2.0	32.0 27.0	37.0 30.0	46.0 33.0	68.0 8.0		
<b>PERCENT</b>								
HIGH	88.0	0.0 0.0	0.7 7.0	0.4 3.0	5.0 45.0	33.0 44.0	246.7	
MED	1015.0	28.0 2.0	22.2 20.0	35.0 30.0	55.0 42.0	55.0 7.0		
LOW	1646.0	72.0 3.0	77.1 43.0	65.0 34.0	40.0 19.0	13.0 0.9		

the Kuwaitis, 31% for the Gulf, and 32% for the Without; and 22% of the Others obtained fair or failing grades whereas the Kuwaitis, the Gulf, and the Without were 37% and more. These findings indicate that the nationality has a significant affect on the performance of the students, and finally on their grades.

For the field of study, the performance of students were found to be closely related to the field of the secondary school. There was 41% of science background had very-good and outstanding grades compared with 27% of the arts; 40% of the arts had fair and fail grades compared with 29% of the science; and 68% of the outstanding and 46% of the very-good students were science compare to 73% of the failing and 68% of the fair students were arts.

For the secondary school percentage, the table shows that none of the high percent students had failing grade whereas there were 3% of the low percent and 2% of the middle; also there was 89% of the high percent students had very-good and above compared with 49% of the middle percent and 20% of the low percent. The majority of the lower percentage students fell in the fair and lower grades, 77% and 72%.

To study the differences among the performances, analysis of variance was used. It was found that the F-value was 47.3 and coefficient of determination of the GPA was 0.3 which indicates that 30% of the GPAs' variation could be explain by nationality (Table 10).

#### College of Engineering

For sex, Table 11 shows that 64% the students were males, and thier performance was better than the females. They present 59% and 65% of outstanding and very-good grades; and 56% of them had very-good grade and above whereas there was 43% of the females had good grades and below. When the relationship between the sex and the grade was tested, it was found that there was no significant relationship ( $\chi^2$  was 5.0).

For nationality, the table shows that the non-Kuwaitis represent 89% of the outstanding grades, 79% of the very-good, and 55% of the good grades; whereas the Kuwaitis were 56% of the fail grades and 65% of the fair. However within the nationalities, the Others were 67% of the

very-good, and 81% of the outstanding; and the Kuwaitis, Gulf, and the Without did not exceeded 43% for very-good grades, and 13% for the outstanding. The Table indicates that the nationality has a significant effect on the performance of the students and is associated strongly with their grades, the  $\chi^2$  was 108.5.

For the secondary school percent, the findings were similar to those for the above two colleges, the higher the percent the better the performance; 95% of the outstanding students, 69% of the very-good and 31% of the good grades were from them high percent students against 28% of the fail and 17% of the fair students were from the low percent. When the differences in the performance were tested, the F-ratio was 130, which means that there was significant different in the performance among the three categories of percents (Table 11).

#### Data Discussion

The sex, nationality, field, and the percent of the students at the Kuwait university were analyzed and compared in the college of Arts, Commerce, and Engineering.

For the College of Arts, there was a significance different between the percentages of the males and the females. The average percent of the females was higher than the males, 68% compared to 62%, and the variation among the females was larger than the males, standard deviations were 8.6 and 7.2 respectively (Table 12). These findings affected the grade point average (GPA) which was 4.8 for the females and 4.2 for the males, Table 13.

For nationality, it was found that the performance of the students depends on the percentage of the secondary school, which depends on the nationality of the student. For example the non-Kuwaitis had an average of 72%, and for the Kuwaitis was 64%; and this affected the students' GPAs which was 5.7 for the non-Kuwaitis ( Other) and 4.5 for the Kuwaitis . The Gulf and Without students had approximately the same GPA as Kuwaitis, 4.5 and 4.6 , and a larger variation factor, 1.2. However,

TABLE 11 THE EFFECT OF SEX, NATIONALITY AND PERCENT ON PERFORMANCE  
AT THE COLLEGE OF ENGINEERING

STUDENT CHARACTERISTICS	N	GRADES TYPES					X-SQRE	
		FAIL	FAIR	GOOD	V.GOOD	OUTSTANDING		
SEX								
F	310.0	22.0 1.0	34.0 18.0	38.0 23.0	35.0 35.0	41.0 22.0	5.0	
M	547.0	78.0 3.0	66.0 21.0	62.0 21.0	65.0 38.0	59.0 18.0		
NATIONALITY								
K	291.0	55.6 3.0	65.0 38.0	45.0 29.0	21.0 23.0	11.6 7.0		
NK	WN	23.0	5.6 4.0	5.0 35.0	5.0 43.0	1.0 13.0	0.6 4.0	108.5
	G	82.0	16.6 4.0	9.0 18.0	10.0 22.0	11.0 43.0	6.7 13.0	
	O	461.0	22.2 1.0	21.0 8.0	40.0 16.0	67.0 46.0	81.1 29.0	
TOTAL NK	566.000	44.4 1.4	35.0 10.5	55.0 18.0	79.0 44.5	89.000 25.6		
PERCENT								
	HIGH	458.0	17.0 0.7	12.0 4.3	31.0 13.0	69.0 48.0	95.0 34.0	130.8
	MED	347.0	56.0 3.0	71.0 35.0	62.0 33.0	30.0 27.0	5.0 2.0	
	LOW	43.000	28.0 10.0	17.0 56.0	8.0 27.0	1.0 8.0	0.0 0.0	

TABLE 12 THE SECONDARY SCHOOL PERCENT AT THE COLLEGE OF ARTS

STUDENT CHARACTERISTICS	N	MEAN	STD	MINIM	MAXUM	T-TEST
<b>SEX</b>						
F	3316	68.0	8.6	45.3	97.4	394.5
M	1067	62.0	7.3	42.4	92.5	
<b>NATIONALITY</b>						
K	3524	64.8	7.6	42.4	94.5	395.2
NK	859	71.9	9.8	50.0	97.4	
<b>FIELD</b>						
ART	3883	66.3	8.5	42.4	97.4	5.6
SCIENCE	500	65.2	9.4	44.8	89.1	

TABLE 13 THE STUDENTS' GPA AT THE COLLEGE OF ARTS

STUDENT CHARACTERISTICS		N	MEAN	STD	MINIMU	MAXIMUM	C.V.	F-ratio
SEX								
	F	3229.0	4.800	1.2	0.0	8.6	0.3	172.0
	M	992.0	4.200	1.1	0.0	8.8	0.3	
NATIONALITY								
	K	3392.0	4.5	1.1	0.0	8.8	0.2	
	NK							
	WN	90.0	4.6	1.1	2.8	7.6	0.3	201.8
	G	235.0	4.5	1.2	0.0	8.6	0.3	
	O	504.0	5.7	1.3	2.6	8.6	0.2	
FIELD								
	ART	3742.0	4.6	1.2	0.0	8.8	0.3	9.1
	SCIENCE	479.0	5.0	1.3	0.0	8.4	0.3	
PERCENT								
	HIGH	141.0	6.7	1.0	3.7	8.8	0.2	609.8
	MED	1085.0	5.4	1.1	0.0	8.5	0.2	
	LOW	2995.0	4.3	0.9	0.0	8.3	0.2	

across the sex and nationality, the GPAs were higher for females than the males. For the females, the ranged was between 4.5 for the Kuwaitis and 5.8 for the Others; and for the males was less, ranged between 4.2 for the Kuwaitis to 5.0 for the Others with larger variations among the females than the males, especially within the Gulf students, coefficient of variation (C.V.) were 0.27 and 0.22, respectively (Table 14).

For the field at the secondary school, the average percent score were approximately the same for the two sections, 66% of the arts and 65% of the science (Table 12); but the science section has larger variation and better GPA, 5.0 compared to 4.5 for the arts (Table 13). There was no significant different in the GPAs between the two groups, F-ratio was 9.1, Table 13.

For the percent of the secondary school, the table shows that the higher the percent of the student, the higher is his GPA in this college. For example, students with higher percent had a GPA of 6.7, whereas students with middle and low percents had 5.4 and 4.3, respectively. It also shows that high percent students had less variation than those with middle and lower percents, the standard deviations were 1.0, 1.2, and 0.9; and the differences among the GPAs was found to be significant, the F-ratio was 610.

The College of Commerce has the second highest enrollment, and is expected to increase because of the demand for its graduates. It admits students with arts and science background, and science students rank it as their second or third choice after the engineering and science colleges. The females had better percents than the males, 72% compared with 66% (Table 15). with an average of 72% compare to 66%, Table 15. The distribution among the female percents was larger than among the males with 9% compared with 7%, but the C.V. was the same, 11%. When the GPAs were computed, it was 4.9 for the females and 4.2 for the males with standard deviation equal to 1.3 and 1.1 (Table 16).

The nationality, the non-Kuwaities had higher percent with an average of 73% and 67% for the Kuwaitis (Table 15); when the GPAs within nationalities were computed, it was found that the Others had 5.5



TABLE 14 THE GPA'S ACROSS NATIONALITIES AT THE COLLEGE OF ARTS

SEX	NATIONALITY	N	MEAN	STD	MINIM	MAXUM	C.V	F-RATIO
F	K	2582	4.5	1.1	0.0	8.4	0.2	3.6
	W	42	4.6	1.2	3.4	7.6	0.3	
	G	188	4.5	1.3	0.0	8.6	0.3	
	O	417	5.8	1.3	2.6	8.6	0.2	
M	K	816	4.2	1.0	0.0	8.8	0.2	2.6
	W	48	4.5	1.1	2.8	7.2	0.2	
	G	47	4.2	1.0	3.0	6.4	0.2	
	O	87	5.0	1.3	2.8	8.4	0.3	

TABLE 15 THE SECONDARY SCHOOL PERCENTS AT THE COLLEGE OF COMMERCE

STUDENT CHARACTERISTICS	N	MEAN	STD	MINIM	MAXUM	C.V.	F-RATIO
<b>SEX</b>							
F	1260	72	9	48.0	95.7	11	305.9
M	1489	66	7	43.2	94.9	11	
<b>NATIONALITY</b>							
K	2098	67	7.6	43.2	95.0	11	176.9
NK	651	73	8.8	46.3	95.7	12	
<b>FIELD</b>							
ART	1678	69	7.5	43.2	95.7	11	26.3
SCIENCE	1071	68	9	43.7	94.9	13	

TABLE 16 THE STUDENTS' GPA AT THE COLLEGE OF COMMERCE

STUDENT CHARACTERISTICS		N	MEAN	STD	MINIM	MAXUM	C.V	F-RATIO
<b>SEX</b>								
	F	1234	4.9	1.3	0.0	8.7	0.3	122.1
	M	1442	4.2	1.1	0.0	8.7	0.2	
<b>NATIONALITY</b>								
	K	2048	4.5	1.1	0.0	8.7	0.2	56.6
	NK	89	4.5	1.2	2.7	8.6	0.3	
	G	268	4.6	1.3	0.0	8.2	0.3	
	O	262	5.4	1.6	0.0	8.7	0.3	
<b>FIELD</b>								
	ART	1622	4.5	1.1	0.0	8.5	0.2	66.5
	SCIENCE	1054	4.9	1.3	0.0	8.7	0.3	
<b>PERCENT</b>								
	HIGH	86	6.6	1.4	3.2	8.7	0.2	278.3
	MED	990	5.0	1.2	0.0	8.7	0.2	
	LOW	1600	4.3	0.9	0.0	7.5	0.2	

and for the Kuwaitis, Gulf, and Without were 4.5, 4.5, and 4.6 with SD of 1.0, 1.2 and 1.1, respectively.

Across sexes and nationalities, the GPAs of the students indicated that females were better than the males throughout the four nationalities, Table 17. The Kuwaitis' females had GPA 4.7 and the males had 4.3; the Others' females had 6.0 and the males had 4.7; the Gulfs' females had 4.6 and the males had 4.5; and the Without females had 5.2 and the males had 4.3. However, the variations among them were 1.6 and 1.0, respectively.

For the field at the secondary school, it was found that no significant difference in the percentages and in the GPAs at the college, the GPAs were 4.5 and 4.9 which shows that there was dispersion among the science students; when the percent was considered it indicated that the higher the percent, the better performance. The GPA for high percent students was 6.6, and for the middle and low percents were 5.0 and 4.3 with SD of 1.4, 1.2, and 0.9, respectively.

For the College of Engineering, only science students are admitted, therefore only sex, nationality, and percent were tested. For sex, the number of males was almost twice the number of females, and their average percent was higher, 85% compare to 84%, which was different than the two previous colleges (Table 18) But when the GPAs were computed, it was found that the females still performed better than the males, with GPA of 5.5 compare to 5.2, and the variations among the males were larger, SD = 1.6 against 1.4 for the females, Table 20.

For the nationality, the table shows that the Others were the majority and the Withouts were the smallest number of students. The Kuwaities represent 33% of the total number of the students. They had an average percent of 77%, and the non-Kuwaitis had 88%. This difference effected the GPAs of the students, which were 6.0 for the Others, 5.4 for the Gulf, 4.6 for Kuwaitis, and 4.2 for Without. The variations among the Others and the Gulf were larger than the variation among the Kuwaitis and the Without with SD equal to 1.4. Table 20 also shows that high percent students had GPA of 6.3 followed by middle percent with 4.5

TABLE 17 THE GPA'S ACROSS NATIONALITIES AT THE COLLEGE OF COMMERCE

STUDENT CHARACTERISTICS		N	MEAN	STD	MINIM	MAXUM	C.V	F-RATIO
SEX NATIONALITY								
F	K	926	4.7	1.1	0.0	8.7	0.2	0.96
	W	11	5.2	1.6	3.2	8.6	0.3	
	G	140	4.6	1.3	2.9	8.2	0.3	
	O	157	6.0	1.4	0.0	8.7	0.2	
M	K	1122	4.3	1.0	0.0	8.7	0.2	0.29
	W	87	4.3	1.1	2.7	7.0	0.2	
	G	128	4.5	1.2	0.0	8.0	0.3	
	O	105	4.7	1.4	2.6	8.7	0.3	

TABLE 18 THE SECONDARY SCHOOL PERCENT AT THE COLLEGE OF ENGINEERING

STUDENT CHARACTAR	N	MEAN	STD	MINIM	MAXUM	F-ratio
SEX						
F	310.000	83.8	8.2	65.4	99.0	2.59
M	549.000	84.5	9.0	67.4	99.6	
NATIONALITY						
K	297.000	77.3	6.7	57.3	95.9	446.1
HK	566.000	87.9	7.4	7.0	99.6	

TABLE 19 THE STUDENTS' GPA AT THE COLLEGE OF ENGINEERING

STUDENT CHARACTERISTICS		N	MEAN	STD	MIN	MAX	C.V.	F-ratio
SEX								
	F	310.000	5.5	1.4	2.9	8.7	0.3	2.6
	M	549.000	5.2	1.6	2.5	9.0	0.3	
NATIONALITY								
	K	297.000	4.6	1.2	2.5	8.9	0.3	
NK	WN	23.0	4.2	1.2	3.0	7.7	0.3	104.5
	G	82.000	5.4	1.4	3.0	8.3	0.3	
	O	461.000	6.0	1.4	2.9	9.0	0.2	
PERCENT								
	HIGH	452.0	6.3	1.3	2.9	9.0	0.2	128.2
	MED	337.0	4.5	1.0	2.5	7.9	0.2	
	LOW	47.0	4.0	0.7	3.6	5.6	0.2	

and the least were the lower percents with 4. These findings indicate that the higher the percent at the secondary school level, the better the performance at the college; there was a strong association between performance and nationality.

Across the sex and the nationality (Table 21), the performance of the females was noticeably better than that of the males across all the nationalities. Among the Kuwaities, the females had GPA of 4.8 against 4.4 for the males; for the Without, it was 5.8 for the females against 3.9 for the males; for the Gulf, it was 5.7 for the females against 5.1 for the males; and finally for the Others, it was 6.4 for the females against 5.8 for the males (Table 21).

### Summary and Conclusion

Success in college has traditionally been of concern to educators and researchers. Many studies have been conducted over the past half a century in a concerned effort to adequately analyze college success and identify better and useful variables. Throughout the years, researchers have believed that predictors of college success could be established through appropriate research studies. Although they have been concerned with predicting college success from secondary school performance and college entrance examination, limited research has been conducted on the affect of the sex and nationality characteristics.

The findings of these research studies appeared to vary when attempting to determine a direct relationship between secondary school grades, sex, nationality, field, and college success. Nevertheless, one general trend that appeared throughout the studies was that the secondary school fields and overall grade point average seemed to be the two best predictors of the college success (Lavin, 1965 and Leonard, 1971).

This study focused on four type of students' characteristics: sex, nationality, secondary school percent, and field. It was primarily conducted to investigate their relationships in three colleges at Kuwait



TABLE 20 GPA'S ACROSS NATIONALITIES AT THE COLLEGE OF ENGINEERING

SEX	NATIONALITY	N	MEAN	STD	MINIMUM	MAXIMUM	C.V.	F-ratio
<b>FEMALE</b>								
	K	139	4.7	1.2	3.0	8.2	0.3	1.0
	WN	3	5.8	1.7	4.4	7.7	0.3	
	G	33	5.7	1.4	3.4	7.9	0.3	
	O	123	6.4	1.3	2.9	8.7	0.2	
<b>MALE</b>								
	K	152	4.4	1.2	2.5	8.9	0.3	1.9
	WN	20	4.0	1.0	3.0	6.7	0.2	
	G	49	5.1	1.4	3.0	8.3	0.3	
	O	338	5.9	1.5	2.9	9.0	0.2	

TABLE 21 THE LEVEL OF PERFORMANCE AT THE THREE COLLEGES

HIGH SCHOOL	ART	COMMERCE	ENG.
PERCENT			
NUMBER	4383	2749	857
PERCENT	65.7%	69.4%	83.4%
GPA	3.5	3.9	4.9

University, and to determine their contribution to college success. The study indicated that a definite need existed to find out more about college success predictors at Kuwait University with regard to Kuwaitis' culture and the population distribution. It found that all of identified student characteristics significantly affected one another, and finally college success.

For example, at the College of Arts, the females were the majority and their performance was much better than the males. Their grade point average (GPA) was 4.8 compared with 4.3 for the males, and also across the nationalities, they scored higher GPAs than the males. The majority of arts students were in the middle and lower percents, and the majority of the science students were in the higher percents. The average percent in this college was 65%, which was the lowest among the colleges. The sex, nationality, and the percent score at secondary school appeared to be highly related to students' GPAs, number of years to graduate, and college success at the College of Arts

For the College of Commerce, the number of the males was higher than the females, but the females performed better than the males. Of the females, 39% had very good or outstanding grades compared with 26% of the males; and across the nationalities, the females had higher GPAs especially within the Kuwaitis, Without and Others. The females' GPAs were also found to be affected by the secondary school percent where 66% of the Others scored higher percents compared with 62%, 35%, and 33% for the Gulf, Kuwaitis, and the Without; 40% of the science students had GPA 4.9, and 49% of them graduate in 4 years or less. The arts students had less GPA, 4.5, and 99% of them graduate in four years or more. Therefore, science students seem to be more suited to this college.

The College of Engineering has a different setting from the other two colleges. It only accepts students with a science background and high percent, and the number of males usually exceeds the number of females. Therefore, the students' GPA was higher and their distribution was larger. The Kuwaitis had a GPA of 4.5, because they were

concentrated in the middle percent, 77%; and for the non-Kuwaitis was 5.9, and they were concentrated in the high percent with an average of 88%. Of all students, 90% graduated in 5 years or more; and 99% of the Kuwaitis graduated in 5 years or more compared with 86%, 97%, and 100% for the Others, Gulf and Without respectively. Within the nationalities, the Others were among the best students with GPA of 6.1 followed by the Gulf, Kuwaities, and the last were the Without with GPAs of 5.4, 4.6, and 4.2, respectively.

We can conclude that college success and the students' personal and academic characteristics are important parameters for Kuwait University admission policy; and educators and researchers should place emphasis on the relationships between them. It was found out from in this study, that the performance of a students can be assessed according to subjects taught, accurate and appropriate information about students' personal and academic characteristics in addition to other factors. The results of this study appeared to be varied when attempting to determine the direct relationships between the sex, nationality, percent, field and the college success in Kuwait University. Therefore, one general trend which appeared throughout the study was that the nationality and the percent at the secondary school appeared to be the two best predictors of college success.

Concerning similar findings of this study, however, the conclusions reached by the researchers indicated that there is a definite need for additional studies. The existing study was primarily conducted using old data and was one of the preliminary studies about Kuwait University. This study also concludes that there was a significant problem in determining college success between the two groups, Kuwaitis and non-Kuwaitis. Therefore, more studies are needed to investigate and explain more about this relationship. These studies can serve as a planning guide for researchers, university administrators and students' supervisors to enable them to help the student see an overall perspective of his career. In addition, these studies help to orient interested researchers to interpret the behavior they observed and help them act in response to their observations.

## REFERENCES

- Lavin, D.E. 1965. The Prediction of Academic Performance. New York: Russell Sage Foundation.
- Leonard, R.L. 1971. An educational index for the prediction of freshmen success. Doctoral dissertation, University of Northern Colorado, Greeley, Colorado.

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