

The Impact of Gender In choosing the Academic Specializations in Iraqi Universities

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Abstract

The Impact of Sex in choosing the Academic Specialization in the Iraqi Universities

University period is one of the important stages of individual preparation for the profession of the future, and the Research aims at Studying Sex differences in choosing academic specialization's at the Iraqi Universities.

Limiting to Samples of the mal and female students accepts at Baghdad University and Mustansiriya University for the academic year 2002-2003, as for the professional Environments according to the research aims, the Academic Specialization.

The total number of the Students was (1131);(655) male student and (416) female students were distributed in the six environments , (30) male students and (30) female students have been chosen randomly from each professional environment and were distributed in the analogous department of the profess-ional environments ; thus ,the total sample was (180) male students and (180) female students , the researcher used (S.D.S){HOLLAND- KHALID } Scale arabized and amended for Iraqi environment in (2003)after scales have shown significance of validity and reliability that justify using them in personal and Investigative sides in Iraqi environments. and Researcher was Hypothesis that the performance of the male students is the same as the performance of the female students in all the six environments. Thus the Researcher used the statistical means are as follow:(Arithmetic Medium , person correlation coffined , Standard Deviation , T – Value for two independent values) . The Results sows that are a statistical sex difference in the:

1-Realistic Environment on the Realistic and Enterprising Scales for the Male students.

2-and in the Investigative Environment on the Investigative and Enterprising scales are for the male students and for the female students on the Artistic scale.

3- And on the Artistic Environment was for the Male students in the realistic and Conventional Scales.

4-in the Social Environment was for the female students on the Artistic, Social and Conventional Scales.

5-and the results show in the Enterprising Environment on the Realistic, Investigative and Enterprising Scales for the male students.

6-But in the Conventional Environment on the Realistic scale for the male students and on the Artistic scale for the female students.

Section One

1- The importance of the research and its problem:

Choosing the suitable profession according to sex has become a necessary subject that matters those who are responsible for the different enterprises. After preparing the individuals for a certain profession, the females refuse some, and males refuse others. The profession is either a means of building and developing, or it is a means of destroying the individual's personality, and may be the whole society. The official and nonofficial enterprises in the world were active in helping individuals, in order to achieve a suitable professional choice. The professional guidance started to take the lead among the guidance services presented by general and private centers of guidance, in order to help the individuals in making the suitable professional choice.

(Phillips et al: 1988: PP 169 – 177)

Choosing a certain profession or academic specialization is not to be determined by financial and economical privileges that it provides.

It also depends on satisfying social and psychological needs that correlate with the identity of the individual and his / her structure.

(Al – Shara'a : 1993 : p 243)

University period is one of the important stages of individual preparation for the profession of the future (Super) stated that the period from (18 – 24) years, is the period of moving from experiencing the various professional choices, into determining and lessening them as much as possible. So the university has a special and distinguished role in choosing

a profession. In this period, the professional decision, which affects directly the individual's life psychologically, socially and economically, is made knowing the professional trends helps to guide the individual towards the suitable study, then to choose the suitable profession. Choosing a certain profession reflects a basic psychological need.

The professional conformation represents an important side in the general conformation of the individual in life. That is because the individual, when choosing a profession, he chooses styles of conformation and types of life and roles that he feels familiar with.

(Conneran & Hartman) state that in spite of not determining the type of work , the individuals can benefit from the known styles of professional guidance . But the individuals, who can not determine the type of work, that they want, need an intensified psychological interference. If they did not get that help, the possibility of being dissatisfied and unstable in work, would increase.

(Hartman: et al: 1983: p 96)

1 – 2 Research Aims

The research aims at studying Gender difference in choosing academic specializations at the Iraqi Universities.

1-3 Research Limits

The research is limited to samples of the male and female students accepted at Baghdad University and Mustansiriya University for the academic year 2002 – 2003. As for the professional environments according to the research aims, the academic specializations are as follows:

1-3-1 Realistic Environment which included the departments of Mechanical Engineering, Civil Engineering, and Electrical Engineering and High ways at the College of Engineering, Mustansiriya University.

1-3-2 Investigative engineering which included the departments of Chemistry and Biology at the college of Sciences, Mustansiriya University.

1-3-3 Artistic Environment which included the departments of the College of Fine Arts, Baghdad University.

1-3-4 Social Environment which included the departments of Psychological and Educational Sciences, and Educational Guidance at the College of Education, Mustansiriya University.

1-3-5 Enterprising Environment which included the department of Business Management at the college of Management and Economics, Mustansiriya University.

1-3-6 Conventional Environment which included the departments of Accountancy at the college of Management and Economics, Mustansiriya University.

1-4 Research Hypothesis :

The Performance of the male students is the same as the performance of the female students in all the six environments.

Section Two

2- Research Literature

Self – Directed Search of (John Holland, 1990) is one of the rare measurement of professional trends. It depended, in its making, on a certain theory. Holland considered his theory, that has been made in 1959, and amended many times later on, as a theory in personality, since the professional trends are a part of personality components. This theory stands on four basic hypotheses:

2-1 First Hypothesis: Personalities of individuals can be classified into six types:

2-1-1 Realistic type

This type tends to deal with things, machines and working in open places. It also has mechanical abilities; but it lacks social skills. Further, it has other merits like adaptation, humility, frankness, perseverance, realism and scientism.

2-1-2 Investigative Type

This type has scientific, mathematical, investigative and analytical abilities; but it lacks leadership skills.

The other merits of this type are awareness, unsociable ness , punctuality , analysis and rationality .

2-1-3 Artistic type

This type has artistic abilities; but lacks writing skills. It has also other merits like Humility, adaptation, frankness and perseverance

2-1-4 Social type

This type has social skills and talents; but lacks practical and mechanical abilities. The other merits of this type are forgiveness, idealism, help, tactfulness, treatment and responsibility.

2-1-5 Enterprising type

This type has leadership and speaking abilities; but lacks the scientific ones. The other merits of this type are adventure, domination, self-trust, curiosity, activity and ambition.

2-1-6 Conventional type

This type has writing and arithmetic abilities; but lacks the artistic ones. The other merits of this type are loyalty, organizing, adaptation, punctuality and practicality.

Holland states that each individual has one type of personality.

The more similarity between the individual and one personality type, the more his behaviors would be similar to that type .

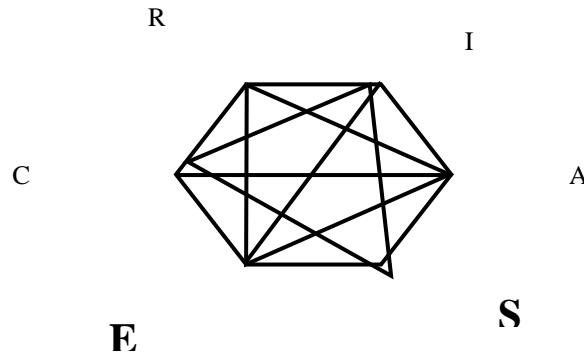
2-2 Second Hypotheses

Environments can be classified into six environments with the same names of personality types. Each environment resembles one type of personality. This means, the individuals of the social type tend to work in social environments, and so on . Environments are formed according to the individuals who live in, When individuals of the same type of personality live together, they form a certain environment. In that environment there would be a dominant characteristic or sample that dominate all its individuals.

Holland hypothesized that these environments are arranged by six Scales .The neighboring environments are to similar in their characteristics more than the opposite and the far ones on the hexade form. For instance, the realistic environment is similar in its characteristics to both the Investigative and conventional ones because they are neighboring on the hexade form. On the contrary, the Realistic environments is dissimilar to the Artistic and Enterprising ones because they are far from each other on the hexade form It is also dissimilar to the social one because they are opposite on the hexade form . Many studies assured the validity of this form.

(Swanson : 1992 pp : 144 – 157) , (Eberhardt : 1984 : pp : 174 – 181) .
Figure (1) a sample of the hexade form explaining the arrangement of professional environments .





2-3 Third Hypothesis

The individuals tend to look for a professional environment suitable for their personalities, and in which, they can use their skills and abilities.

2-4 Fourth Hypothesis

The behavior of the individual results from the intermingling of the personality and the characteristics of the professional environment that he works in. In choosing a job concurrent or close to the individual's tendencies there will be many benefits for both the individual and work organization like satisfaction with the work, high achievement, stability in work and not moving to another job and satisfaction with his life in general. (Taher , 2000 , p 81-83) .

2-5 Previous studies

2-5-1 Al-Shara'a study (1993) aimed at exploring the extent of concord of the professional for the university students with the academic specializations of those students. According to Holland, these specializations represent professional environments. Also, his study used the amended Arabic professional preference. The sample of the study was (259) male and female students at the first year in Mu'ta University. They were chosen from the College of Arts and college of Sciences.

The former represents the professional personality and environment (social) and artistic; the latter represents the professional personality and environment (investigative and conventional) .

The results of the study have shown statistical differences between the students of the two colleges on four scales: the social and artistic for the College of Arts ; investigative and conventional for the College of Sciences . It has also shown statistical differences between male and female students on the social scale for the female students; and for male students on the realistic scale of the two colleges.

2-5-2 (Dotty & Betz : 1979) did a study on forty five males and forty three females , who work as sales managers , in order to check the analog us validity of Holland's theory . They used (S.D.S) and (SCLL) to determine the six types of personality . The results approved Holland's theory. On the two scales, the male and female performance was higher than their enterprising scale. Also , there were differences between males and females on the realistic scale for the males ; and for the females on the social artistic scales

(Dotty & Betz : 1979 : pp 207 – 216)

2-5-3 (Walsh et al . 1988) aimed at exploring professional trends of males and females . The sample of the study was 151 male and female students at the governmental schools. The results indicated that female students were more preferred in the social jobs and services, nursing, education , and office works ; while the male students were more preferred in enterprising , exploring and analyzing jobs . (Walsh et al . 1988)

2-5-4 (Apostal . 1991) targeted knowing the relationship between the personal characteristics and the preferred professional environments for the university students. The general professional types test, and Meier's I. Rogers' list have been used on a sample of the first and second year male and female students (219).

The results showed that the relation between the sensational personal and realistic environment, on the one hand and the intuitive personal and social environment on the other hand is a statistical relation for the males and females. (Apostal . 1991)

Section Three

3- Research procedures

3-1 Field of study

Population of research

The field consists of the students accepted at the first year of socialization departments in Mustansiriya and Baghdad Universities for the academic year 2002-2003. The total number of the students was (1131); (655) male students and (416) female students were distributed in the six environments as follows:

222 male students and 68 female students in the realistic environment; 80 male students and 136 female students in the investigative environment; 48 male students and 50 female students in the artistic environment; 73 male students and 71 female students in the social environment; 106 male

students and 97 female students in the enterprising environment; and 126 male students and 54 female students in the conventional environment .

3-2 Research sample

Thirty male students and thirty female students have been chosen randomly from each professional environment and were distributed in the analogous departments of the professional environments. Thus, the total sample was 180 male students and 180 female students.

Table 1 shows this

Table (1)

Number of Students Accepted in the Department and Samples of the Research

Environment	Collage	Department	Accepted			Sample		
			M	F	Total	M	F	Total
R	Engineer	Civil	52	32	84	8	8	16
		Mechanical	66	9	75	7	7	14
		Electronic	72	14	68	8	8	16
		High ways	32	13	45	7	7	14
		Total	222	68	290	30	30	60
I	Science	Chemistry	34	45	79	15	15	30
		Biology	46	91	137	15	15	30
		Total	80	136	216	30	30	60
A	Beauty Arts	Theatre	7	9	16	6	6	12
		Music	8	2	10	2	2	4
		Formational	11	12	23	8	8	16
		Design	9	13	22	7	7	14
		Audible and Visible	13	14	27	7	7	14
		Total	48	50	98	30	30	60
S	Educational	Educational Psychology	37	39	76	15	15	30
		Educational Guidance	36	32	68	15	15	30
		Total	73	71	144	30	30	60
E	Management Economy	Business Management	106	97	203	30	30	60
		Total	106	97	203	30	30	60
C		Accountancy	126	54	180	30	30	60
		Total	126	54	180	30	30	60
RIASEC		All Total	655	416	1131	180	180	360

* Numbers above are after excluding the graduate students of the professional schools and technical Institutes.

3-3 Research Tools

The researcher used the following two tools:

3-3-1 A tool to gather demographic information about the male or female students. This tool was designed by the researcher to gather information

used for this study, especially when the students are asked to answer questions concerning the name of college, and academic specialization and sex.

3-3-2 (S.D.S) Self – Directed Search

The researcher used S.D.S arabized and amended for Iraqi environment in 2003. (Al-Hamdani , 2004 . pp. 23 – 108)

3-4 Validity and Reliability

The scales amended for the Iraqi environments have shown significance of validity and reliability that justify using them in personal and investigative sides in Iraqi environments. (Al- Hamdani , 2004 . p53 – 83)

As for the scales reliability with its amended form, reliability coefficients have been calculated by using Retest , with 20 days time break . Those coefficients were about (0,942) and (0,859).

As for scales validity, it was found by using intuitive validity way . The scales were given to samples of students in some of the Iraqi universities. They were chosen from various academic departments, which represent professional environments.

The Engineering Departments represent realistic professional environment and personality; departments of chemistry and Biology represent environment and investigative professional personality departments of Fine Arts represent environment and artistic professional personality; departments of Psychology and Educational Sciences and Educational Guidance represent social professional environment and personality; Department of Businesses Management represents enterprising professional environment and personality; Department of Accountancy represents conventional professional environment and personality . After comparing the averages of the students' performance degrees on the scales of the one environment , the results indicated that the scales vary the students' performance in the other environments mentioned .

3-5 Statistical Means

3-5-1 mean's

It was used to know the performance average of both the males and females in every environment of the six environments on the six scales .

3-5-2 Pearson correlation coefficient:-

It was used to check reliability by Retest way .

3-5-3 Standard Deviation

It was used to know the extent of values dispersion from their averages .

3-5-4 T – value for two independent values .

It was used to know the differences of the performance of male samples , and T-value was produced .

Section Four

4- Results

Hypothesis : the performance of the male students is similar to that of the female students in every environment of the six environments.

1- Realistic Environment

The mean and standard deviation of the students have been found according to sex in the realistic environment. T-test also has been applied on the two male and female samples in the same environment.

Table 2

The performance of the realistic environment's students according to sex , on the six scales

Standard	Class	Sex	Number	Mean's	Standard deviation	Standard Error	T-value	Significance Level
R	2	1	30	28.70	9.18	1.68	3.72	0.01
	4	2	30	19.37	10.21	0.86		
I	1	1	30	30.57	9.18	1.86	0.67	Not significant
	1	2	30	29.00	9.03	1.65		
A	6	1	30	16.20	10.42	1.90	0.9	Not significant
	5	2	30	18.20	10.04	1.83		
S	4	1	30	23.77	6.98	1.27	0.6	Not significant
	2	2	30	24.80	7.44	1.36		
E	3	1	30	25.73	6.26	1.14	3.176	0.01
	3	2	30	20.43	7.13	1.30		
C	5	1	30	20.07	6.58	1.20	1.69	Not significant
	6	2	30	17.13	6.88	1.26		

Table 2 shows the following results:

- There is a statistical sex difference in the realistic environment on the realistic scale . Counted T-value was (3.72) higher than the tabular one (3.47) , with a freedom degree (58) , and significance level (0.01) for the male students as shown by the medium of the male performance (28.7) which is higher than the female one (19.37).

So the male students had the second class ; while the female students had the fourth class . This result came unexpectedly, for the researcher hypothesized there is no sex difference in performance.

-There is also a statistical sex difference in the realistic environment on the enterprising scale . Counted T-value was (3.176) higher than the tabular one (2.664) , with a freedom degree (58) , and a significance level (0.01) for the male students . The difference in the medium of the male

and female performance explains this . The performance male medium was (25.73) ; while the female one was (20.43) . Any way . they are in the third class of the scaled arrangement .

-As for the standard deviation , it was between (1.14) and (1.90) which is very low compared with the answer in the performance , wich was between (0) and (50) degree .

The arrangement of the students performance in the realistic environment on the scales was as follows :

-The investigative scale had the first class for the females and males , with the males higher in medium .

-The realistic scale had the second class for the males ; and the fourth class for the females .

-The males and females achieved the third class in the enterprising scale , with the males higher in performance medium .

-The social scale had the fourth class for the males ; and the second for the females . This is opposite to the realistic scale.

-The conventional scale had the fifth class for the males ; and the sixth for the females .

-The artistic scale had the sixth class for the males ; and the fifth for the females .

-From what is above , it seems that the males are higher , in arrangement and medium , on the investigative , realistic , enterprising and conventional scales ; while the females were higher on the artistic and social scales .

Thus , the trilateral code of the male students accepted in the realistic environment was (IRE) . This means that they are qualified to study in the realistic environment . The trilateral code of the female students accepted in the realistic environment is (ISE) , which does not include the realistic type . This means that they are not qualified to study in the investigative the realistic environment .

-Because there was no similarity in performance between males and females in the investigative and realistic environment , the hypothesis was not approved in this environment .

2- Investigative Environment .

The medium and standard deviation of the students have been found according to sex in the investigative environment .

T – test also has been applied on the male and female samples in the same environment . Table 3 shows this .

Table 3

The performance of the investigative environment's students according to sex , on the six scales .

Standard	Class	Sex	Number	Mean's	Standard deviation	Standard Error	T-value	Significance Level
R	4	1	30	21.60	9.60	1.753	1.071	Not significant
	6	2	30	19.17	7.92	1.446		
I	1	1	30	31.20	6.45	1.178	2.179	0.05
	1	2	30	26.80	8.98	1.640		
A	6	1	30	15.80	7.69	1.404	3.131	0.01
	3	2	30	22.37	8.54	1.559		
S	3	1	30	24.40	5.31	0.969	1.045	Not significant
	2	2	30	26.03	6.72	1.227		
E	2	1	30	26.37	8.92	1.628	2.013	0.05
	4	2	30	22.53	5.42	0.989		
C	5	1	30	19.63	6.65	1.214	0.996	Not significant
	5	2	30	21.63	8.76	1.599		

Table 3 shows the following results :

-There is a statistical sex difference in the investigative environment on the investigative scale . Counted T-value was (2.179) higher than the tabular one (2.002) , with a freedom degree (58) , and a significance level (0.05) for the male students as shown by the medium of the male performance (31.20) which is higher than the female one (26.80) . Anyway , both of them are in the first class .

-There is a statistical difference on the artistic scale . Counted T-value was (3.131) higher than the tabular one (2.664) , with a freedom degree (58) , and a significance level (0.01) for the female students . The sex difference in performance medium shows this : The female performance medium was (22.37) ; while the male one was (15.80) . This was reflected in arranging the scales in the investigative environment , where the artistic scale for the males was the sixth , and the third for the females .

-There is a sex statistical difference in the investigative environment on the enterprising scale. Counted t-value was (2.013) higher than the tabular one (2.002), with a freedom degree (58) and a significance level (0.05) for the male students. This is shown when we find that the performance medium of the male students of the investigative environment on the enterprising environment was (26.37) was higher than the one of the female students (22.53). The arrangement of the enterprising scale for the

male students was in the second class, and the fourth class for the female students .

-Standard deviation data of the scales was between (0.969) and (1.753) , which are very low compared with the answers in the performance , which was between (0) and (50) degrees .

The arrangement of the student's performance in the investigative environment on the scales was as follows:-

-The investigative scale had the first class for the male and female students, with the males higher than the females in performance mediums.

-The enterprising scale had the third class for the male students and the fourth class for the female students

-The social scale had the third class for the male students and the second class for the female students .

-The realistic scale had the fourth class for the male students and the sixth class for the female students .

-The conventional scale had the fifth class for male and female students .

-The artistic scale had the sixth class for the male students and the second class for the female students .

-The male students , in the investigative , enterprising and realistic scales , were higher ; whereas the female students were higher in the social , artistic and conventional scales in arrangement and performance medium .

-Thus , the trilateral code of the male students accepted in the investigative environment is (IES) . This means that they are generally qualified to study in the investigative environment . The trilateral code of the female students accepted in the investigative environment is (ISE) . This means that they are qualified to study in the investigative environment .

-The hypothesis was approved in this environment , because the performance of the male students was the same as the performance of the female students .

3- The Artistic environment

The medium and standard deviation of the students have been found according to sex in the artistic environment .

Table 4 shows this.

Table 4

The performance of the artistic environment's students according to sex scales.

Standard	Class	Sex	Number	Mean's	Standard deviation	Standard Error	T-value	Significance Level
R	2	1	30	30.50	7.16	1.307	5.698	0.001
	5	2	30	20.83	5.93	1.082		
I	4	1	30	28.13	6.95	1.268	1.242	Not significant
	1	2	30	30.77	9.31	1.699		
A	5.5	1	30	24.40	9.55	1.744	0.168	Not significant
	4	2	30	24.77	7.23	1.319		
S	1	1	30	32.20	8.23	1.502	1.639	Not significant
	2	2	30	28.70	8.31	1.512		
E	3	1	30	29.70	8.20	1.498	1.541	Not significant
	3	2	30	26.23	9.19	1.678		
C	5.5	1	30	24.40	9.43	1.721	3.234	0.01
	6	2	30	17.73	6.21	1.135		

Table 4 shows the following results :-

-There is a Gender statistical difference Variable in the artistic environment on the realistic scale, counted T-value was (5.698) higher than the tabular one (3.470) , with a freedom degree (58) and a significance level (0.001) for the male students , as shown by the male performance medium (30.50) compared with the female one (20.83) on the same scale . It is worth mentioning that the realistic scale had the second class for the male students , after the social scale , while it had the fifth class for the female students in the artistic environment .

-There was a statistical sex difference in the artistic environment on the conventional scale . Counted T-value was (3.234) higher than the tabular one (2.664) , with a freedom degree (58) and a significance level (0.01) for the male students .

-The performance medium of the male students was (24.40) higher than the one of the female students (17.73) on the conventional scale in the artistic environment.

-Standard deviation data , in the performance of the students of the scales , were between (1.082) and (1.744) , which are very low compared with what is in the performance (0) to (50)

The arrangement of the performance of the artistic environment students on the scales was as follows :

-The social scale had the first class for the male students and the second class for the female students .

-The realistic scale had the second class for the male students and the fifth for the female students .

-The enterprising scale had the third class for the male and female students .

-The investigative scale had the fourth class for the male students and the first class for the female students .

-The fifth and sixth classes shared the artistic and conventional scales for the male students ; whereas the artistic scale had the fourth class, and conventional class had the sixth class for the female students .

-The male students were higher than the female students on the realistic , social and conventional scales ; whereas the female students were higher than the male students in investigative and artistic scales . And they were equal respectively on the enterprising scale , with the males higher in performance medium .

-Thus , the trilateral code of the male students accepted in the artistic environment is (SRE) , which means that the students accepted are not qualified to study in the artistic environment .

-The trilateral code of the female students , accepted in the artistic environment , is (ISE) , which means that they are not qualified to study in that environment .

-In spite of the similarity in performance between the male and female students , and the approval of the hypothesis , and the agreement of the male and female students about the weakness of the artistic side in the social bringing up , yet it has been found that those accepted in that environment were the best applicants for it .

4-The Social Environment

The medium and students deviation of the students have been found according to sex in the social environment .

T-test also has been applied on two male and female samples in the social environment . Table 4 shows this .

The performance of the social environment's students according to sex on the six scales. Table 5 shows this.

Table 5

The performance of the artistic environment's students according to sex scales.

Standard	Class	Sex	Number	Mean's	Standard deviation	Standard Error	T-value	Significance Level
R	4	1	30	21.50	8.77	1.601	0.931	Not significant
	6	2	30	19.43	8.43	1.539		
I	3	1	30	22.63	6.69	1.77	0.086	Not significant
	4	2	30	22.43	8.19	1.496		
A	6	1	30	16.97	10.34	1.887	2.004	0.05
	5	2	30	21.83	8.38	1.53		
S	2	1	30	26.70	8.60	1.472	3.739	0.001
	1	2	30	33.83	6.65	1.214		
E	1	1	30	27.27	9.18	1.677	0.156	Not significant
	2	2	30	26.93	7.28	1.33		
C	5	1	30	19.27	6.80	1.241	2.134	0.037
	3	2	30	22.80	6.00	1.096		

Table 5 shows the following results :-

-There is a sex statistical difference in performance on the social scale . counted T-value was (3.739) higher than the tabular one (3.470) , with a freedom degree (58) and a significance level (0.001) For the female students . The performance medium of the female students was (33.83) higher than the one of the male students (26.70) . Also , the social scale had the first class for the female students of the social environment , and the second class for the male students . This refutes the hypothesis saying that the performance of the male and female students is similar .

-There was also a statistical sex difference in the social environment on the artistic scale . Counted T-value was (2.004) higher than the tabular one (2.002) , with a freedom degree (58) and a significance level (0.05) for the female students as shown by the performance medium of the female students (21.83) which is higher than the one of the female students (16.97) . This happened despite the fact that artistic scale had the sixth class for the male students and the fifth for the female students .

-There was a sex statistical difference on the conventional scale , because the value of counted T-value was (2.134) higher than the tabular one

(2.002) with a level (005) for the female students . The difference in performance medium shows this , where the one of the female students was (22.80) which is higher than the one of the male students (19.27) . This was reflected in arranging the scales , where the conventional scale came the third for the female students , and the fifth for the male students . -As for the students mistake , the numbers were between (1.096) and (1.887) , which are very low compared with the answer in performance , which were between (0) and (50) degrees .

As for the arrangement of the performance of the students of the social environment on the scales, They were as follows :

-The enterprising scale had the first class for the male students and the second for the female students .

-The social scale had the second class for the male students and the first for the female students .

-The investigative scale had the third class for the male students and the fourth class for the female students .

-The realistic scale had the fourth class for the male students and the sixth for the female students.

-The conventional scale had the fifth class for the male students and the third for the female students.

-The artistic scale had the sixth class for the male students and the fifth class for the female students.

-Thus , the trilateral code of the male students accepted in the social environment is (ESI) , which means they are qualified to study in the social environment . The trilateral code of the female students accepted in the social environment is (SEC) which means that they are qualified to study in the social environment.

Because of the similarity in performance between male and female students through the presence of the social type (S) in the trilateral codes of the male and female students in the social environment, 16 the hypothesis was approved.

5- The Enterprising Environment

The medium and standard deviation of the students have been found according to sex in the enterprising environment.

T-test also has been applied on two male and female samples of the students. Table 6 **shows this**

Table 6

The performance of the students of the enterprising environment according to sex on the six scales

Standard	Class	Sex	Number	Mean's	Standard deviation	Standard Error	T-value	Significance Level
R	4	1	30	27.40	10.88	1.986	4.029	0.001
	6	2	30	17.33	8.31	1.516		
I	5	1	30	27.03	9.42	1.72	3.371	0.001
	5	2	30	19.57	7.65	1.396		
A	6	1	30	17.10	7.80	1.424	2.844	0.01
	4	2	30	23.23	8.87	1.619		
S	2	1	30	32.50	7.91	1.444	0.127	Not significant
	2	2	30	32.27	6.25	1.142		
E	1	1	30	37.53	7.52	1.373	2.473	0.05
	1	2	30	32.90	6.98	1.275		
C	3	1	30	30.53	7.71	1.408	1.126	Not significant
	3	2	30	28.23	8.11	1.48		

Table 6 shows the following results :-

-There is a statistical sex difference in the performance of the students on the scales : after using the statistical means mentioned above the following results have been obtained.

-There is a statistical sex difference in performance on the realistic scale , because the counted T-value was (4.029) higher than the tabular one (3.470) , with a level (0.001) for the male students . The performance medium of the male students was (27.40) higher than the one of the female students (17.33) . Also , the arrangement of the realistic scale came the fourth for the male students and the sixth for the female students .

-There was also a statistical sex difference in performance on the investigative scale . Counted T-value was (3.37) higher than the tabular one (3.470) with a level (0.001) for the male students . The performance medium of the male students was (27.03) whereas the one of the female students was (19.57) . This happened despite the fact that they both had the fifth class of the investigative scale .

-There is a statistical sex difference in performance on the artistic scale . Counted T-value was (2.844) higher than the tabular one (2.664) with a level (0.01) for the female students , as shown by the performance medium of the female students (23-23) which is higher than the one of

the male students (17.10) . The arrangement of the artistic scale came the sixth for the male students , and the fourth for the female students .

-There is a statistical sex difference in performance on the enterprising scale . Counted T-value was (2.473) higher than the tabular one (2.002) with a level (0.05) for the male students as shown by the performance medium of the male students which was (37.53); while the one of the female students was (32.90) .

-Standard mistake data were between (1.275) and , which are very low compared with the answer in performance , between (0) and (50) .

-The arrangement of the performance of the students of the artistic environment on the scales was as follows :-

-The enterprising scale had the first class for the male and female students .

-The social scale had the second class for the male and female students .

-The conventional scale had the third class for the male and female students .

-The realistic scale had the fourth class for the male students and the sixth for the female students .

-The investigative scale had the fifth class for the male and female students .

-The artistic scale had the sixth class for the male students and the fourth for the female students .

-In the enterprising environment , the male students were higher than the female students on the realistic (R) , investigative (I) and the enterprising (E) ; while the female students were higher on the artistic scale .

-In spite of the agreement of the male and female students on the enterprising , social , conventional and investigative scales , yet the male students were higher in performance medium of these scales .

-Thus the trilateral code of the male students accepted in the enterprising environment , is (ESC) ; whereas the trilateral code of the female students is the same (ESC) .

-This means that both of them are qualified to study in the enterprising environment , especially we find that the enterprising type (E) came at the beginning of the code . So , the hypothesis was approved .

6- The conventional Environment

The medium and standard deviation of the students have been found according to sex . T-test also has been applied on two male and female samples . Table 7 shows this.

Table 7

The performance of the students of the conventional environment according to sex on the six scales

Standard	Class	Sex	Number	Mean's	Standard deviation	Standard Error	T-value	Significance Level
R	2	1	30	28.60	9.03	1.307	4.919	0.001
	6	2	30	17.83	7.89	1.082		
I	3	1	30	28.53	11.10	1.268	1.499	Not significant
	4	2	30	24.43	10.06	1.7		
A	6	1	30	17.60	8.00	1.744	2.121	0.05
	5	2	30	22.03	8.19	1.32		
S	4	1	30	28.17	7.85	1.502	1.879	Not significant
	1	2	30	31.90	7.54	1.518		
E	1	1	30	33.53	7.60	1.498	1.464	Not significant
	2	2	30	30.67	7.57	1.678		
C	5	1	30	27.83	8.08	1.721	0.753	Not significant
	3	2	30	26.20	8.70	1.135		

Table 7 shows the following results :-

-There is a sex statistical difference in the conventional environment on , the realistic scale . Counted T-value was (4.919) higher than the tabular one (3.470) with a freedom degree (0.001) for the male students , as shown by the performance medium (28.60) which is higher than the one of the female students (17.83) . The arrangement of the realistic scale came the second for the male students and the sixth for female students .

-There was also a statistical sex difference in the conventional environment on the artistic scale . counted T-value was (2.121) higher than the tabular one (2.002) , with a freedom m degree (58) and a significance level (0.05) for the female students .

-The performance medium of the female students was (22.03) higher than the one of the male students (17.60). This happened despite the fact that the artistic scale came the sixth for the male students and the fifth for the female students.

-As for the students, deviation, it was between (1.082) and (1.744) , which is very low compared with the answer in performance which was between (0) and (50) .

-As for the arrangement of the performance of the students of the conventional environment , it was as follows :

- The enterprising scale had the first class for the male students and the second for the female students .
- The realistic scale had the second class for the male students and the sixth class for the female students .
- The investigative scale had the third class for the male students and the fourth class for the female students .
- The social scale had the fourth class for the male students and the first class for the female students .
- The conventional scale had the fifth class for the male students and the third class for the female students .
- The artistic scale had the sixth class for the male students and the fifth for the female students .
- The male students were higher than the female students in the conventional environment on the realistic (R) , investigative (I) and enterprising (E) ; whereas the female students were higher on the social (S) , conventional (C) and artistic (A) .
- Thus, the trilateral code of the male students accepted in the conventional environment is (ERI), which means that they are not qualified to study in the conventional environment. The trilateral code of the female students accepted in the conventional environment is (SEC), which means that they are not qualified to study in the conventional environment. So, the hypothesis was not approved.

The results of the hypothesis indicated the dominance of the realistic (R) and enterprising (E) types, for the male students. They were also higher in the investigative type. As for the realistic type, the results indicated its dominance for the male students with a little statistical difference with a level (0.001) in the realistic, artistic and conventional environment . As for the investigative and social environment, there were no sex statistical differences yet, the male students were higher than the male students in classes . The male students had the fourth class , and the female students had the sixth class in both of the two environment .

As for the enterprising type, the results indicated that this type is higher for the male students. In realistic environment, there was a statistical difference with a level (0.01), and a level (0.05) in the investigative and enterprising environment for the male students . As for the social conventional and artistic , though there were no statistical difference , the male students were higher in the enterprising type . In the classes and performance mediums , the male students had the first class , and the female students had the second class in the social conventional environment . As for the artistic environment , the male and female

students had the same third class . Yet , the male students were higher in performance medium . The performance medium of the male students was (29.70) higher than the one of the female students (26.23) . The male students were also higher in the investigative and conventional types .

In the investigative type , the male students were higher with a level (0.001) in the enterprising environment , and a level (0.05) in the investigative environment . As for the realistic , social and conventional environment, there were no statistical sex differences .

Yet , the male students were higher either by classes or performance mediums . In the conventional environment , the male students had the first class , and the female students had the second class . In the social environment , the male students had the third class , and the female students had the fourth class .

In the realistic environment , the male and female students had the same first class , but the male students were higher in performance medium . The one of the male students was (30.57) higher than the one of the female students (29.00) . The female students were higher in the investigative type , where they had the first class , and the male students had the fourth class in the artistic environment . The reason behind this might belong to the fact that the investigative environment are less attractive to the female students . On the other hand the artistic environment is attractive to them .

On the contrary with the social and artistic types , the artistic type was dominant totally in the professional personality of the female students with statistical difference for the female students with a level (0.01) in the investigative and enterprising environment ;and with a level (0.05) in the social and conventional environment .

As for the artistic and realistic environment , there were no statistical difference , though the female students were higher in classes .

The female students had the fifth class , and the male students had the sixth class in the realistic environment . In the artistic environment , the female students had the fourth class , while the male students had the last class in their professional personalities .

The female students were higher in the social type . In the social environment , there was a sex statistical difference , with a level (0.001) for the female students . Despite the fact that there were no statistical difference in the rest of the environment , the female students were higher either by classes by performance medium . In the conventional , the female students had the first class , and the male students had the fourth class in the order of performance on the social scale. In the investigative

environment , the female students had the second class , and the male students had the third class . In the realistic environment , the female students had the second class too ; while the male students had the fourth class . In the enterprising and artistic environment , the male students were higher , yet it was not significant statistically . This superiority was real in the classes , where the male students had the first class , and the female students had the second class . In the enterprising environment, the male students were higher than the female students. The performance medium of the male students was (32.50) a little higher than the one of the female students (32.27) ,after having the same second class .

The conventional type varied between the male and female students frequently . In the artistic environment , The female students were higher with a little statistical difference with a level (0.01) .

The female students were higher in their conventional professional personalities in the social environment with a little statistical difference , and a level (0.05) . In the realistic environment , the male students were higher in classes . They had the fifth class ; while the female students had the sixth class . As for the enterprising and investigative environment , the male female students had the same classes . Both of them had the third class in the enterprising environment ; while the male students were higher in the performance medium . The performance medium of the male students was (30.53) higher than the one of the female students (28.23) . Both of them had the fifth class in the investigative environment , but the female students were higher in performance medium . The one of the female students was (21.63) higher than the one of the male students (19.63) . As for the conventional environment , the female students were higher in classes . The female students had the fifth class , and the male students had the fifth class . The male students were higher in performance medium . In the same environment , the one of the male students on the conventional scale was (27.83) higher than the one of the male students (27.83) on the conventional scale , which is higher than the one of the female students (26.20) .

Table (8) shows a comparison between the male and female students in the personality types and professional environment . Number (1) represents the male , and the number (2) represents the female the up () arrow refers to the male , and the down () arrow refers to the female .

Table (8)
The arrangement of personality types and professional environments of both males and females And there statistical significance, arrangement and codes

Type	R				I				A				S				E				C				code	
Env	Sex	Class	Performance Range	Sig Level	Attitude	Class	Performance Range	Sig Level	Attitude	Class	Performance Range	Sig Level	Attitude	Class	Performance Range	Sig Level	Attitude	Class	Performance Range	Sig Level	Attitude	Class	Performance Range	Sig Level		Attitude
R	M	2	28.70	0.001	↑	1	30.57	Not sig -	-	6	16.20	Not sig -	-	4	23.77	Not sig -	-	3	25.73	0.01	↑	5	20.07	Not sig -	-	IRE
	F	4	19.37			1	29.00			5	18.20			2	24.80			3	20.43			6	17.13			ISE
I	M	4	21.60	Not sig -	-	1	31.20	0.05	↑	6	15.80	0.01	↓	3	24.40	Not sig -	-	2	26.73	0.05	↑	5	19.63	Not sig -	-	IES
	F	6	19.17			1	26.80			3	22.38			2	26.03			4	22.53			5	21.63			ISE
A	M	2	30.50	0.001	↑	4	28.13	Not sig -	-	5.5	24.40	Not sig -	-	1	32.20	Not sig -	-	3	29.70	Not sig -	-	5.5	24.40	0.01	↑	SRE
	F	5	20.83			1	30.77			4	24.77			2	28.70			3	26.23			6	17.73			ISE
S	M	4	21.50	Not sig -	-	3	22.63	Not sig -	-	6	16.97	0.05	↓	2	26.70	0.001	↓	1	27.27	Not sig -	-	5	19.27	0.05	↓	ESI
	F	6	19.43			4	22.43			5	21.83			1	33.83			2	26.93			3	22.80			SEC
E	M	4	27.40	0.001	↑	5	27.03	0.001	↑	4	17.10	0.01	↓	2	32.50	Not sig -	-	1	37.53	0.05	↑	3	30.53	Not sig -	-	ESC
	F	6	17.33			5	19.57			6	23.23			2	32.27			1	32.90			3	28.23			ESC
C	M	2	28.60	0.001	↑	1	28.53	Not sig -	-	6	17.60	0.05	↓	4	28.17	Not sig -	-	1	33.53	Not sig -	-	5	27.83	Not sig -	-	ERI
	F	6	17.83			2	24.43			5	22.03			1	31.90			2	30.67			3	26.20			SEC

- 1 Males For he sake of males
 2 Females For the sake of females



Based on all that , we can say that the professional trends of the females are artistic , social and conventional trends . As for the ones of the male students , they were enterprising and investigative trends . The interpretation of this result is the social conditions that surround the female, the growing up , and the physical formation which make her tend to those professions that require taking care of the others , and expressing feelings .

That is why the female students tend to the artistic and social environments , more than the male students . The growing up operation and the surrounding conditions of the male helps in forming the professional realistic and enterprising trends , which require self dependence and using physical . They might reflect this in their superior trends on the females in the realistic and enterprising environment . This

study agreed , in with the results of other previous studies . The results of (Dotty & Betz) showed sex statistical difference on the realistic scale for the male students , and on the social and artistic scales for the female students . The study of (Walsh et al :1988) indicated that female students tend to the social professions serving , and office works , more than the male students . As for the male , they preferred the realistic , investigative and enterprising professions . Also , (Apostal 1991) showed , in its results , that the females tend more than the males to the professions that require social skills . As for the males, they preferred the professions that require the use of muscles, independence and self dependence like the professional realistic and enterprising environment . (Al-shara'a : 1993) showed statistical sex differences on the social for the females and on the realistic scale for the males . In spite of all that , this dose not matter. There might be males who are superior in the social and artistic types ; or females who are superior in the enterprising or realistic types. Holland's scales is determined to detect those professional personalities .

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المستخلص

أثر الجنس على اختيار التخصصات الأكاديمية في الجامعات العراقية
تعد المرحلة الجامعية من أهم مراحل إعداد الفرد لمهنة المستقبل ، وتستهدف البحث الحالي إلى دراسة الفروق بين الجنسين عند اختيار التخصصات الأكاديمية في الجامعات العراقية ، معتمدا على عينات من الطلبة المقبولين في جامعتي بغداد و المستنصرية ومن كلا الجنسين للعام الدراسي (2002-2003) وتمثلت البيانات المهنية بحسب هدف البحث بالتخصصات الأكاديمية فبلغ عدد الطلبة المقبولين (1131) طالباً وطالبة منهم (655) طالباً (416) طالبة موزعين على البيانات الست بحيث تم اختيار (30) طالب (30) طالبة من كل بيئة وبدا أصبحت العينة (180) طالباً (180) طالبة .

وبعد أن اعتمد الباحث على المقياس المعدل من قبله الذي أظهرت بصورتها المعدلة للبيئة العراقية دلالات ثبات وصدق تبرر استخدامها في الجوانب الشخصية وكان قد افترض الباحث أن أداء الطلبة الذكور تشابه أداء الطلبة الإناث في كل بيئة من البيئات الست ، وتبنى الباحث نظرية هولند للاختيار المهني بعد تعديل مقياسه على المجتمع العراقي كما واستخدم الباحث الوسائل الإحصائية التالية وهي (الوسط الحسابي- الانحراف المعياري- معامل ارتباط بيرسون) القيمة التائية لعينتين مستقلتين .

وجاءت النتائج لتؤكد وجود فرق دال إحصائي في البيئة الواقعية على المقياسين الواقعي والمغامر لصالح الذكور إما في البيئة البحثية فكانت أيضاً لصالح الذكور في المقياسين البحثي والمغامر في حين جاء لصالح الإناث على المقياس الفني ، إما في البيئة الفنية فكانت لصالح الذكور في المقياسين الواقعي والتقليدي . وفي البيئة الاجتماعية فكانت هناك فروق دالة إحصائية لصالح الإناث في المقاييس الفنية والاجتماعية والتقليدية ، وكانت النتائج في بيئة المغامرة لصالح الذكور في المقاييس الواقعية والبحثية والمغامرة ولصالح الإناث في المقياس الفني ، أما نتائج البيئة التقليدية فكانت لصالح الذكور في المقياس الواقعي ولصالح الإناث في المقياس الفني .