

## Study To Determine The Factors Affecting Changes In The Number Of Accepted Students With the Application

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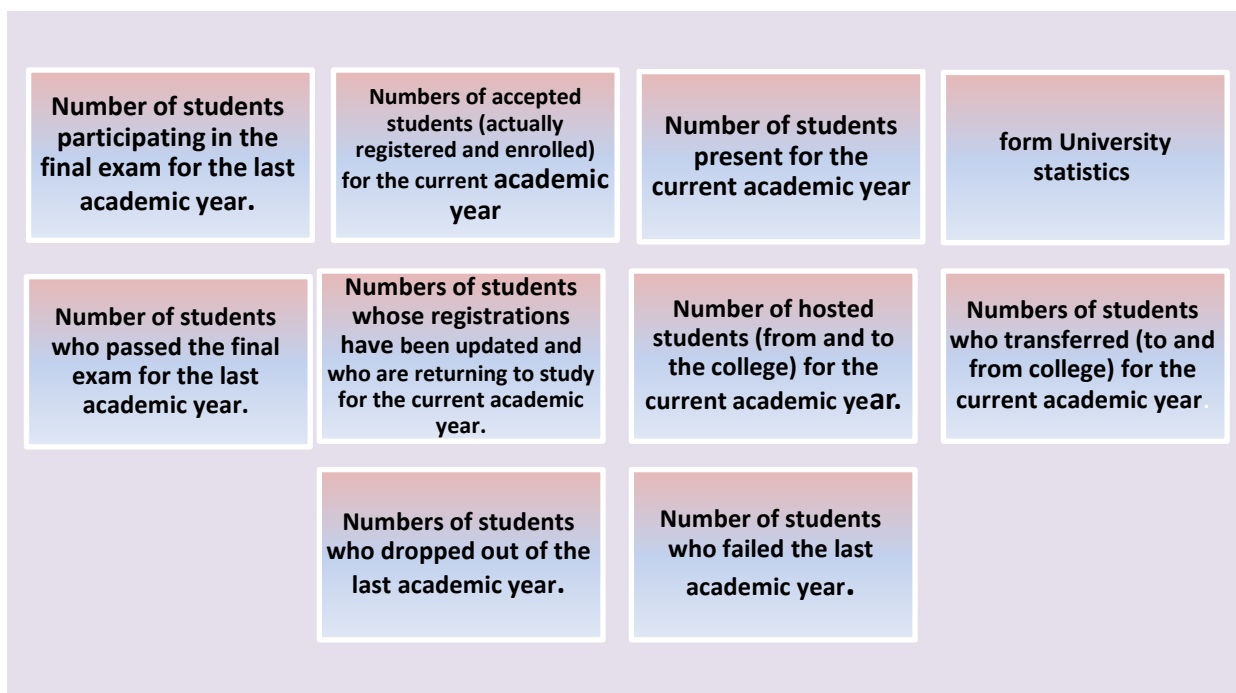
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**Abstract :** In this research, the researcher studied the most important influential factors that lead to an increase or decrease in the number of students accepted to some colleges at the University of Babylon for the academic year 2021-2022 and compared them to the admission plan and the number of those accepted for the academic year 2022-2023. Through the selected sample to find out the reasons for this disparity, the results showed The main reason is the decline in employment opportunities in some departments of public universities Then the student's ambition is not achieved through central admission, and thus we have reached that the rates of private colleges are considered, and the acceptance rates must be close to government colleges. Also, when applying for jobs, whether in government departments or private companies, preference must be given to a graduate who is proficient in his department, whether from a government university or Eligible because our country needs experienced and distinguished people who have honesty in their work to avoid many of the country's problems.

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### I. Introduction

The university student is an important element in the educational process and its primary position through which the university sets special standards, which depend on the principle of competition among students and according to their success rates through preparatory study and the admission policies and plans sent by the ministry. It may require admission to some colleges that need Special skills, such as conducting special interviews for advanced students<sup>[2]</sup> Accepted students mean students who were accepted in the first stage, and these students are those who have completed the registration requirements and have enrolled in the preliminary study, they are (students who are centrally accepted and have started full-time + centrally accepted students who are transferred from other colleges to the college - centrally accepted students who are transferred from the college to other colleges) ) In addition to students accepted through other admission channels, which are the top 10% of institutes, distinguished students, and teachers. The Ministry of Higher Education and Scientific Research/Department of Studies, Planning and Follow-up/Department of Informatics and Statistics have been sending university and technical statistics forms to all universities periodically (annually) at the beginning of each new academic year, specifically at the end of the registration period for students accepted into university colleges. The statistics forms include The university has several tables for the initial study, as shown below:



**Chart -1- form University statistics**

As shown in Chart (1), these forms are among the most important forms sent to all Iraqi universities, through which complete statistics are collected regarding all students, and all of these fields are tables distributed according to gender and scientific department and at the level of each academic stage in the university's faculties, and the students present for any scientific department are calculated through an equation that includes all of the above fields.

## **II. Research objective**

Many colleges at the University of Babylon are facing an increase in the number of accepted students by an amount that exceeds the admission plan prepared by the college departments and a decrease in others. Therefore, the research aims to compare university colleges for each indicator of university statistics, to improve future performance and develop possible solutions to some of the problems facing the colleges.

## **III. Statistical Test**

It is to conduct a study on a target population sample and the researcher collects information and data on specific topics. He is unable to access the information and data that benefit the researcher, so the researcher is forced to turn to another means to be able to obtain this information and data on the topic, so the researcher conducts a specific study on a targeted group of the sample. Using a method chosen by the researcher that is appropriate to the subject of the study. Thus, we can say that the researcher obtained the information and data in their initial form, and to arrive at the final form of the data, the researcher conducts the process of analyzing the data using the method that the researcher wants, and then performs statistical operations on this data and statistical analysis tests, through which the researcher reaches the final results that enable him to use and generalize them.

**- Statistical tests can be defined as follows:**

The choice between statistical tests does not only take into account the quality of the data (quantitative, ordinal, nominal) but also the type of sample, and statistical tests start from the preference of taking statistical samples rather than taking into account the study population for speed of completion, low cost, and the ability to generalize results through the representation of statistical samples or Determining the limits of the research if the samples are not representative. The researcher notes in the title of the research, its procedures, and its results the spatial boundaries at which the researcher stopped. There are many types of samples, and each of them has limits regarding their suitability for inferential statistical treatments based on the generalizability of the results. They are generally divided into two categories: random and intentional (random and intentional). non-random)

## **IV. Choosing the appropriate test for statistical analysis**

Statistical analysis tests are selected according to several criteria that govern the selection process for the appropriate statistical test, which can be summarized as follows:

- 1- The nature of the data that will be presented for the statistical analysis process and the type of data are what most determine the type of test.
- 2- Statistical analysis tests depend on the data that the researcher wants to subject to the test, that is, in short, the type of relationship and the parameters that will be subject to the test, such as the correlation coefficient or the coefficient of difference and similarity between the independent variables and the dependent variables.
- 3- The type of variables included in the data, the number of these variables, and their level as well.

The researcher cannot undertake the process of selecting statistical analysis tests without knowing the types of tests, distinguishing between them, and the nature of using each type of statistical analysis test. Below are the details of each type.

## V. Types of Statistical Analysis test

The statistical tests are divided into two main parts:

### First: Parametric statistical analysis tests:

These tests are called parametric tests, which are tests with a normal distribution of data. These tests are considered the most famous and most widely used, as they use all the information and data and thus have the potential to reach more and greater results. Parametric statistical analysis tests have several types, including the following:

- **T-test**

It is the most widely used parametric statistical test in scientific research. It is used to determine whether or not there is a fundamental difference between two means, two ratios, or two correlation coefficients, to obtain the level of statistical significance of the difference. It is classified into three types of t-tests, which are based on the sample used for the test, as the following:

1. **One-sample t-test**<sup>[3]</sup>

It is used instead of the z-test to compare the arithmetic mean of the sample and the mean of the statistical population from which it was taken.

To obtain the value of the calculated statistics as follows:

$$t = \frac{\bar{x} - \mu}{s_{\bar{x}}} \quad \dots \dots \dots (1)$$

$\bar{x}$  : mean Sample

$\mu$ : General average

s: The standard error of the mean is calculated from the following equation

$$s_{\bar{x}} = \frac{s}{\sqrt{n}} \quad \dots \dots \dots (2)$$

n : Sample volume

- **Criteria for using a one-sample t-test**

Some important conditions have been established for using a one-sample t-test, as shown below<sup>[3]</sup>

- 1- The standard deviation of the sample is known.
- 2- The dependent variable is a normal distribution.
- 3- The dependent variable is measured at the quantitative level.
- 4- Independence of observations.
- 5- Randomly selected sample.
- 6- Homogeneity of contrast.

2. **T-test for two independent samples**

The researcher uses this test if the comparison is between two samples and not one sample, but these two samples follow the same variable despite the two samples being different.

3. **Paired sample t-test**

Such as a t-test for two independent samples, but here the difference is that the two samples are of the same type, but the variable is the one that differs.

### Second: Nonparametric statistical analysis tests

Non-parametric tests are called non-parametric tests, and they are tests that are not built based on a normal distribution of data, while they are built on freely distributed data or randomly distributed data such as nominal data. In this test, the researcher does not use all the information and data that he obtained from the sample members, as in parametric statistical analysis tests. Therefore, now The researcher can discover all statistical relationships and differences.

In this research, we will rely on the parametric statistical analysis test (one-sample t-test), as explained above.

## VI. Frequencies and ratios

It is considered one of the statistical methods that fall within the descriptive statistics methods, which is used to describe and present data in a brief and useful manner and is considered a statistical method.

The frequency distribution tables for this research show the frequencies for each value of the variables and also show the relative frequency for each group and the cumulative relative frequency.

#### **The Applied aspect**

This aspect includes an applied study, as the data available to us relates to the University of Babylon, which includes twenty colleges with different specializations, where reliance was placed on the number of students accepted to the university for the academic year 2021-2022 and comparing it with the numbers and admission plan for the academic year 2022-2023, to highlight the most important indicators that Concern students during their academic journey, we relied on university census data for the academic year 2022-2023.

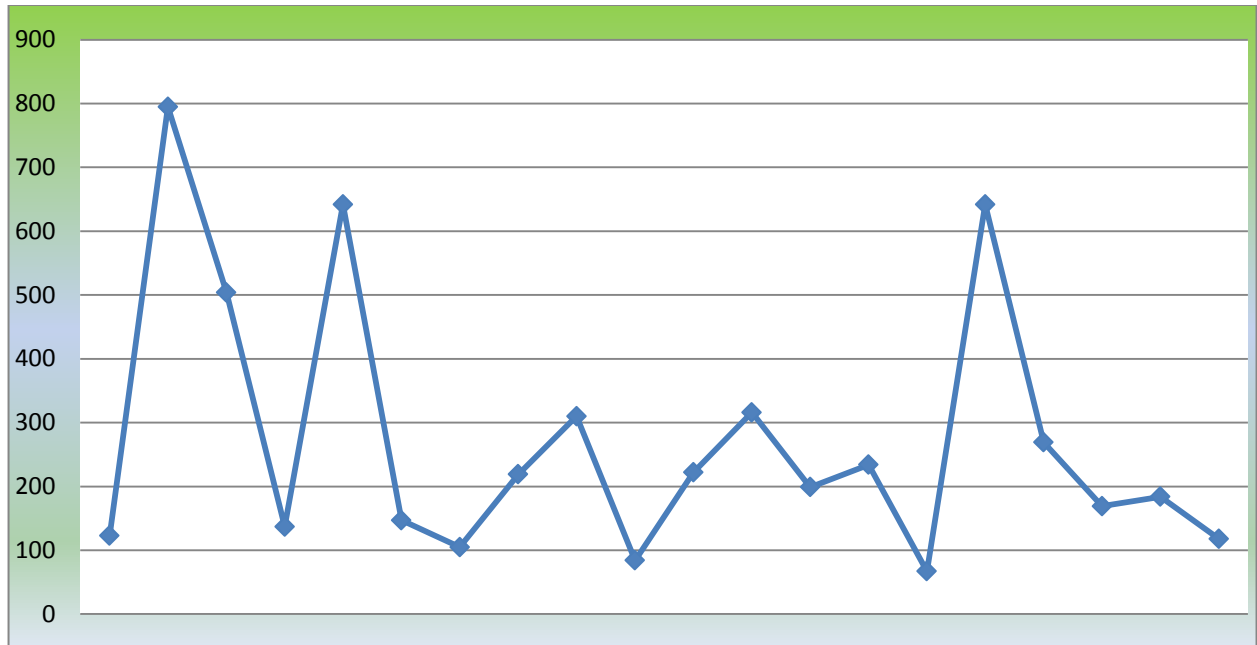
### **VII. Descriptive statistics of the study population**

By collecting data and tabulating it into tables, reports were prepared for each of the above indicators for each of the university's colleges, and possible solutions were developed to improve performance for the academic year 2022-2023. Report No. (1) and agencies were also prepared:

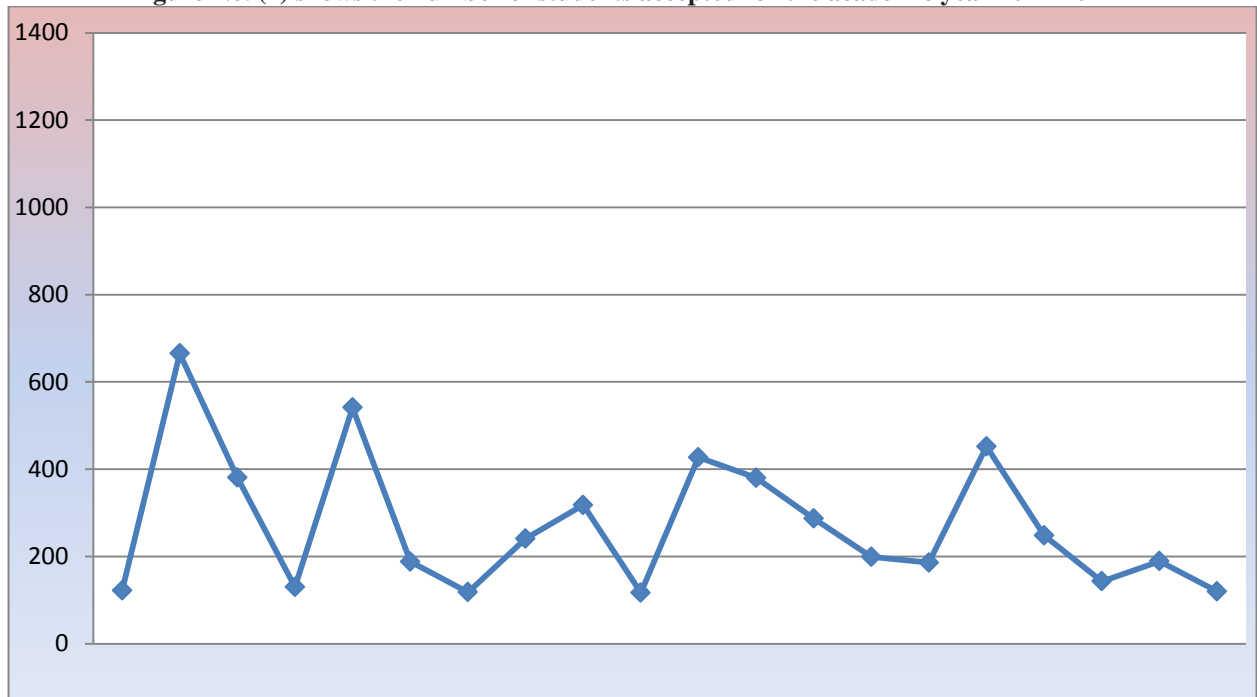
**Table (1) shows the number of students accepted for the academic year 2021-2022 distributed among colleges, the plan for those accepted, and those accepted for the academic year 2022-2023.**

Accepted 2022-2023	Admission plan 2022-2023	Accepted 2021-2022	Colleges
122	200	123	Literature
665	800	795	Administration and Economics
381	470	504	Basic education
130	150	137	physical education
541	400	642	Education for the humanities
188	120	147	Education for pure sciences
118	75	105	Nursing
241	100	219	the pharmacy
318	120	310	Medicine
117	150	84	Islamic sciences
427	325	222	Science for girls
380	305	316	the sciences
287	300	199	Fine arts
199	120	234	the law
186	200	67	Musayyib Engineering
452	265	642	Engineering
248	175	269	information technology
143	100	169	dentist
189	80	184	Hamo Rabi
120	100	118	Materials engineering
			total

Table (1) shows the numbers of accepted students distributed among colleges for the last academic year 2021-2022, the admission plan for the academic year 2022-2023, and the students accepted for the academic year 2022-2023, and to compare the numbers of students accepted between the academic years 2021-2022 and 2022 - 2023, Figure. (1) shows this:

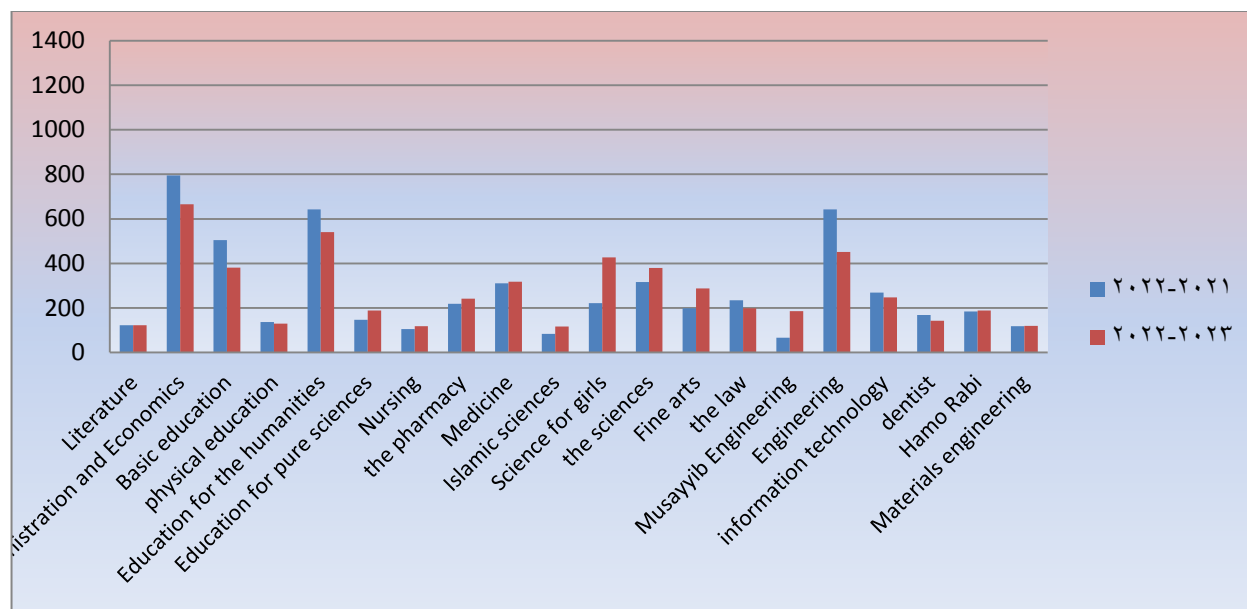


**Figure No. (1) shows the number of students accepted for the academic year 2021-2022**



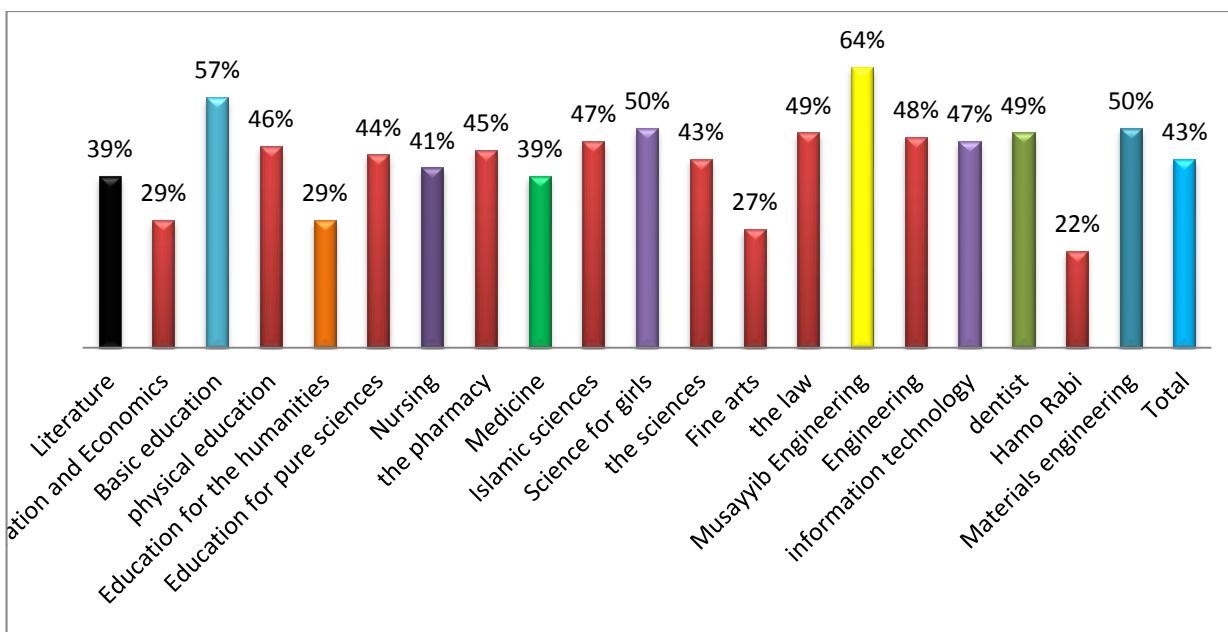
**Figure No. (2) shows the number of students accepted for the academic year 2022-2023**

From observing Figures No. (1) and (2), we find that the number of students accepted into all colleges is decreasing for the academic year 2022-2023 compared to the academic year 2021-2022, and this decrease was in varying numbers, as shown in Figure No. (3):



**Figure No. (3) shows a comparison between the numbers of students accepted for two academic years.**

This can be further clarified in Figure (4), as the shortage reached (4136) students in general, i.e. a percentage of (43%), and the colleges in which the amount of the shortage was greater than 50% are two colleges (Al-Musayyab Engineering, Basic Education). Colleges in which the amount of deficiency was approximately 50%: These are eight colleges (Sciences for Girls, Materials Engineering, Dentistry, Law, Engineering, Information Technology, Islamic Sciences, and Physical Education) ranked. The colleges in which the amount of deficiency was less than 50%: These are six colleges (Pharmacy, Education for Pure Sciences, Science, Nursing, Medicine, and Arts), ranked from highest to lowest. Faculties where the amount of deficiency was less than 30%: These are four faculties (Administration and Economics, Education for the Humanities, Fine Arts, and Hammurabi Medicine) ranked from highest to lowest.



**Figure (4): Percentage decrease in students accepted for the academic year 2022-2023**

However, if we want to compare the numbers of students in the admission plan and those accepted for the academic year 2022-2023, we notice from Table (1) that most of the colleges did not adhere to the plan, as there is an increase in the number of students compared to the admission plan, and there are other colleges that are the opposite, and in

general, the number of students has increased. The number of accepted students increased by (438) students, i.e. an increase of 11%, and Figure (5) shows this difference in increase and decrease:

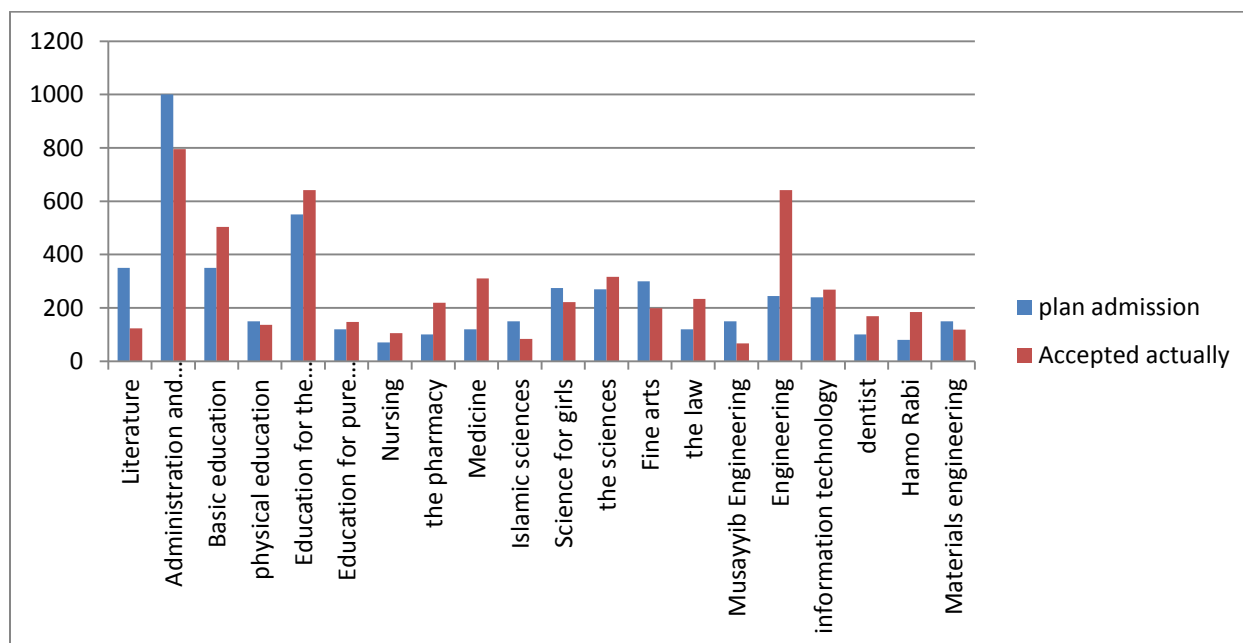


Figure (5): Comparison between the admission plan and the number of students accepted for the academic year 2022-2023.

From Figure No. (5), we find that the colleges in which the number of accepted students is increasing according to the admission plan for the academic year 2022-2023 are (engineering, medicine, basic education, pharmacy, law, Hammurabi medicine, education for the humanities, dentistry, science, nursing, technology Information, Education for Pure Sciences) ranked from highest to lowest. As for the rest of the colleges, the number of accepted students was less than the admission plan. These colleges are (Arts, Management and Economics, Fine Arts, Musayyib Engineering, Islamic Sciences, Sciences for Girls, Materials Engineering, and Physical Education. ) arranged from highest to lowest, and Figure No. (4) shows the amount of increase and decrease:

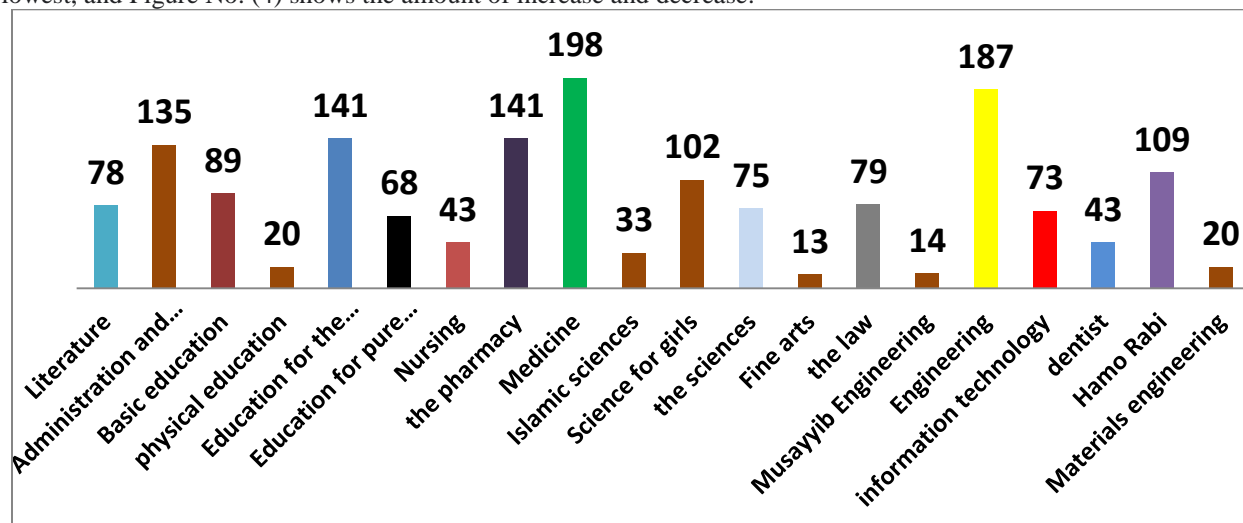


Figure No. (6): The amount of increase and decrease in the number of students accepted for the academic year 2022-2023. Compared to the admission plan for the same year

It is clear from Figure (6) the amount of increase and decrease in the number of students accepted for the year 2022-2023 compared to the admission plan for the same year. This increase and decrease is due to many reasons. One of the

reasons is due to the lack of opportunities for appointment in college departments and also the increase in the number of students for admission to Private Universities Perhaps the greatest advantage of international private universities is the difficulty of obtaining admission to them, while Iraqi private colleges embrace, with a few exceptions, the worst students in terms of school achievement, that is, those whose grades do not qualify them for admission to official (governmental) colleges <sup>[1]</sup>.

### VIII. Description of data

To find out more about the reasons that led to the decrease in demand for some college departments and the high demand for others, a targeted questionnaire was distributed to a selected sample of students, which represented 412 final students from the colleges of the University of Babylon. We waited to set three criteria to clarify which of the reasons had a significant impact. In this decrease.

**X<sub>1</sub>:** Increasing the number of graduates of the National University College, and they are competing with the University of Public Universities in accepting postgraduate studies.

**X<sub>2</sub>:** Student ambition does not grow through democratic innovation.

**X<sub>3</sub>:** Civil architecture is still on par with major public universities.

**X<sub>4</sub>:** Reducing job opportunities at a public university.

The proportions and frequencies methods and the one-sample t-test method will be used to extract and analyze the results to discover relationships between the research variables.

### IX. First: Descriptive statistics

**Table -2- Statistics of the research sample**

Variable	N*	Mean	SE Mean	St.Dev
Increasing the number of graduates of the National University College, and they are competing with the University of Public Universities in accepting postgraduate studies.	0	3.7323	0.0619	1.2562
Student ambition does not grow through democratic innovation.	0	3.8783	0.0621	1.2614
Civil architecture is still on par with major public universities	0	3.7396	0.0618	1.2548
Reducing job opportunities at a public university	0	3.9659	0.0671	1.3630

### X. Second: Examining the research variables and finding out which of them had more influence:

1. An increase in the number of graduates of private college students, who now compete with public university students for admission to postgraduate studies

By analyzing the data according to the Minitab statistical program, the following results were obtained:

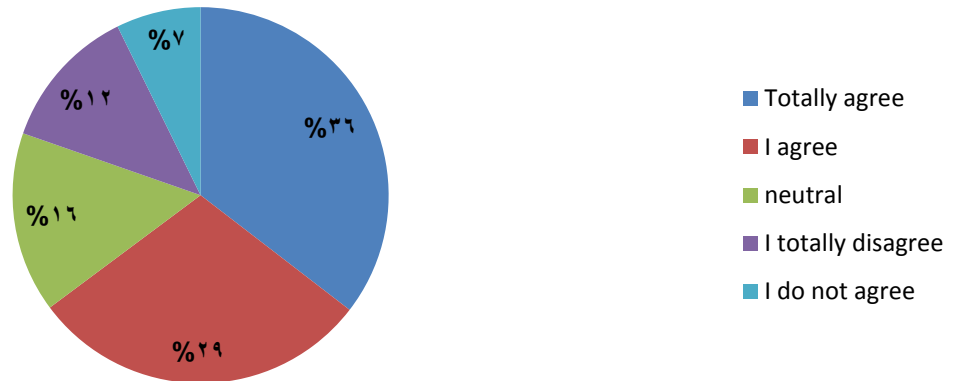
**Table -3-**

Variable	N*	Mean	SE Mean	St.Dev
An increase in graduates of private college students has begun to compete with public university students for admission to higher studies	0	3.7323	0.0619	1.2562

It is clear from Table (3) that the value of the arithmetic mean was =3.7323, which is greater than the hypothesized arithmetic mean, which is equal to 3. This indicates that the student's answers for the selected sample were 36% towards complete agreement and 29% towards agreement.



**An increase in the number of graduates of private college students, and they now compete with public university students for admission to postgraduate studies**



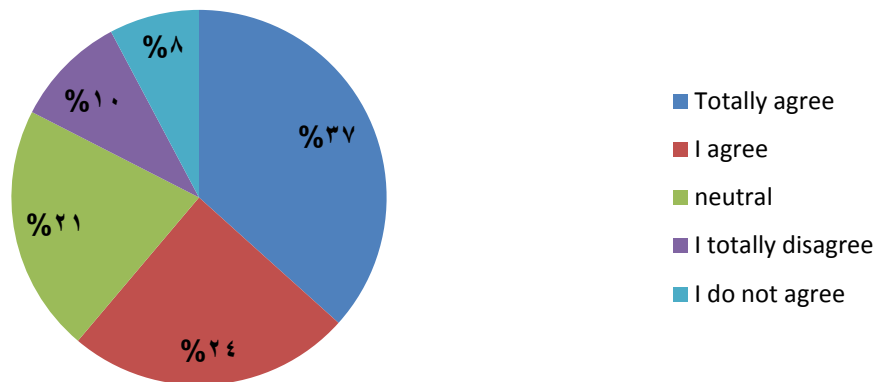
**2- The student's ambition does not achieve his desire through central admission**

**Table -4-**

Variable	N*	Mean	SE Mean	St.Dev
The student's ambition does not achieve his desire through central admission	0	3.8783	0.0621	1.2614

It is clear from Table No. (4) that the value of the arithmetic mean reached = 3.8783, which is greater than the hypothesized arithmetic mean, which is equal to 3. This indicates that the student's answers for the selected sample were 37% in complete agreement and 24% in agreement.

**The student's ambition does not achieve his desire through central admission**

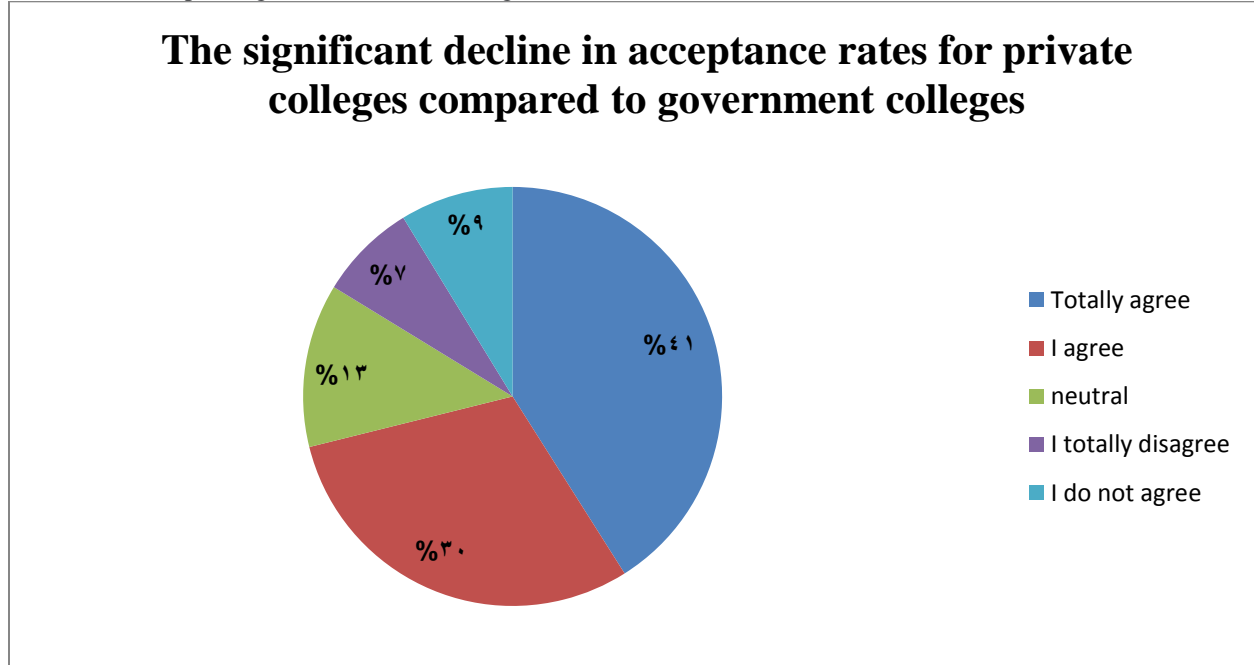


### 3- The significant decline in acceptance rates for private colleges compared to government colleges

Table -5-

Variable	N*	Mean	SE Mean	St.Dev
The significant decline in acceptance rates for private colleges compared to government colleges	0	3.7396	0.0618	1.2548

It is clear from Table No. (5) that the value of the arithmetic mean reached = 3.7396, which is greater than the hypothesized arithmetic mean, which is equal to 3. This indicates that the student's answers for the selected sample were 41% in complete agreement and 30% in agreement.

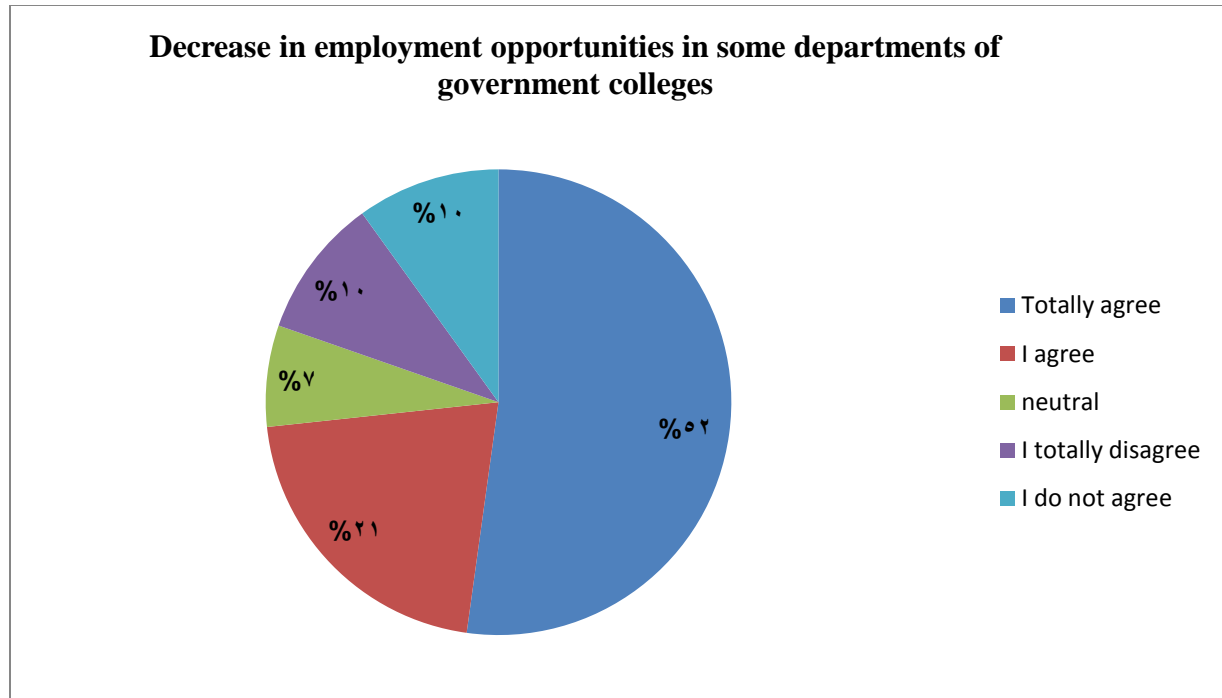


### 4- Decrease in employment opportunities in some departments of government colleges

Table -6-

Variable	N*	Mean	SE Mean	StDev
Decrease in employment opportunities in some departments of government colleges	0	3.9659	0.0671	1.3630

It is clear from Table No. (6) that the value of the arithmetic mean reached = 3.9659, which is greater than the hypothesized arithmetic mean, which is equal to 3. It indicates that the student's answers for the selected sample were 52% in complete agreement and 21% in agreement.



**XI. (Hypothesis testing) One-sample t-test method.**

**Table -7-**

N	Mean	StDev	SE Mean	T-Value	95% CI for $\mu$
412	3.7323	1.2562	0.0619	11.83	(3.6107; 3.8540)

**Null hypothesis**

$$H_0: \mu = 3$$

**Alternative hypothesis**

$$H_1: \mu \neq 3$$

Through the table above, the calculated value of t was T-Value = 11.83, which is greater than the tabular value at the level of significance of 0.05, which is 1.968. This means that there are significant differences, and from comparing the arithmetic mean of the hypothesis that says there is an increase in graduates of private college students, they now compete with students from public universities in admission to studies. The highest level is greater than the hypothesized mean. This means that the moral is in the positive direction, meaning this hypothesis is fulfilled.

**Table -8-**

N	Mean	StDev	SE Mean	T-Value	95% CI for $\mu$
412	3.8783	1.2614	0.0621	14.13	(3.7562; 4.0005)

**Null hypothesis**

$$H_0: \mu = 3$$

**Alternative hypothesis**

$$H_1: \mu \neq 3$$

Through the table above, the calculated t-value was T-Value= 14.13 which is greater than the tabular value at a significance level of 0.05, which is 1.968. This means that there are significant differences, and from comparing the arithmetic mean of the hypothesis that says the student's ambition does not achieve his desire through central acceptance, it is greater than the hypothesized mean. This means that the moral is in the positive direction, that is, this assumption is fulfilled.

**Table -9-**

N	Mean	StDev	SE Mean	T-Value	95% CI for $\mu$
412	3.7396	1.2548	0.0618	11.96	(3.6181; 3.8612)

Through the table above, the calculated t-value was T-Value= 11.96 , which is greater than the tabular value at a significance level of 0.05, which is 1.968. This means that there are significant differences, and from comparing the arithmetic mean of the hypothesis that says there is a significant decline in private acceptance rates similar to public universities, it is greater than the hypothesized mean. This means that the moral is in the positive direction, that is, this assumption is fulfilled.

**Table -10-**

N	Mean	StDev	SE Mean	T-Value	95% CI for $\mu$
412	3.9659	1.3630	0.0671	14.38	(3.8339; 4.0979)

Through the table above, the calculated t-value was 14.38 T-Value= which is greater than the tabular value at a significance level of 0.05, which is 1.968. This means that there are significant differences, and from comparing the arithmetic mean of the hypothesis that says there is a decrease in employment opportunities in some departments of public universities, it is greater than this hypothetical mean. This means that the moral is in the positive direction, that is, this assumption is fulfilled.

Through the tables above, through a one-sample t-test, and by comparing the statistical hypotheses of the influencing factors, we find that their effect was as follows:

**Table -11-**

Factors affecting the decline in student numbers	T-value
Decrease in employment opportunities in some departments of government colleges	14.38
The student's ambition does not achieve his desire through central admission	14.13
The significant decline in acceptance rates for private colleges compared to government colleges	11.96
An increase in the number of graduates of private college students, and they now compete with public university students for admission to postgraduate studies	11.83

## Conclusions

- 1- The number of students accepted for the academic year 2022-2023 differed from the number of students in the admission plan in most of the university's colleges, as this deviation was increasing and decreasing, and in general the percentage of increase for accepted students was (16)%.
- 2- Through statistical analysis of the t-test and after taking the larger values of the calculated t-value, we find that the chances of being appointed in some departments of public universities decrease, and the student's ambition is not achieved through central admission.

## Recommendations

- 1- Develop a well-thought-out admission plan for students that is commensurate with the new changes surrounding the university, including the opening of private colleges, new departments, and parallel education, especially the special admission plan for the Colleges of Engineering, Law, Medicine, and Pharmacy, since the number of accepted students in these colleges was double the admission plan.
- 2- Trying to find out the real reasons for students dropping out, and developing appropriate solutions, especially in the colleges that have the highest numbers of dropping out students (engineering, basic education, science, and information technology).
- 3- Adopting this study annually and as an evaluation study, to address some of the indicators that were mentioned within the study.
- 4- Addressing the real reasons behind students' failures, and trying to find possible solutions to reduce them in the future, such as identifying students who failed, and helping them by giving them additional lectures in person or electronically.
- 5- Encouraging students to reach the highest grades, and creating a spirit of competition among them, to reach higher results.
- 6- In the event of applying for jobs, a graduate from a government college must be preferred over a private college. There must also be a test for both graduates and the superior graduate should be selected since our country needs young people who are experienced, honest, and energetic in their work to avoid many problems in the country.

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