

## Implicit perceptions of intelligence among WasitUniversity

Widen Abbes Karim Al-Saudi, Prof. Dr. Asmaa Shaker Hammoudi

College of Education for Human Science, Wasit University, Iraq

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### Abstract

The current research aims to identify the implicit perceptions of intelligence among the students of WasitUniversity, and the significance of the differences in the implicit perceptions of intelligence among WasitUniversity'sstudents, according to the variables of gender and specialization. The main research sample consisted of (400) male and female studentsdivided into (10) colleges of science and humanities. For the purpose of achieving the objectives of the research, a scale of implicit perceptions of intelligence was built, and the psychometric characteristics were extracted for it, as well as to verify its validity and stability, and to treat the data statistically, a number of statistical methods were used based on the statistical package (SPSS), and the results of the research found that the students of WasitUniversity have a high level From the implicit perceptions of intelligence, towards the developmental perception of intelligence, and the absence of statistically significant differences in the implicit perceptions of intelligence according to the gender variable, while the results revealed that there are statistically significant differences in the implicit perceptions of intelligence according to the specialization variable in favor of scientific disciplines, and the interaction between gender and specialization In light of the results that have been reached, the researcher presented a number of recommendations and suggestions.

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of higher levels of intelligence, so it is necessary to prepare them educationally and psychologically and help them face the changes that occur in their lives. Universities may suffer from a weakness in absorbing the positive impact of implicit perceptions of intelligence and requires their employees to make continuous efforts in the need to build students' personalities and help them to be able to deal with others and be able to accomplish their tasks and duties because weak implicit perceptions of intelligence may lead to mismanagement of individuals in understanding themselves And the duties placed on them, which is one of

### *Chapter one: Problem and Importance of Research.*

**Research problem:** The current societies at all levels are witnessing various problems, and with the increase of these problems the need for individuals who can deal with skill and confidence, and individuals who have high levels of intelligence and various mental abilities through which they can find various innovative solutions away from the traditional methods that have proven their failure, and the human mind has become the first and most important investment, and through the foregoing, the university students represent an important segment of society because they have a great deal

capabilities of others around them, and these perceptions may affect their decision-making, as well as their ways of learning and belief about knowledge among students, as it affects the behaviour of students in educational situations and the nature of the goals that they adopt. Students and the effort they make in different educational situations (Hussain, 2017: 170).

The importance of the research can be summarized from the theoretical point of view as follows:

- 1- This study is one of few that attempted to identify the implicit perceptions of intelligence and its relationship to mental motivation.
- 2- The research provides useful information for students about intelligence by looking at it as a fixed or changeable characteristic, and the importance of mental motivation is in providing and motivating a positive academic atmosphere and encouraging the learning process, as it rises when a feeling of safety and academic stability.
- 3- The importance of the current research is represented by an intellectual review of a recent topic in the educational field.

The importance of the current research from an applied point of view can be summarized as follows:

- The current research provides an important tool used to measure the degree

the main problems that make them lose a sense of balance with the environment necessary for productive and effective life (Goleman, 1998: 32). This prompted the researcher to prepare research that reveals the degree of implicit perceptions of intelligence in light of the challenges and difficulties that students face in the educational process, which affects At the level of implicit perceptions of intelligence and its ability to form the mental motivation to optimally deal with it. As this research becomes a step in the study of psychology, the problem of the current research is determined in answering the following question: - Are the implicit perceptions of university students about their intelligence directed towards developmental intelligence and the possibility of its development, or is it a fixed ability whose degree varies among individuals? Do gender and specialization affect implicit perceptions of intelligence?

**Research importance:** This study gains its importance from the concepts it deals with, whether in terms of its modernity or the recency of research in it, if it occupies special importance at the theoretical and practical levels, so the current research tries to identify the nature of the relationship between one of the concepts of psychology, which is the concept of implicit perceptions of intelligence. Modern Psychology. And that attention to the issue of implicit perceptions of intelligence is important as it is the method that people adopt when perceiving and evaluating their abilities and the

about the nature of intelligence, as individuals' perceptions of intelligence differ concerning the assumed degree of flexibility of their intellectual abilities. The degree of flexibility that individuals believe in varies between those who believe in the gradual theory, where they perceive intelligence as flexible and changeable and can be increased. And individuals who support entity theory think of intelligence as an innate and immutable entity" (Dweck, 2000:8).

- **Sternberg (Sternberg, 1985).** "It is the personal perception of individuals about the nature of intelligence, which is represented in the ideas, visions, and meanings that lie in the minds of the general public about the concept of intelligence"(Sternberg, 1985:607).

### *The second chapter: Theoretical framework.*

**First: Implicit Perceptions of Intelligence concept.** The successive developments in understanding aspects of intelligence and its development to understand its growth and the possibility of its development has appeared in recent years theoretical interpretations aimed at understanding the modern perception of intelligence, especially in the cultural and cognitive inputs, and individual differences in intelligence appeared historically in the nineteenth century, where they believed that the size of the brain can be an indicator of intelligence, and scientists have published evidence of

of implicit perceptions of intelligence among university students, and this represents a new addition to the existing measures that can be used at the applied level.

- The results of the current research, along with the results of previous studies, constitute a knowledge database to carry out the preparation of teaching programs and educational plans to develop their abilities and skills in the variables of the current research.

### **Search objective:**

- 1- Recognizing the implicit perceptions of intelligence among WasitUniversity students.
- 2- Identifying the significance of the differences in the implicit perceptions of intelligence among WasitUniversity students according to gender and specialization variables.

**Search limits:** This research (implicit perceptions of intelligence and its relationship to mental motivation among WasitUniversity students) is determined for the morning study of both genders (males - females), specialization (scientific - human) for the academic year (2020-2021).

### **Defining terms:**

**First: Implicit Perceptions of Intelligence.** Defined by:-

- **Dweck (2000):** "These are the perceptions that individuals adopt

the perceptions that individuals adopt about the nature of intelligence, as individuals' perceptions of intelligence differ for the assumed degree of flexibility of their intellectual abilities. It is flexible and can be changed and augmented, while individuals who support the entity theory think of intelligence as an innate and immutable entity" (Dweck, 2000:8).

Aladdin Ayoub and Osama Abdel Majid (2011) mention that the concept of implicit perceptions of intelligence is defined as "the perceptions that students form about a particular phenomenon or concept" (Ayoub, Majeed, 2011: 34-81).

Sternberg (1985) pointed out that the perceptions that dealt with different psychological concepts and structures are divided into multiple ways, including explicit perceptions and implicit perceptions, and thorough research in psychological studies, it became clear the extent to which explicit perceptions dominate psychological fields, as there is a trend that is declining what has become. There is a growing interest in implicit perceptions of intelligence because implicit perceptions include perceptions and concepts of general people as well as specialists in the various psychological structures that are used in everyday situations. It provides a conceptual framework for what can be developed by explicit perceptions. (Sternberg 1985) Distinguished two types of psychological perceptions:

differences in brain size between Europeans and other groups, such as those of pure African and American descent (Gould, 1996: 47).

Therefore, this research direction emphasizes individuals who belong to different cultures or ethnic groups, not that they hold special perceptions that define intelligent individuals in light of their good performance on valuable tasks within the group (Castro & Castro, 2003: 12-15).

The implicit conceptions of intelligence have their roots in Kelly's theory of personality (Kelly, 1955) and the field theory in Hader's social perception (Header, 1958). The orientation of information processing, understanding others, and interpreting their behaviour, as for Header, he emphasized people's latent perceptions of personality because it affects their perception of themselves and others (Dweck, et al, 1995: 267).

Researchers have developed a variety of classification schemes that examine early ages of whether intelligence is a stable genetic trait or whether it is modifiable by environmental factors (Lynette & wolfed, 1994: 253-264). An individual's implicit perceptions of intelligence, whether intelligence is flexible or fixed, can have significant effects on academics and researchers. Therefore, implicit perceptions of intelligence tend to influence student achievement, especially in demanding and challenging academic situations (Blackwell et al, 2007: 246-263).

Dweck (2000) defined the implicit perceptions of intelligence, which are

achieving positive evaluations from others (Hong et al, Dweck, 1995: 197-216).

Individuals with a growth or growth mindset believe that these characteristics can change over time and with their effort, and they are more likely to adopt learning goals and choose challenging tasks, as well as use adaptive strategies to improve their abilities. These perceptions include schematic cognitive structures that act as (perceptions of implicit intelligence) because it is mostly unconscious of individuals (Dweck and Leggett, 1988, 256-273).

Implicit representations of intelligence are related to learning processes broadly concerning outcomes, the development of a specific student mindset, along a continuum of progressive entity and belief, and the creation of distinct systems and meanings, and can trigger different patterns in response to challenging situations and setbacks, and ultimately influence student learning processes and achievement outcomes (Brunette). et al & Pollack, 2013: 360–372. Although implicit conceptions of intelligence tend to be unrelated to general cognitive ability (Robins and Pals, 2002: 313-336).

Research developed by (Hong et al, 1999) showed that coping traits and behaviours influence the incremental theorists' tendency to associate trait failure with effort, and they tend to engage in therapeutic parts more than entity theorists. Although the previous findings are applied to students' beliefs, a similar process may exist for

- 1- **Explicit perceptions:** where he sees that explicit perceptions represent visions or structures proposed by psychologists, specialists, or scientists, as they are tested empirically through data collected from those examined on certain topics.
- 2- **Implicit perceptions:** they refer to the ideas, meanings, and concepts that people have that lie in their minds about psychological concepts, and these perceptions need to be revealed and not created or produced because they already exist, so revealing them is useful in helping to formulate common perceptions that Being in control of people's thinking and beliefs (Sternberg, 1985: 607-608).

The implicit conceptions of intelligence have captured the attention of researchers in several fields, in the ongoing research on its impact on students academic performance, where individuals can view intelligence as a fixed characteristic that does not change (entity theory or beliefs) while others consider it something flexible or subject to development either (Theory, Increasing Beliefs, or Growth Mindset) Thus, individuals who possess a fixed entity or conceptions of intelligence tend to believe that skills and abilities are relatively stable (Dweck, 1999: 232-251).

Therefore, their performance is a result of this stability, and a prediction of the performance goals may be based on demonstrating their abilities and

examines the role of student perceptions of their intelligence in achievement and motivation (Blackwell, Trzesni Wisk & Dweck, 2007).

- **Explanatory theory implicit perceptions of intelligence. The Implicit Perceptions Of Intelligence Theory of Carl Dweck (Carols Dweck, 2000).**

At the end of the eighties of the twentieth century, Carl Dweck proposed the implicit conceptions of intelligence, through a Social-Cognitive theory of Motivation, where this theory focused on searching for the perceptions that individuals show about the nature of intelligence, which was not concerned with studying the components of intelligence or processes Mentality, and Dweck (2000) defines "implicit perceptions of intelligence as the beliefs that students adopt about the nature of intelligence." Psychologists adopt the trend that indicates that intelligence can be subject to change and is not greatly affected by genetic factors and that individuals who believe that they can change themselves, and this belief indicates important implications for the person (Grigorenko, 2000:53). As Dweck sees that the essential difference in intelligence as a fixed component and intelligence as a developing component, which enables them to believe in the ability to change, so that people with the developmental theory of intelligence adopt a belief in the ability to change, while people in the fixed theory of intelligence do not support this belief (O' Keefe, 2009: 4).

teachers' beliefs about intelligence (Lynette and wolfed, 1994:223).

Studies have revealed the effects that Kenyan or increased perceptions can have on student performance. On the other hand, entity theorists, who believe that intelligence is relatively fixed and predetermined, tend to adopt more performance goals and give priority to positive evaluation (Erdley and Dweck, 1993: 863 - 878).

Additionally, they tend to attribute poor performance to a lack of ability and thus treat poor performance with effort, assuming ineffective strategies, and characteristics of failure in the face of setbacks, which contributes to their poor academic behaviour as progressive theorists tend to focus on more than learning objectives and prioritize their intellectual development and value Effort they make and use of response patterns directed toward mastery Because increasing theorists believe that intelligence can be developed, they tend to increase effort in difficult situations to overcome difficulties that will lead them to develop their skills and acquire new abilities. Progressive theorists attribute poor performance to a lack of effort rather than ability and response. for poor performance with approved procedures (Hong et al, 1999:588 - 599).

The following dimensions and characteristics that people use to describe intelligent people, scientifically, academically, and socially for adaptive and conceptual thinking, most of the research conducted on implicit perceptions

developed, and increased through learning, as well as exposure to various experiences, and contributes to the effort and perseverance made by individuals (Dweck & Leggett, 1988: 260). Where individuals with the developmental theory of intelligence view that it is changeable and can be developed through effort, as well as good use of strategies and perseverance through effort. Their natural vision is their intelligence and the continuation of development that leads to increased effort to accomplish the task (Bernstein, 2006: 6).

### *Chapter Three: Research Methodology and Procedures*

In the current research, the researcher relied on the descriptive approach (relational) as one of the important and appropriate scientific approaches in psychological studies. In addition to the sample procedures, this was done in the following pictures:

**First:** the research community means all individuals or elements that share one or more characteristics that distinguish it from the rest of the societies through which the researcher seeks to generalize the results of the study (Al-Jabri and Sabri, 2013: 178). The current research community is determined by the students of Wasit University (for the morning study) and for both sexes (males - females) and the specialization (scientific - human).

**Second:** the research sample to complete the research procedures and

Dweck (1986) identified two dimensions of intelligence:

- 1- Entity (Fixed) Implicit Intelligence. The entity theory of intelligence refers to individuals' belief that abilities are fixed traits, as Malden, Planks & Dweck (Malden, Planks & Dweck, 2006) mention that students with fixed beliefs in intelligence are not optimistic, which they see that intelligence is fixed and cannot be developed, since what They have fixed mental abilities that remain, without change, as they do not develop the effort and abilities that they possess, they participate in tasks to prove their abilities to perform them only, and it may come to them to the point of believing that they cannot do something important, in the event of their failure and confrontation For difficult tasks, they attribute that failure to their specific abilities or lack of ability, which causes them to feel hopeless, at the same time they avoid challenging situations and situations that provoke their abilities, which tends to withdraw and fear failure (Bernstein, 2006: 6).
- 2- Incremental (Malleable) Implicit Intelligence. The incremental theory of intelligence suggests that intelligence and ability are flexible traits that can be improved through effort and hard work (Kim & Park, 2015:40). This indicates the belief of individuals that their intelligence is adjustable, controlled,

**B-** The researcher adopted (Dweck, 2000) theory.

**C-** The researcher adopted the dimensions of the theory, which are (fixed implicit intelligence, and implicit variable or developmental intelligence).

**D- The exploratory study:** the researcher conducted this application, the aim of which was to know the clarity of the instructions and the paragraphs of the scale in terms of wording, meaning, as well as the extent to which the examinees understand the paragraphs of the scale and its alternatives, and to identify the difficulties they face in answering, as well as the time taken to answer, so the researcher applied the scale On a random sample consisting of (40) male and female students from Wasit University

**E- Honesty:** Honesty is one of the important characteristics that must be taken care of when building psychological scales (Anastasia, 1988:139). Where it refers to (Oppenheim) and there are several methods to estimate the validity of the tool, as it is possible to obtain a quantitative estimate, in other cases a qualitative estimate is obtained (Faraj, 1980: 360). The researcher used two indicators of the validity of the implicit perceptions of intelligence scale:

- **Apparent honesty:** that the best way to calculate the apparent honesty, which is to display the paragraphs of the scale before applying it

achieve its objectives, the researcher chose the sample in a proportional random manner, as the sample was selected for each of (males and females) for the two branches (scientific and human) according to their ratio to the community. Through this, the current research sample consisted of (400) male and female students, chosen by proportionate random method from the total community, with (190) males and (47.5%), and (210) females with percentages (52.5%), and scientific (196). ) at a rate of (49%), and (204) human and (51%).

**Third:** search tools

### **1- implicit perceptions measure of intelligence**

After reviewing previous studies and reviewing psychological literature that dealt with implicit perceptions of intelligence, the researcher did not find a scale commensurate with the current research sample and its objectives, so the researcher had to build a scale for implicit perceptions of intelligence. It should start by defining the theoretical premises on which the researcher is based in building the scale if "Cranach" refers to the need to define the structural concepts on which the psychological scale building procedures are based or based before starting the construction procedures (Al-Kubaisi, 2010: 263). ). Here is an explanation for that:

**A-** I adopted the theoretical definition (Dweck, 2000) of the implicit perceptions of intelligence.

**F- The discriminatory power of the scale of the implicit perception of intelligence**

The researcher verified the implicit perceptions of intelligence scale items by applying the scale items to the statistical analysis sample of (400) male and female students and using the method of the two extreme groups, the percentage of (27%) of the form with the highest scores, considered by a higher group, was chosen, and (27%) The form with the lowest score is prepared by a minimum group. If the number of forms in each group reached (108), as confirmed by (Ebel) and (Mehrens), the adoption of the percentage of the upper and lower (27%) achieved for the researcher two groups with the best possible size of differentiation (Eble, 1972: 358). The number of forms that were subjected to statistical analysis is (216), and the researcher applied the T-test for two independent samples, for testing the significance of the difference between the mean of the upper and lower group because the calculated T-value represents the discriminatory power of the paragraph between the two groups, and the T-value was returned. An indicator to distinguish each paragraph by balancing it with a tabular

to a group of arbitrators and specialists who are characterized by the experience that enables them to judge the validity of the test paragraphs to measure the property to be measured, as it makes the researcher reassured about their opinions and takes the judgments that are agreed upon. Most of them have it, or by (80%) or more (Al-Kubaisi, 2010: 265). This type of honesty may be achieved by presenting the paragraphs of the scale to a group of arbitrators and specialists in the field of psychology, and estimating the validity of each paragraph for the field for which it was developed, as indicated in (Appendix/2).

- **Structured honesty:** Structured honesty is one of the most important types of other honesty, meaning that the scale measures what it was prepared to measure (Awda, Al-Khalili, 1998: 384). the validity of the construction is called sincerity of the concept or sincerity of the hypothetical formation, as it means the extent to which the scale is measured to stack a certain hypothesis (Anastasia, 1976: 151)

that all paragraphs are distinct except for paragraphs (6, 8, 13), all explained in Table (1):

value of (1.96), a degree of freedom (214) and a level of significance (0.05), if the results of the analysis show

**Table(1)**

**The discriminatory power of the scale of the implicit perception of intelligence**

No.	High		Low		Calculated T	Indication
	Arithmetic middle	standard deviation	Arithmetic Middle	standard deviation		
1	4.28	0.88	3.34	0.75	8.38	0.00
2	4.10	0.93	2.98	0.88	9.13	0.00
3	4.49	0.75	3.24	0.83	11.58	0.00
4	4.56	0.65	3.29	0.85	12.31	0.00
5	4.40	0.84	3.03	0.93	11.34	0.00
6	<b>2.33</b>	<b>1.24</b>	<b>2.43</b>	<b>0.91</b>	<b>-0.63</b>	<b>0.53</b>
7	4.63	0.62	3.19	0.79	14.98	0.00
8	<b>2.85</b>	<b>1.32</b>	<b>2.75</b>	<b>0.99</b>	<b>0.64</b>	<b>0.52</b>
9	4.56	0.79	3.04	0.89	13.39	0.00
10	4.42	0.91	2.96	0.95	11.52	0.00
11	4.27	0.87	2.76	0.91	12.48	0.00
12	3.56	1.13	2.97	0.90	4.26	0.00
13	<b>2.55</b>	<b>1.21</b>	<b>2.58</b>	<b>0.88</b>	<b>-0.26</b>	<b>0.80</b>
14	3.08	1.2	2.95	1.04	5.71	0.00
15	4.59	0.67	2.87	0.79	17.32	0.00
16	4.47	0.74	2.91	0.82	14.75	0.00
17	4.32	0.78	2.96	0.77	12.86	0.00
18	4.56	0.65	2.90	0.86	16.06	0.00
19	4.42	0.75	3.01	0.74	13.86	0.00
20	4.60	0.72	3.06	0.68	16.18	0.00
21	4.34	0.90	3.11	0.89	10.12	0.00
22	4.59	0.74	3.03	1.00	13.10	0.00
23	4.45	0.86	3.00	0.91	12.10	0.00
24	4.39	0.98	3.04	0.92	10.45	0.00
25	4.41	0.93	3.08	0.74	11.61	0.00
26	4.64	0.70	2.92	0.69	18.23	0.00
27	4.56	0.79	2.96	0.96	13.35	0.00
28	4.31	0.93	2.81	1.03	11.30	0.00
29	4.62	0.69	3.21	0.90	12.90	0.00
30	4.30	0.92	2.73	0.86	12.91	0.00

correlation, the researcher calculated the T-value of the correlation significance, which in its entirety was greater than the valueThe tabular value of (1.96) at the significance level (0.05) and the degree of freedom (398), and it was found that all the values are statistically significant except for paragraphs (6, 13), Table (2) shows that:

#### G- Relationship of the paragraphto the total number of paragraphs

If the Pearson correlation coefficient was calculated to extract the correlation between (the paragraph and the domain to which it belongs, the paragraph and the general total and the domains between them, in addition to the domains with the general total), and to ensure the significance of the

Table(2)

The relationship of the paragraph with the domain and the total score of the scale of the implicit perception of intelligence

No.	Correlation coefficient values			Calculated T-values of the correlation significance		
	Constant	Variable	the total	Constant	Variable	the total
1	0.48		0.431	10.94		9.55
2	0.507		0.456	11.76		10.25
3	0.536		0.509	12.70		11.83
4	0.539		0.531	12.80		12.53
5	0.536		0.5	12.70		11.55
6	<b>0.099</b>		<b>0.013</b>	<b>1.99</b>		<b>0.26</b>
7	0.536		0.552	12.70		13.24
8	0.192		0.121	3.91		2.44
9	0.59		0.573	14.61		13.98
10	0.554		0.536	13.31		12.70
11	0.562		0.535	13.59		12.66
12	0.348		0.27	7.42		5.61
13	<b>0.134</b>		<b>0.056</b>	<b>2.70</b>		<b>1.13</b>
14	0.233		0.18	4.79		3.66
15	0.654		0.65	17.29		17.11
16	0.608		0.626	15.32		16.05
17	0.569		0.561	13.84		13.55
18	0.624		0.64	15.97		16.66
19	0.563		0.565	13.62		13.70
Constant		0.672	0.934		18.15	52.28
20		0.592	0.583		14.69	14.35
21		0.569	0.47		13.84	10.65

22		0.613	0.565		15.52	13.70
23		0.595	0.521		14.81	12.21
24		0.6	0.526		15.00	12.37
25		0.607	0.544		15.28	12.97
26		0.744	0.647		22.27	16.97
27		0.624	0.542		15.97	12.90
28		0.556	0.49		13.38	11.24
29		0.559	0.517		13.48	12.08
30		0.586	0.528		14.46	12.43
Variable	0.672		0.892	18.15		39.47

#### H- Reliability: The researcher used two methods.

the value of the correlation coefficient was (0,84).

#### I- The final version of the Implicit Perceptions Scale of Intelligence:

The scale included in its final form (30) items, where it took after the implicitly fixed intelligence (19) items and after the variable intelligence (11) items and the imam of each item put five alternatives: (strongly agree), (agree to some extent) and (agree), and (Disapprove of) and (Strongly Disagree), Appendix (3).

**J- Final Application:** After verifying the validity and stability of the (implicit perceptions of intelligence) scale, the scale was applied to the (400) university students from WasitUniversity using the (electronic form) in the period between (2/25/2021) to the corresponding day (16). 3/2021) After completing the application, the researcher corrected the forms and unloaded the data into the Excel program for statistical processing.

**1- Elfa Cronbach/** where the internal consistency coefficient was extracted using the alpha equation, and the consistency coefficient extracted in this method gives us a good estimate of the stability in most situations (Nunn ally, 1987:230). The alpha coefficient represents the average of the coefficients resulting from dividing the test into parts and in different ways (Abd al-Rahman, 1983: 201). To calculate the reliability coefficient, all the questionnaires examined in the statistical analysis sample, which numbered (400) were subjected, and then the alpha-Cronbach equation was used internally.

**2- Test-retest method /** This method reveals the stability of the results when the test is applied to the sample of individuals more than once over a specified period under the same conditions (Aziz and Abdel Rahman, 1990: 122). If the researcher used the Pearson correlation coefficient to identify the relationship between the two applications on the same sample,

the arithmetic mean and standard deviation for all sample's members to compare them with the hypothetical mean of (81), where their average score on the scale was (99.33). degree, and a standard deviation (14,89) degrees. When comparing the arithmetic mean with the hypothetical mean of the scale, it was found that the arithmetic mean is greater than the hypothetical mean, and to ascertain the significance of the difference, the researcher used the T-Test for one sample where the means were compared. The arithmetic means the hypothetical means for each of the fields and the calculation of the calculated T-values that were all greater than the tabular value of (1.96) at a significance level (0.05) and a degree of freedom (399), which means that the sample as a whole possesses a high level of implicit perceptions intelligence as shown in Table (3).

**K- Statistical means** The researcher used the Statistical Package for Social Sciences (SPSS) program to process the data of the current research and obtain the results.

#### ***Chapter Four: Presentation and interpretation of the results***

This chapter includes the presentation, interpretation, and discussion of the findings of the researcher in this research according to the objectives of the research, and the development of a set of recommendations and proposals in the light of those results.

#### **First objective: to identify the degree of implicit perceptions of intelligence among university students.**

To achieve this objective, the researcher built a scale of implicit perceptions of intelligence and applied it to the research sample of (400) male and female students. Then calculated

**Table (3)**

**Arithmetic mean, standard deviation, and (t) value calculated for the sample as a whole on the scale of implicit perceptions of intelligence**

variable	the sample	Arithmetic middle	standard deviation	hypothetical middle	Calculated T	Indication
Constant	400	58.56	8.95	48	23.60	0.00
variable		40.77	7.18	33	21.64	0.00
perceptions		99.33	14.89	81	24.62	0.00

#### **The second objective: identify the differences in the implicit perceptions of intelligence according to the variables of sex (males - females) and specialization (scientific - human).**

To achieve this objective, the researcher calculated the arithmetic averages and their standard deviations of the sample scores in the scale of implicit perceptions of intelligence according to the variables of gender and specialization, as shown in Table (15).

**Table (4)**  
**Arithmetic averages of the scale of the implicit perception according to the**

Type	specialization	The sample	Arithmetic Middle	Standard deviation
<b>Mentioned</b>	Scientific	96	103.45	15.16
	Humanitarian	94	95.46	15.12
	The Total	190	99.49	15.62
<b>Feminine</b>	Scientific	100	100.06	14.85
	Humanitarian	110	98.37	13.64
	The Total	210	99.18	14.22
<b>The Total</b>	Scientific	196	101.72	15.06
	Humanitarian	204	97.03	14.38
	The Total	400	99.33	14.89

**variables of gender and specialization**

academic specialization in the scale of implicit perceptions of intelligence in favour of scientific disciplines, as the calculated the value reached (10,840), which is greater than the t value Table and amounting to (3.84) and at the level of significance (0.05) and the degree of freedom (1,396).

The results showed that there is an interaction between gender and academic specialization, as the calculated categorical value of (4,598) is greater than the tabular categorical value of (3.84) at the significance level (0.05) and the degree of freedom (1,396) and table (5) shows that.

Then researcher used a binary analysis of variance with an interaction, to verify the significance of the differences and to calculate the calculated t value of the implicit perception scale of intelligence according to gender, which is (0.026) and compared it with the tabular maximal value (3.84) at the level of significance (0.05) and the degree of freedom (1,396). The results showed that there were no statistically significant differences depending on the gender variable in the implicit perceptions of intelligence, while there were statistically significant differences according to the variable of

**Table (5)**  
**Binary variance analysis to scale implicit perceptions of intelligence according to gender and specialization variables**

Contrast sources	Sum of	Degrees of	Mean	Calculated	Indication
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	squares	Freedom	Squares	faculty	
Type	5.564	1	5.564	0.026	0.872
Specialization	2332.960	1	2332.960	10.840	0.001
Type and speciality	989.648	1	989.648	4.598	0.033
The error	85224.428	396	215.213		
Total	88416.097	399			

- 3- Working to create an educational environment that develops the developing implicit perceptions of intelligence, and reduces the implicit and fixed perceptions of intelligence.
- **Suggestions.** In light of the research results and to complement the current research, the researcher presents the following proposals:
    - 1- Conducting studies of the implicit perceptions of intelligence for other segments of society (graduate students, preparatory students, and distinguished students).
    - 2- Conducting studies to identify the relationship between the implicit perceptions of intelligence and other variables such as (personality traits, motivational beliefs, self-regulation, self-efficacy, the ability to solve problems).
    - 3- Conducting a similar study of the implicit perceptions of intelligence that takes other demographic variables such as
  - **Recommendations.** Based on the results of the current research, the researcher recommends the following:
    - 1- the necessity to include in educational curricula and activities, lessons that emphasize that intelligence is a developing trait and subject to change, by presenting vivid models of the experiences of individuals who succeeded in overcoming the obstacles and difficulties that prevented the realization of their ambitions.
    - 2- The teacher should carry a new idea about the implicit perceptions of intelligence among students, as learning is affected by whether they hold fixed or developmental perceptions of intelligence. His knowledge of their beliefs enables them to plan educational activities that allow them to use the developmental beliefs that are good for intelligence, and help them to reconsider the established beliefs of intelligence that are not good.

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(gender, economic level, social status, occupation).

- 4- Conducting an empirical study to change individuals' beliefs about intelligence from their belief that it is a fixed feature to being a developing and modifiable feature.

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