PSYCHOLOGY AND EDUCATION (2021) 58(4): 5327-5341

ISSN: 1553-6939

PERCEPTUAL JUDGMENT AND ITS RELATIONSHIP TO FORWARD-THINKING AMONG STUDENTS OF THE DEPARTMENT OF EDUCATIONAL AND PSYCHOLOGICAL SCIENCES

Z.T. Battal[1], E.H. Mousa[2], S.T. Mudher[3]
[1]College of Education for Humanities, University of Anbar, Iraq.
[2]College of Education for Humanities, University of Anbar, Iraq.
[3]First Karkh Education Directorate, Educational Psychology, Iraq.

ABSTRACT

The current research aims to identify: the level of perceptual judgment and the level of forward-thinking among students of the Department of Educational and Psychological Sciences. Besides, the relationship between perceptual judgment and forward-thinking among the same department students. The researchers adopted the (Rasheed, 2019) scale for perceptual judgment, and (Marwan Yassin, 2017) scale for forward-thinking. Thus, the results showed that the research sample enjoyed a high level of perceptual judgment as well as a new level of forward-thinking, in addition to a positive correlation between perceptual judgment and forward-thinking.

Keywords

Perceptual Judgment, Forward-Thinking, Psychological Sciences.

Introduction

Research Problem

The structured thinking in perceptual judgment from data analysis and evaluation provides useful support in the decision-making process and risk management, where Stressful situations are dealt with either as a self-threatening position in the light of adopting the method of avoidance. Or, get to the stage of evaluation and communication, by assessing the perceptual judgment as expected, recognizing the risks, integrating prior knowledge with current knowledge, and understanding the potential for the application of this knowledge to have influence in shaping the future (Paek, 2005:45).The perceptual judgment requires a close individual look to reflect on the situation components because it includes the ability to use both knowledge and learn from the experiences to achieve the goals. These goals are the ability to make judgments about the things and events that surround the environment, solving problems, and facing obstacles (Milner, 2011:77).The bad idea that the individual has about himself negatively affects his giving, and it can see at present that many individuals have bad ideas about themselves. These beliefs result in their inability to think about their scientific and practical future, where sound forward-thinking is very necessary for the individuals from whom society is formed. In light of the difficult circumstances that the country is going through, the deterioration of the security situation and the prevalence of violence in society requires us as researchers to increase attention to developing perceptual judgment. Besides, forward-thinking individuals because they are strong support for individuals under these circumstances and developing their personalities in the right direction. Contemporary life is also full of painful events that affected the various

segments of society, including university students, and has led them to social and knowledge challenges. These challenges had the most impact on them to debate their age stage in which the prospects for forward-thinking become clear to them, which negatively affects their academic performance and social relation, and thus affects their various perceptual judgments. Besides, distracts and distorts their attention during their academic performance. From the above, it can summarize the problem of the current research through the following questions: What is the level of perceptual judgment among students of the Department of Educational and Psychological Sciences, and what is its relationship to their forward-thinking?

Research Importance

The importance of perceptual judgment lies in its ethical dimensions that include self-worth and the other's worth, which enables the individual to make a judgment and a decision objectively that is characterized by rationality, and away from subjectivity, (Peak, 2005: 150). An individual who possesses a positive "perceptual judgment" is more understanding of himself and others and more adaptive in dealing with difficult situations (Rutter, 2008: 18). The study results of (Curtis, 2011) also indicated that individuals who have high perceptual judgment were able to overcome their psychological stress to a higher degree than their peers who have low perceptual judgment. Anyhow, this depends on the period, spatial situation, amount of experience, and personality traits (Curtis, 2011: 56). The process of making judgments is existential and eternal in the individual life based on the reactions to the situation. Meaning that a person can make judgments without warning of the underlying motives behind it, depending on the cognitive structures and the way of thinking in making the decision (Exline, 1998: 97). It is also a complex process of understanding, knowledge, and assimilation of information. Therefore, any imbalance between these processes would lead to clear effects, including making inaccurate decisions, distorting sensory perceptions, and giving illogical and unrealistic explanations (Kasson, 2001: 269).The individual and the future have a long path with the increase of man's interest in the future. However, opinions about man's ability to make this future are still contradictory. Despite the recognition that the future has become man-made, there are still remnants of old opinions and perhaps primitiveness, which sees that the laws of the future are governed by determinism (Al-Bablawy, 1998: 36). The future human being would find himself in many situations alone, with the abundance of information and the rapid development and the diversity of opportunities outside the protection frameworks that were provided by traditional life frameworks. The human may thus become isolated and drift in the current or be marginalized, but they can become a pioneer with many opportunities for progress and development with sufficient independence in decision and choice. Coupled with, self-reliance and its capabilities, which can go far in his achievements and successes, if he has the initiative in solving problems, insight into their apparent and hidden dimensions, discovering invisible opportunities from a position of positive attitude towards work-life and society. Together with, positive thinking that is based on a constructive outlook and on creating solutions and opportunities, instead of being under the influence of stress. The forward-thinking and with it the psychological flow has become one of the most prominent psychological components of success in increasing competition in the world of work so that the person can then transform information into knowledge. Besides, raise knowledge from mere professional skills to the level of vision-making as a condition of actual control over the present and the future (Hegazi, 2004: 312).(Al-Surour,2002) emphasized that forward-thinking helps to develop creativity, improve the level of effectiveness of thinking, and raise the level of achievement. Along with, increase the level of

self-concept improvement, build the level of students' positive attitudes towards the teaching and learning process, and develop educational strategies for university students (Al-Surour, 374:2002).

Research Aims

The current research aims to identify:

1. The level of perceptual judgment among students of the Department of Educational and Psychological Sciences.
2. The level of forwarding thinking among students of the Department of Educational and Psychological Sciences.
3. The relationship between perceptual judgment and forward-thinking among students of the Department of Educational and Psychological Sciences.

Search Limits

The current research is determined by the perceptual judgment and forward-thinking among students of the Department of Educational and Psychological Sciences / College of Education for Human Sciences / University of Anbar for the academic year (2020-2021).

Definition of Terms

- **Perceptual Judgment**

Perceptual Judgment is defined by the individual's attitudes and perceptions towards the outside world surrounding him (Myers, 1993:4). On the other hand, (Kassiu, 2001: 32) defines it as a decision-making process applied to limited criteria based on objective awareness and lack of subjectivity in making judgments in the form of logical analysis of sensory or intuitive information to achieve logic. Similarly, it represents the way or means by which individuals prefer to direct their lives in an orderly and based on (judgment) or automatically and adaptively (perception) (Rutter, 2008:22).

- **Procedural Definition**

The total degree obtained by respondents through their answers to the paragraphs of the perceptual judgment scale adopted in this research.

- **Forward-thinking**

Forward-thinking can be defined as the process that is based on understanding, and developing events from a future time extension to know the direction and nature of change based on the use of various information about the present, analyzing it, and making use of it to draw the preferred and desired future picture (Roy Amara, 1998, 58). Conversely, (Richard, 1999, 839) outline it as the process of realizing problems and being able to formulate new hypotheses, reaching new connections using available information. Combined with searching for solutions, modifying hypotheses, and reformulating them when necessary, drawing suggested alternatives and then presenting the results at the end. This process requires questioning, hope, and searching for ambiguities and features. Unclear, research, investigation, and imagination to embodying thought in mental images, drawings, or ideas. Otherwise, it represents the investigation of experience to achieve a goal, and this goal may be understood, decision-making, planning, solving a problem, judging things, or doing an action (De Bono, 2001 and Al-Mousawi, 2016:33).

Procedural Definition of Forward Thinking

It is the total degree obtained by the respondents through their answers on the paragraphs of the forward-thinking scale adopted in this research.

Theoretical Framework

Perceptual Judgment

- **The Concept of Perceptual Judgment**

The concept of perceptual judgment differed among some philosophers from the Arab and Western countries. (Al-Farabi, 2012) noted that perceptual judgment is the perception of a thing with what pertains to it, while certainty is a matter outside the mind according to what is believed in it with the mind. In the same role, the limit of imagination is the presence of the image of things in the mind, as belief is the judgment (Al-Farabi, 2012: 20).Kant indicated in the theory of modern judgment "Kantianism Cash Queen of Governance" that there is a difference between the conceptual mental judgment, and between the aesthetic judgment of tact, and between the metaphysical judgment. The mental judgment is a statistical, quantitative, and positive judgment, subject to the principles of identity and contradiction, and phenomenological scientific rules (Al-Jurjani, 1989: 95).The concept of perceptual judgment has differed among many researchers, as (Welfel, 1982:37) emphasized that it is what takes place in the mind of mental processes that precede speech and action. (Plous, 1993: 50) indicated that it is a behavioral mental state that includes integration, balance, and interaction between the mental, emotional, and motivational aspects of human performance. Moreover, (Samson, 2000:19) mentioned that it is the process of the understanding and perception of a situation, through human working to evaluate their understanding of those situations. However, (Milner, 2011:75) added that it is a mental form of the ideal human performance that works on patience and self-knowledge and the world, as well as the tendency to issue correct judgments.

Factors affecting Perceptual Judgment

Several factors affect the level of the perceptual judgment of an individual, which are:

1. **The family:** the family is the important factor for the individual, so the existence of a wise educational curriculum within the family allows the individual to adopt provisions that are commensurate with the provisions of his family that is adopted in different situations. There is a close proportionality between the judgments of the individual and their family, as the level of individual's perceptive judgment in the situations increases. Besides, perceptual judgment grows and develops through the many experiences that facing the individual (Plous, 1993: 112).
2. **Motivation for knowledge:** the individual's movement motivated by the desire to reach knowledge and experience. In addition to taking the right path that increases the possibility of achieving objectives, gaining experience requires a process of making judgments for the ability to face situations (Abboud, 2004: 30).
3. **Age:** (Ismat, 2005) referred to the discovery of children's perceptive judgment through their behavior, which means that perceptual judgment is existing at all ages, but to varying degrees, regardless of gender. It can be concluded that perceptual judgment does not necessarily develop overage, but the stage of puberty remains one of the requirements for the development of perceptual judgment. Also, it is not affected by a specific gender, but rather the cognitive structures and the experiences that the individual (male-female) has and the frame of reference that affect the perceptual judgment (Esmat, 2005: 12).
4. **Professional experiences:** Professional experiences vary in various fields and disciplines that greatly affect the level of perceptual judgment. Especially in cases of interaction with people for a long time, communicating with people, facing daily events, and being open to various experiences are among the predictors of an increase in the level of perceptual judgment (Kromer, 2002: 210).
5. **Society's culture and beliefs**: A person's culture and beliefs affect what human

perceives of the outside world issues, as the judge may sometimes be complicated when they compare some details with the details of something else or an ideal model. For example, the judgments of whites who have positive attitudes towards blacks differ from the judgments of whites, those who have negative attitudes towards blacks. Thus, the attitudes, tendencies, beliefs, and state of the psychological disorder have an impact on the judgments of individuals and the accuracy of their perception (Staudinger, 2011: 233).

- **Forward-thinking**

Thinking is a great blessing granted by God Almighty to humans to get to know and worship him and to live on the earth and establish the civilized building on the guidance of the Prophetic message. Human has been distinguished by it from the rest of the creatures, and it is a blessing that is inseparable from a human being, and it is not imagined that human life would be free of it for a moment in time (William Obaid, 7:2000).

Thinking is the product of the brain with all its complexities. Given the complexity of the thinking process, its definitions have varied, and it can be said in its simplest concepts that it is an overflow of mental activity carried out by the brain in response to millions of visible and invisible stimuli received through the senses or other stimuli. (Abdul-Aziz, 21:2013). (Mayer, 1992) indicates that thinking contains four elements:

1. Thinking is a process: it includes a set of processes for processing within the cognitive system.

2. Thinking is mental and cognitive: it occurs within the human mind or cognitive system and is inferred from the behavior of solving the problem in an indirect way.

3. Thinking is directed: that is, it appears in the form of behavior directed to a problem.

4. Thinking is a complex analytical activity of the brain. (Mayer, R.E, 1992:145-146).

Among the theories that dealt with forward-thinking:

1. Cognitive theories: Cognitive theories are among the theories that focused on the mental aspect. Therefore, the background of this theory can be based on two frameworks:

- The electronic computer frame: It sees that the information that comes through (the five senses) is transmitted to the memory where it is processed and stored and then recalled when needed. This is similar to what happens in a computer, where it receives information through the so-called inputs, and then it is processed by the program used and then the outputs.
- Biological framework: It sees that the information received by the human is transmitted through the senses to the memory, so it takes from it what it wants and neglects what it wants. This depends on the importance of information received by the neurons responsible for the cognitive aspect, and this is similar to the metabolism of plants, where plants take carbon dioxide and release oxygen, as happens in their leaves (Al-Mousawi, 2016: 122).

Thinking is a cognitive process that takes place inside the human mind, nevertheless, it is inferred from the behavior that occurs in the human being, such as the student's thinking about solving the problem appears in the form of the steps, he takes to solve it (Arafa, 71:2006).

Research Methodology and Procedures

First: Research Methodology

The method used in this study is a descriptive method, due to its relevance to the objectives and the nature of the current study, and it is one of the most widely used research methods, especially in the field of educational and psychological research (Melhem, 2010: 370).

Second: The Research Community

The research community, represented by the students of the Department of Educational and Psychological Sciences, Anbar University, were determined for the academic year (2020-2021) for the morning study only. It reached (459) male and female students by (250) males and (209) females, distributed over the four grades as shown in Table (1).

Table 1. The research community, distributed according to the gender and grade

Research community		Grade				Total sum.
		First	Second	Third	Fourth	
Gender	Male	69	45	56	80	250
	Female	62	36	52	59	209
Total sum.		131	81	108	139	459

Third: The Research Sample

A sample of (100) male and female students was randomly selected from the original community, with (60) male and (40) female students as shown in Table (2).

Table 2. The research sample distributed by gender and stage

Research community		Grade				Total sum.
		First	Second	Third	Fourth	
Gender	Male	17	14	16	13	60
	Female	19	7	6	8	40
Total sum.		36	21	22	21	100

Research Tools

1. The perceptual judgment Scale

- **Scale Correction Method**

The researchers adopted the (Rasheed 2019) perceptual judgment scale, and the alternatives to this scale were in their weights according to the direction of paragraphs. The paragraph indicating the perceptual judgment is the paragraph expressing the positive direction (with the variable) given the highest degree for the feature of perceptual judgment at correcting (2). On the other hand, the degree (1) was given to the feature of perceptual judgment (neutral), while the low degree (0) was given at correcting for the paragraph indicating lack of (perceptual judgment), which is the paragraph expressing the negative direction (the opposite of variable).

- **Validity of the Scale and its Paragraphs (Face Validity)**

The researchers presented the perceptual judgment scale in its initial form to a group of arbitrators specialized in educational and psychological sciences, and their approval was obtained on all the paragraphs, instructions, methods of correcting the scale by (100%).

- **Statistical Analysis of the Perceptual Judgment Scale Paragraphs**

The process of statistical analysis of the scale paragraphs is one of the basic steps for its construction, where the adoption of paragraphs that have good psychometric properties makes the scale more valid and reliable (Anastasi, 1988: 192). Once the researchers choose the appropriate

paragraphs with good statistical characteristics, they control the characteristics of the whole scale and its ability to measure what was prepared for it (El-Sayed, 1979: 565).

A. Calculating the Discriminatory Power of the Paragraphs

The paragraphs' discriminatory power is one of the important standard characteristics of the paragraphs of the reference standard psychological scales because it reveals the paragraph's ability to measure the individual differences on which this type of scale is based (Ebel, 1972: 399). The Contrasted Group Method was used to calculate the discriminatory power of the perceptual judgment scale paragraphs. Furthermore, the responses of the research sample, (100) male and female students were taken to analyze the paragraphs of the perceptual judgment scale. After collecting the degrees of the examinees' answers on this scale, these degrees were arranging in descending by extracting (27%) of the forms with the highest and the lowest degrees, whose members reached (27) male and female students. Then, the t-test for two independent samples showed that all the paragraphs of this scale were distinct because the calculated t-values were greater than the tabulated t-value of (2.00) at the significance level (0.05) and the degree of freedom (52) as shown in Table (3).

B. The Relationship of the Paragraph's Degree to the Total Degree of the Scale (Construct Validity)

The technique of relating the paragraph to the total degree of the scale is one of the most used methods for calculating the internal consistency of the scale paragraphs (paragraph validity). This method provides a homogeneous scale because it is concerned with knowing that each paragraph of the scale functions in the direction in which the scale goes in general (Abd al-Rahman, 1998: 207).The Person correlation coefficient was used to calculate the correlation between the degrees of the sample members on each paragraph of the scale and the total degree. Therefore, it was found that all paragraphs are statistically significant when compared with the tabulated value of (0,198) at the significance level (0.05) and a degree of freedom (98) after calculating the significance of each paragraph. These results represent an indication that the scale is valid for measuring the phenomenon that it was designed to measure as listed in Table (4).

Table 3. The discriminatory power of the perceptual judgment scale paragraphs for the two contrasted groups

Paragraph number	Higher group		Lower group		Calculated t-value	Significance level (0,05)
	Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation		
1	1,675	0,681	1,185	0,787	2,517	S.
2	1,861	0,347	1,166	0,755	4,471	S.
3	1,611	0,577	1,064	0,764	3,054	S.
4	1,842	0,456	1,379	0,793	2,705	S.
5	1,713	0,530	1,074	0,861	3,378	S.

6	1,648	0,585	0,935	0,823	3,774	S.
7	1,759	0,527	0,972	0,814	4,338	S.
8	1,842	0,413	1,037	0,807	3,927	S.
9	1,685	0,590	0,888	0,801	3,646	S.
10	1,472	0,814	0,824	0,840	2,961	S.
11	1,416	0,821	1,018	0,842	2,734	S.
12	1,564	0,687	1,074	0,850	2,396	S.
13	1,629	0,649	1,000	0,875	3,086	S.
14	1,546	0,715	0,925	0,781	3,135	S.
15	1,555	0,727	1,018	0,853	2,561	S.
16	1,509	0,703	0,944	0,862	3,685	S.
17	1,638	0,571	1,175	0,829	3,337	S.
18	1,518	0,648	1,074	0,809	3,107	S.
19	1,555	0,601	0,944	0,806	4,409	S.
20	1,388	0,638	0,944	0,783	3,189	S.

Table 4. The values of the paragraphs' correlation coefficients with the total degree of the perceptual judgment scale

Paragraph number	Paragraph correlation coefficient to the total score	Paragraph number	Paragraph correlation coefficient to the total score
1	0,326	11	0,238
2	0,515	12	0,314
3	0,331	13	0,390
4	0,384	14	0,345
5	0,333	15	0,340
6	0,445	16	0,318
7	0,438	17	0,327
8	0,543	18	0,345
9	0,450	19	0,412
10	0,359	20	0,336

Standard (Psychometric) Characteristics of the Scale

- **Scale Validity**

Two types of validity were extracted for the current scale:

1. Face Validity

This type of validity is based on the extent to which the scale represents the different fields or branches of the skill or characteristic that it measures, as well as on the balance between them so that it becomes logical that the scale content is valid. Besides, representing all the skill or characteristic to be measured (Abdul Rahman, 1998: 158). The face validity of the current scale was verified by presenting its paragraphs to a group of specialists in the field of psychological and educational sciences, to judge the validity of the paragraphs and alternatives, and all experts agreed on their validity.

2. Construct Validity

Construct validity is described as the most representative types of validity in the concept of validity, and it is sometimes called concept validity or hypothetical construct validity. It means the extent to which the psychological scale is measured for the formation of a hypothesis or a certain psychological concept (Rabee, 1994: 98). This type of validity was confirmed through the statistical analysis of its paragraphs and the extraction of the discriminatory power and the relationship of the paragraph with the total degree.

- **Scale Reliability**

Reliability is one of the basic standard characteristics of psychological scales considering the progress of validity over it, because the valid scale is considered reliable, while the reliable scale may not be valid, and it can be said that every valid test is necessarily reliable (Al-Imam et al., 1990: 143). For the purpose of finding scale reliability, the Cronbach Alpha Coefficient was used, where the alpha coefficient is the average of the coefficients resulting from splitting the scale into parts in different ways, as it represents the correlation coefficient between any two parts of the scale (Al-Kilani and Al-Sharif, 2007: 95). Accordingly, all the responses of the statistical analysis sample amounting to (100) were taken, and the reliability coefficient of the scale was (0.82).

2. Forward-thinking Scale

After reviewing the studies and literature related to the forward-thinking variable, the researchers adopted the (Marwan Yassin 2017) forward-thinking scale, which consists of (39) paragraphs distributed over three fields. The first field includes (14) paragraphs and the second (14) paragraphs and the third (11) paragraph with five alternatives (it always applies to me, it often applies to me, it sometimes applies to me, it rarely applies to me, it never applies to me) and the weights were distributed as follows (1,2,3,4, and 5) respectively.

Validity of Scale Paragraphs

The scale paragraphs were presented to (10) arbitrators in the field of educational and psychological sciences to judge the paragraph's validity, the clarity of the instructions, and the understanding of the phrases of the respondent. The paragraphs were approved by the arbitrators with a percentage of more than (80%). Accordingly, the forward-thinking scale became composed of (39) paragraphs divided into three main fields.

Preparing Scale Instructions

The researchers prepared instructions for the scale that included how to answer its paragraphs and urged the respondents to be accurate in their answer and to give an example showing how to answer. The purpose of the scale was concealed so that the respondent would not be affected by it when answering. The researchers asked the respondent to put a mark (√) under the alternative that represents his answer on a five-point scale.

Statistical Analysis for the Paragraphs of Forward-thinking Scale

- **Paragraph Discrimination**

The discrimination power of the paragraphs between individuals was verified by applying the scale to the statistical analysis sample of (100) male and female students, knowing that the scale was applied electronically by creating a link to the scale and applying it electronically. The answers were correct, then the total degree for each form was calculated, and all forms were arranged from the highest total degree to the lowest total degree. After that, the two contrasted groups were determined by (27%) of individuals, thus the number of individuals in each group became (27) male and female students. Then, t-test for two independent samples was applied to find out the significance of the difference between the two

contrasted groups in the degrees of each of the scale paragraphs. It was found that the calculated t-values are greater than the tabulated value of (2.00) with a degree of freedom (52) and a level of significance (0.05) as shown in table (5).

- **The Relationship of the Paragraph with the Total Degree**

The relationship of the paragraph's degree with the total degree of the forward-thinking scale was calculated using the Pearson correlation coefficient, for a sample of (100) male and female students. It was found that the values of the paragraphs' correlation coefficient with the total degree of the scale are higher than the critical value of the correlation coefficient at the level of significance (0.05) and the degree of freedom (98), which is (0.196) as shown in Table (6).

Table 5. The discrimination power of the forward-thinking scale paragraphs by the method of the two contrasted groups

Seq.	Higher group		Lower group		Calculated t-value	Significance level (0,05)
	Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation		
1	4,09	1,032	2,71	0,897	5,046	S.
2	3,85	0,838	2,46	1,314	4,459	S.
3	3,71	0,964	2,13	1,262	4,974	S.
4	3,94	0,997	2,23	1,166	5,573	S.
5	4,06	0,730	2,48	1,195	5,641	S.
6	3,77	0,866	2,38	1,167	4,782	S.
7	3,81	0,923	2,51	1,163	4,377	S.
8	3,87	0,885	2,00	1,083	7,125	S.
9	3,92	0,918	2,48	0,597	6,926	S.
10	3,86	0,876	2,29	1,373	4,819	S.
11	4,66	0,948	2,93	1,028	6,185	S.
12	4,42	0,787	2,97	1,095	5,376	S.
13	4,26	0,912	2,83	1,042	5,163	S.
14	4,61	1,019	2,64	1,003	6,889	S.
15	4,83	0,858	2,87	1,122	6,938	S.
16	3,85	0,950	2,40	1,358	4,374	S.
17	4,81	0,867	2,90	1,055	6,993	S.
18	4,55	0,864	2,93	1,143	5,653	S.
19	4,62	1,030	2,86	1,104	5,828	S.
20	3,91	0,777	2,03	1,166	6,708	S.
21	4,67	0,959	2,85	1,096	6,248	S.
22	3,82	0,959	2,77	0,935	3,919	S.
23	4,72	0,974	2,82	1,104	6,452	S.
24	4,70	0,754	2,54	0,908	9,150	S.
25	3,97	0,790	2,71	0,964	5,05	S.
26	4,67	0,997	2,69	0,903	7,359	S.
27	4,55	1,072	2,43	0,850	7,747	S.
28	3,91	0,868	2,03	1,155	6,506	S.
29	3,94	0,997	2,23	1,166	5,573	S.

30	4,06	0,730	2,48	1,195	5,641	S.
31	3,77	0,866	2,38	1,167	4,782	S.
32	3,81	0,923	2,51	1,163	4,377	S.
33	3,94	0,997	2,23	1,166	5,573	S.
34	4,06	0,730	2,48	1,195	5,641	S.
35	3,77	0,866	2,38	1,167	4,782	S.
36	4,83	0,858	2,87	1,122	6,938	S.
37	3,85	0,950	2,40	1,358	4,374	S.
38	4,81	0,867	2,90	1,055	6,993	S.
39	4,55	0,864	2,93	1,143	5,653	S.

Table 6. Correlation coefficients of the degree of each paragraph with the total degree of the scale

Paragraph number	Correlation coefficients	Paragraph number	Correlation coefficients	Paragraph number	Correlation coefficients
1	.518	14	.596	27	.642
2	.552	15	.566	28	.334
3	.511	16	.609	29	.479
4	.584	17	.491	30	.545
5	.578	18	.452	31	.609
6	.475	19	.558	32	.491
7	.612	20	.614	33	.539
8	.523	21	.364	34	.598
9	.587	22	.571	35	.475
10	.537	23	.509	36	.587
11	.407	24	.534	37	.388
12	.257	25	.477	38	.443
13	.466	26	.490	39	.620

Psychometric Characteristics of the Scale

- The Scale's Validity

In the Forward-Thinking Scale, both types of validity have been achieved:

1. Face validity: This validity of the forward-thinking scale was verified by presenting it in its initial form to a group of (10) specialized arbitrators in the field of educational and psychological sciences, as mentioned previously.
2. Construct validity: This type of validity of the scale was verified through the discrimination power of the paragraphs and the internal consistency as mentioned previously.

- **Scale Reliability**

The reliability of the forward-thinking scale was confirmed through Cronbach's alpha equation. Thus, the answers of the statistical analysis sample of (100) male and female students were used to calculate Cronbach's alpha reliability value. Also, the value of Cronbach's alpha reliability coefficient was (0.85), which is a good indicator for the reliability of scale fields, as Cronbach confirmed that the scale with a high-reliability coefficient is an accurate one (Cronbach, 1964:639).

Statistical Methods

The researchers used the appropriate statistical methods, using the statistical package for the Social Science (SPSS) to process the data and extract the results, as follows:

1. The t-test for one sample to find out the significance of the difference between the arithmetic mean and the hypothetical mean for perceptual judgment scale and forward-thinking.
2. T-test for two independent samples to extract discrimination for the paragraphs of forwarding thinking scale and the differences between males and females in perceptual judgment and forward-thinking.
3. Pearson correlation coefficient: to extract the relationship of a paragraph with the total degree of the perceptual judgment scale and forward-thinking, and to identify the relationship between the research variables.
4. Cronbach's alpha's coefficient: to extract reliability for perceptual judgment scale and forward-thinking.

Results and Discussion

This chapter includes a presentation of the results obtained by the specific objectives and the clarification and discussion of these results according to the theoretical framework. Besides, previous studies and the characteristics of the society studied in the current research, and then propose a set of conclusions, recommendations, and suggestions, and the results can be presented as follows:

The first objective: Identifying the level of perceptual judgment among students of the Department of Educational and Psychological Sciences:

The perceptual judgment scale of (20) paragraphs was applied to the research sample of (100) male and female students to achieve this objective. The results showed that the arithmetic average of their degrees on the scale amounted to (24.520) degrees with a standard deviation of (4.762) degrees. After testing the significance of the difference between the arithmetic mean and the hypothetical mean, which amounted to (20) degrees, it was found that the difference was statistically significant at the level (0.05). On the other hand, the calculated t-value reached (9,495), which is greater than the tabulated t-value of (1.98), with a degree of freedom (98), this means that the research sample has a high level of perceptual judgment as shown in Table (7) shows this:

Table 7. Arithmetic mean, standard deviation, and T value of the perceptual judgment scale

Variable	Sample	Arithmetic mean	Standard deviation	Hypothetical mean	t-value		Significance (0.05)
					Calculated	Tabulated	
Perceptual judgment	100	24,520	4,762	20	9,495	1,98	S.

This is consistent with the cognitive orientation in the clarification of perceptual judgment, which indicates that it is part of the personality and cognitive lives of individuals because it represents the pillars in the decision-making process. Generally, some decisions taken by the individual are important and complex, such as choosing a study and profession or choosing a life partner, and some simple decisions such as dress and eat, and all decisions require intellectual actions and information processing, but to varying degrees. It is logical that it takes more time to think about decisions related to important matters than to think about simple or superficial matters (Kitchener, 1990: 251).Since university students have reached an advanced stage of science and cognitive awareness, which made them possess perceptual judgment and make correct decisions through careful consideration and reflection on the components of the situation. In addition to the fact

that experience plays a prominent role in making judgments, experiences of success and failure make the individual various behavioral patterns in his knowledge storage that help him to make decisions in his life.

The second objective: Identifying the forward-thinking among students of the Department of Educational and Psychological Sciences:

The researchers took the sample's responses to the forward-thinking Test, which consisted of (39) paragraphs to achieve this objective. The results showed that the arithmetic average of the sample degrees on the scale amounted to (131.67) degrees with a standard deviation of (11.599) degrees. Moreover, the significance of the difference between the arithmetic mean and the hypothetical mean amounted to (117) degrees, where the difference was statistically significant at the level (0.05). Conversely, the calculated t-value reached (12.64), which is greater than the tabulated t-value of (1.96), with a degree of freedom (99). Table (8) shows this:

Table 8. Arithmetic mean, standard deviation, and T-value of the forward-thinking scale

Number	Degree of freedom	Arithmetic mean	Standard deviation	Theoretical mean	Calculated t-value	Tabulated t-value	Significance level (0.05)
100	99	131.67	11.599	117	12,64	1.96	S.

From the foregoing, it becomes clear that the students of the Department of Educational and Psychological Sciences have the ability to forward-thinking, as this result agrees with the study's findings of (Nada, 136: 2012; Jad Allah, 2013). This result explains that the programs and curricula of students of the Department of Educational and Psychological Sciences may develop the ability of students to objectively criticize. These programs also provide them the opportunity to train their thinking skills to get out of their problems in a considered manner, relying on the intelligence inherited to them and benefiting from it in their field of work (Nawfal and Abu Odeh, 144:2011). The diversity of information and opinions learned by students during their studies also trains them in mental flexibility and rid them of polarized thinking (black-white). Besides, make them produce and test a number of choices and decisions they make and judge the actions they do on the basis of their future benefits by benefiting from what happened before. The researchers believe that students of this Department have a variety of mental abilities that make them capable of correct and critical thinking and the use of their cognitive skills that increase the probability of achieving a desirable and successful future outcome.

The Third Objective

Identifying the relationship between perceptual judgment and forward-thinking among students of the Department of Educational and Psychological Sciences:

The researchers used the Pearson correlation coefficient for the degrees of the sample members on the perceptual judgment and forward-thinking scales, the results were as shown in Table (9).

Table 9. Correlation coefficient and T value between perceptual judgment and forward-thinking

Number	The value of the correlation coefficient between perceptual judgment and forward-thinking	t-value		Significance level (0.05)
		Calculated	Tabulated	
100	0,538	6,48	1.96	S.

It was observed from the above Table that the value of the correlation coefficient between forwarding thinking and perceptual judgment amounted to (0.538), which is a positive

correlation. Then, the researcher used the t-test for the significance of the correlation coefficient to find out the significance of the relationship, where the calculated t-value amounted to (6.48), which is greater than the tabulated value of (1.96) at the significance level (0.05). Besides, the degree of freedom was (98), which means that the relationship between forward-thinking and perceptual judgment is a direct, statistically significant relationship.

Recommendations

In light of the research results, the following can be recommended:

1. Inclusion of a greater number of academic, cultural, and social activities that enhance students' perceptual judgment and forward-thinking.
2. The extension units in Iraqi colleges and universities undertake the task of diagnosing students who suffer from a decline in perceptual judgment and forward-thinking in order to develop extension programs to develop such traits for them.

Suggestions

Through the research findings and the desire to expand its objectives and benefits, the following can be suggested:

1. Applying the current study to other samples, such as middle school students.
2. Conducting a study that aims to identify the relationship of perceptual judgment with other variables such as mastery motivation and goal orientation.
3. Conducting a study aimed at identifying the relationship of forward-thinking and its relationship to other variables such as achievement motivation.

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