

Memory Control Beliefs among university students

By

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Abstract

The current research aims at identifying Memory control beliefs among university students, The current research community was determined by the students of Wasit University for morning studies for the academic year (2021-2022), who numbered (16528), with (8041) male and (8487) female , To achieve the objectives of the research, the scale of (Lachman, Bandura, Weaver and Elliott, 1995) has been adopted for measuring beliefs of memory control, after the researcher has ascertained the validity, reliability and validity of its translation of the scale, the research sample that consists of (400) male and female students from Wasit University. The sample is chosen by stratified random method from the research community where the results show, University students have beliefs of memory controlling.

In light of the results, the researcher developed a set of conclusions, recommendations and suggestions.

Keywords: Memory Control Beliefs, University students.

Chapter One

Research problem

Memory is one of the important topics in students' lives, which always raises many questions because of its clear impact on their academic achievement, especially since some curricula depend on memorization and retrieval. Students are looking for factors that make their memory good and high performance, but beliefs may have Which the student believes in the direction of his memory has a great impact on its performance and work, as many university students may have negative beliefs about their ability to control their memory or that their ability to control their memory is low. Luchman & Agrigoroaei, 2012, indicate that low levels of memory control beliefs lead to a decrease or decline in cognitive performance in general due to unknown factors (Luchman & Agrigoroaei, 2012, 23). The individual who has a decrease in his beliefs about his ability to control memory His memory, tends towards superficial processing of information (Solomon, 2019: 9), (Elliott & Lachman, 1989) sees in their study of the beliefs of memory control and performance, that actual and perceived declines in cognitive performance contribute to a decrease in the sense of memory control, and this feeling works to influence In motivation, which leads to lower levels of effort and perseverance ((Elliott & Lachman, 1989: 88, and the researcher found some studies that agree with the problem of the current research, such as the study (Sulaiman, 2019) and the study of (Abdul Hamid, 2015). In the following question, do university students have beliefs that control memory?

Research importance

University students are at the forefront of the society's youth and elite and the pillar of its renaissance, and they are qualified to obtain leadership positions in its various sectors and fields of work in order to carry out tasks, developing society and sustaining its movement

forward. Because young people are the target of all change movements, because they are in a distinct and renewable stage of continuous activity. Building the human being must precede the building of institutions (Makawi, 304: 2012). Memory is an important process for the student's psychological and mental system, which enables him to receive external stimuli, and obtain information (Al-Zayyat, 1995: 4), sees (Bandura, 1989), that the individual's self-regulation takes place through the application of his ability, which is defined as the student's ability, to Self-reliance and self-control (Bandura, 1989:83) and both (Reges & Enochs, 1999) confirm that studying the student's beliefs is important as it increases our understanding of his behavior, because individual beliefs form a system of adjustment and adjustment to the construction and affect cognitive performance, (Reges & Enochs, 1999). 45: Therefore, the beliefs of memory control represent a link between the cognitive side and the personal side of the individual, as they represent an integration of cognitive performance on the one hand and the individual's self-evaluation on the other hand. (West, Boatwright & Schleser, 1984:39)

Theoretical significance

This study is the first local study that deals with the variable of control beliefs in memory, to the knowledge of the researcher, and the scarcity of Arab research and studies that dealt with the variable of control beliefs in memory, which constitutes a qualitative addition to the theoretical side

Applied importance

This research will provide a measurement tool that can be used in the future.

Research objective

The current research aims to identify the beliefs of memory control among university students

The limits of the research

The limits of the current research are determined by the students of Wasit University for specializations (humanitarian - scientific) and for the morning study, and from both sexes (males - females) for the academic year (2021/2022).

Define Terms

Defined by

- 1) ***Lachman: (Lachman, 1987)*** It is a part of meta-memory that refers to the individual's belief that the performance of memory is determined by the individual's efforts or his own influence. (Luchman, 1987:31)
- 2) ***Jones: ((Jones, 1996):*** It is the perceived ability to control one's memory through effort. (Jones, 1996:5)
- 3) ***Theoretical definition:*** The researcher adopted the definition of Lachman 1987, a theoretical definition of memory control beliefs, which was adopted in the memory control beliefs scale.
- 4) ***Procedural Definition:*** It is the degree to which the respondent obtains by answering the items of the Memory Control Beliefs Scale.

Chapter two

Theoretical framework

The concept of memory control beliefs

In the battleground of life, individuals face many problems related to the ability of their memory and control during thinking processes, to use it in the reality of their lives, solve their problems, and in their learning. Studies have shown that individuals use meta-memory skills well and successfully, when they understand general information about how memory works. And when they learn those skills (Hertzog, 1992; Ratmanov & Bashkuev, 2021). The concept of memory control beliefs has appeared in research (Falafel, 1979; Reshetnikov et al., 2021), as it has been proven that the development of memory is largely due to the advancement of knowledge in how memory works and the use of strategies in this knowledge (Kvavilashili & Ford, 2014; Reshetnikov & Tregubov, 2021), and that the beliefs of memory control It clarifies individuals' knowledge and beliefs related to the functioning of their memory, as it represents conscious beliefs related to variables that affect memory, and includes possible applications and methods of remembering as well as knowledge of memory tasks (Lecce, Demicheli & 2015:22). Accordingly, the beliefs of memory control are a component that integrates the following:

- 1) ***Control point:*** It refers to individuals' beliefs related to which direction individuals attribute the results of their outputs to their own actions, i.e., internal control, or to external factors.
- 2) ***Perceived competence:*** It refers to individuals' beliefs related to their ability to perform necessary and important actions to achieve certain outcomes. (Bielak & Satrauss, 2007:54)

Theories that address the beliefs of memory control

Bandura 1997 theory: Bandura presented his theory regarding the beliefs of memory control as the individual's perceptions about his abilities or self-efficacy, and to what extent the individual can employ them to influence the output, and therefore, the beliefs of memory control can be dealt with as including two components, the first relates to ability, and refers to the beliefs of the individual Or his perceptions about his ability to perform the necessary actions necessary to evoke the appropriate outcomes, while the second component relates to a sense of control and includes the individual's beliefs about his personal effects on his behavior and expected outcomes (Bandura, 1997:7).

Research Methodology and Procedures:

This chapter includes a presentation of the procedures adopted by the researcher to achieve the objectives of her research, which includes defining the research method, a description of the research community, selecting a representative sample, and clarifying the scale tool.

Research Methodology

To achieve this, the researcher adopted the correlative descriptive approach, because it fits with the nature of the current research, as the descriptive approach is one of the scientific research methods that are concerned with studying the phenomenon as it is in reality, as it is expressed in qualitative and quantitative terms. Numerically speaking, to show the extent or magnitude of this phenomenon and the degrees of its association with other phenomena (Obeidat et al., 2000: 28).

Research Community

The current research community consists of Wasit University students for the academic year (2021-2022), and in the two majors (scientific and humanitarian), and for both sexes (males and females), their number is (16,528), male and female students, divided into (4) humanitarian colleges with (10431) male and female students and (11), scientific colleges

with (6097), male and female students, and the total number of males reached (8041), male students, at a rate of (65.48%) of the total community, and the number of females reached (8487), female students, at a rate of (34.51%) of the total community, and these were obtained. The numbers are from the Planning and Statistics Division of Wasit University and according to the number (100) on 19/1/2022 and according to the book facilitating the task issued by the Deanship of the College of Education for Human Sciences, Graduate Studies Division, and table (1) showing community members distributed by colleges, specialization and gender.

Table (1) *The research community by gender (males - females) and specialization (humanitarian - scientific)*

Total	Gender		Specialization	College	T
	Female	Male			
3887	2074	1813	Humanitarian	Education for the humanities	1
1177	610	567	scientific	Education for pure science	2
473	239	234	scientific	Agriculture	3
797	516	281	scientific	Medicine	4
1440	803	637	scientific	Sciences	5
463	341	122	scientific	Arts	6
906	354	552	scientific	Engineering	7
688	426	326	Humanitarian	Literature	8
2634	1127	1507	scientific	Administration and Economics	9
654	164	490	scientific	Physical Education and Sports Science	10
1334	742	592	Humanitarian	basic education	11
548	301	247	scientific	the computer	12
707	331	376	Humanitarian	Law	13
564	382	182	scientific	dentist	14
149	77	72	scientific	Veterinary Medicine	15
16528	8487		8041	Total	

The research sample the sample was chosen by the stratified random method, and it consisted of (400) students from Wasit University students with a percentage of (2.42) from the total community, with (255), male and female students from the humanities colleges, and (145), male and female students from the scientific faculties, as shown in Table (2), which presents a detail of the research sample distributed by gender and specialization.

Table (2) *The research sample by gender (males - females) and specialization (humanitarian - scientific)*

Total	Gender		Specialization	the college
	Female	Male		
214	114	100	Humanitarian	Education
41	23	18	Humanitarian	Literature
80	45	35	scientific	Sciences
65	34	31	scientific	Education for pure science
400	216	184	Specialization	the college
				Total

search tool

The research tool is known as the method by which the characteristic or phenomenon is measured, or a codified method for measuring a sample of behavior (Abu Jadu, 2014: 398), and for the purpose of achieving the objectives of the research, it is necessary to have a measure of the current research and the nature of the research community and it has psychometric properties, so the researcher. By adopting the memory control beliefs scale, as the scale was applied through the presence application to the students.

Memory Control Beliefs Scale:

After reviewing the literature and studies related to the topic of the research, the

researcher adopted the Lachman, Bandura, Weaver & Elliott scale, 1995), for the beliefs of memory control, which consists of (19) items and (6) domains, namely (current capacity, inevitable decline, potential improvement, independence, the benefit of effort, probability of Alzheimer's) and includes (5) alternatives, and the answer weights were determined (1,2,3,4,5) for the positive paragraphs and (5,4,3,2,1) for the negative paragraphs.

Finding the validity of the scale items (apparent validity):

The important thing in the measurement is that it be presented to a group of experts and arbitrators for the purpose of technical and scientific review, and at the same time obtaining indicators of apparent validity. In order to verify the apparent validity of the memory control beliefs scale, and its suitability to the Iraqi environment, the researcher presented the scale in its initial form to (20) arbitrators specialized in educational and psychological sciences. The arbitrators have to modify the answer alternatives from (7) to (5) alternatives to suit the sample of the current research, and based on the opinions of the arbitrators, all the paragraphs of the scale were accepted, without deleting any of the paragraphs of the scale.

Clarity sample instructions and paragraphs:

In order to verify the extent to which the sample members understand the paragraphs of the scale and its instructions

(Faraj, 1981: 100), and to identify the clarity of the scale's instructions and the clarity of its paragraphs and alternatives, and to calculate the time taken to answer it, as well as to identify the difficulties facing the respondent, the researcher conducted an exploratory experiment and applied the scale of beliefs in memory control in its final form on (30), students A female student was randomly selected and assured them that their answers are for scientific research purposes. After reviewing the students' answers to the scale items, it became clear that all the items were clear, easy to answer and understandable. As for the time taken to answer the scale, the time ranged between (10-20), minutes, and a table (3) Explain it.

Table (3) *Clarity sample of paragraphs and instructions for the scale of beliefs in memory control by college, gender, and specialty*

Total	Female	Male	Specialization	Section	College Name
8	4	4	scientific	Life science	Sciences
6	3	3	scientific	Maths	pure
10	5	5	Humanitarian	Quran Sciences	Education
6	3	3	Humanitarian	Translation	Literature
30	15	15		Total	

Statistical analysis of paragraphs:

Specialists in psychometrics point to the importance of statistical analysis of the items, because it reveals the accuracy of the scale in measuring what was set for it (Abdul Rahman, 414:1987), so the researcher proceeded to extract the discriminatory power of the scale items.

Discriminatory power of vertebrae

The discriminatory power of the item is one of the important psychometric characteristics of the psychological measures items, especially the reference standard, because it reveals the ability of the items to measure individual differences in the

phenomenon on which the psychological measurement is based (Ebel, 1972: 399). The researcher verified the items of the Memory Control Beliefs scale by applying the items of the scale to the statistical analysis sample of (400) male and female students. The higher group (108) individuals, and the lower group (108) individuals, that is, a total of (216) individuals. (96,1), and with a degree of freedom (214), and it was found that all the paragraphs are statistically significant at the level of significance (05.0), because the calculated T-values are higher than the tabular T-value for all the items of the scale, and Table (4) shows the values of the t-test and discrimination Paragraphs of the Memory Control Beliefs Scale.

Table (4) *The discriminatory power of the items of the Memory Control Beliefs Scale*

Calculated T-value	Lower group		Senior group		T
	Standard deviation	SMA	Standard deviation	SMA	
3,515	1,30377	2,3981	1,58578	3,0926	1
8,099	8,1118	3,4259	0,86807	4,3519	2
6,500	1,25837	3,1204	0,91240	4,0926	3
3,813	1,19564	2,5185	1,19546	3,1389	4
2,807	1,17708	3,4167	8,8759	3,8148	5
5,886	1,25331	2,4074	1,14869	3,3704	6
4,983	0,90855	4,1574	0,62125	4,6852	7
8,189	1,16228	3,5648	0,66582	4,6204	8
7,416	0,70815	3,8241	0,64844	4,5093	9
13,290	1,36438	2,6296	0,60258	4,5370	10
2,745	1,53420	3,0370	1,33398	3,5741	11
10,224	1,18353	2,6019	0,83675	4,0278	12
6,112	1,08655	3,6574	0,72607	4,4259	13
10,454	1,33203	2,9630	0,76727	4,5093	14
7,378	0,71526	3,7407	0,62838	4,4167	15
11,639	1,34274	2,6389	0,69712	4,3333	16
10,962	1,08548	2,5926	0,68130	3,9444	17
4,810	1,11614	3,6852	0,74204	4,3056	18
13,302	1,07115	2,5463	0,75298	4,2222	19

Psychometric properties of the Memory Control Beliefs Scale

First: Honesty: The researcher used several indicators in order to extract honesty, including:

- 1) Apparent honesty: It means the logical analysis of the content of the scale or verifying its representation of the content to be measured (Alen & Yen, 1979: 67). in measuring the property to be measured.
- 2) Structured validity: It means the degree to which the scale measures a theoretical construct, as it is based on theoretical assumptions that are verified experimentally (Abu Hatab and Othman, 1987: 108), and this type of honesty has been achieved, through the following indicators:
 - 1) Correlation of the paragraph with the total score of the scale.
 - 2) Relevancy of the paragraph to the domain to which it belongs.
 - 3) Correlation of domains to the total score (the matrix of internal correlations).
 - 4) The researcher will give an overview of each of these indicators, as follows:

Correlation of the item with the total score of the scale: This method is one of the
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most widely used methods in analyzing the items of psychological tests and measures, because this method is characterized by determining the extent of homogeneity of the scale items in measuring the behavioral phenomenon, and this means that each of the test items runs in the same path that the whole test runs in it (Alleen & Yen, 1979: 124). The results showed that all correlation coefficients are statistically significant, that is, true because the calculated t-value is greater than the tabular t-value, at a significance level of (0.05) and the tabular value is equal to (0.098), and with a degree of freedom (398), and Table No. (5) illustrates this.

Table (5) *Correlation coefficient between the score of each paragraph and the total score of the Memory Control Beliefs Scale*

Paragraph correlation coefficient for the total score	T	Paragraph correlation coefficient for the total score	T
0,275	11	0,312	1
0,349	12	0,396	2
0,276	13	0,354	3
0,331	14	0,214	4
0,369	15	0,315	5
0,356	16	0,274	6
0,330	17	0,298	7
0,250	18	0,302	8
0,328	19	0,312	9
		0,401	10

levancy of the paragraph to the domain to which it belongs:

The measure of memory control beliefs consists of six main dimensions, and the correlation between the degree of each paragraph and the total degree of the dimension to which it belongs was extracted. Which is equal to (098.0) at a significance level of (05.0) and a degree of freedom (398), and table (6) shows this

Table (6) *Relationship of the paragraph to the domain to which it belongs*

The values of the correlation coefficients of the paragraphs with the total score of the field	Paragraph numbers	number of paragraphs	the field	field number
0,687	2		current capacity	
0,632	8		inevitable	
		3	diminishing potential	1
0,512	12		improvement	
0,542	1		Independence	
0,592	4	3	Voltage benefit	2
0,480	19			
0,548	3		The possibility of	
0,568	10	3	Alzheimer's the	3
			field current	
0,557	16		capacity	
0,659	6		inevitable	
0,560	15	3	diminishing potential	4
0,603	17		improvement	
0,597	7		Independence	
0,686	9	3	Voltage benefit	5
0,521	14			
0,550	5			
0,542	11			
0,560	13	4	the field	6
0,596	18			

Correlation of domains to the total score of the scale

The researcher used the Pearson correlation coefficient to extract the correlation coefficient of the domains with the total score of the scale, and all of them were statistically significant, i.e. honest.

Table (7) *the matrix of internal correlations for the memory control beliefs scale*

memory	Ability	diminishing	optimization	independence	Effort	Alzheimer
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memory	1						
Ability	0,669	1					
diminishing	0.606	0.572	1				
optimization	0,666	0,591	0,457	1			
independence	0,681	0,584	0,396	0,529	1		
Effort	0,600	0,406	0,268	0,367	0,254	1	
Alzheimer	0,663	0,430	0,259	0,444	0,257	0.333	1

Constancy

It is defined as consistency in the results, and the test is considered stable if we get the same results, when re-applying the test to the same people, and under the same circumstances (Al-Zoba'i and others, 1981: 30), and the stability sample consisted of (50) male and female students, who were chosen by random method., and Table (8) illustrates this.

Table (8) Stability sample by gender and specialty

Total	Female	Male	Specialization	the college
25	12	13	Humanitarian	Education
25	13	12	scientific	Sciences
50	25	25	total summation	

The researcher adopted two methods to calculate the stability, which are:

1- Test-Retest Method

Calculating stability in this way depends on applying the test or scale to a representative sample, then re-application after an interval of more than two weeks and determined according to the nature of the sample or the measured characteristic. 1986:52).

2- Alpha Cronbach method: This method is based on calculating the correlations between the scores of all the items of the scale on the grounds that the item is a self-contained scale, and the reliability coefficient indicates the internal consistency of the scale (Oudah, 2000: 354). This method is good for measuring stability, as it measures the internal consistency And the homogeneity between the items of the scale (Anstasi & Urbina, 2010: 95).

Table (9) Reliability coefficients of the memory control beliefs scale in the two retest and Alpha Cronbach methods

Stability coefficient value	Stability extraction method
0,80	retest_test
0,82	Alpha Cronbach method

Statistical indicators of the Memory Control Beliefs Scale:

Some of the statistical indicators that should be characterized by any test or measure, which is to identify the nature of the moderation distribution, which can be identified through measures of central tendency, the most important of which are the arithmetic mean and the standard deviation (Al-Khuza'i, 2012: 103). The researcher was asked to use Statistical Package for Social Sciences (SPSS) in extracting the aforementioned statistical indicators for the measure of memory control beliefs.

the fourth chapter:

Presentation, interpretation and discussion of the research results:

This chapter includes a presentation and explanation of the research results and their discussion in the light of the theoretical framework and previous studies and in accordance with the objectives of this research, as follows:

Identifying the beliefs of memory control among university students

In order to achieve this goal, the researcher applied the measure of beliefs about memory control on the basic sample members of (400), male and female students. The results indicated that the arithmetic mean of the research sample scores on the scale amounted to (68,5400), with a standard deviation of (8,14951), and it was found that the difference is statistically significant, if the calculated t-value, which amounted to (28,321) is greater than the tabular t-value Which is equal to (1.96), at the level of significance (0.05), and this indicates that the students of Wasit University have controlling beliefs in memory, as shown in Table (10).

Table (10) results of the one-sample t-test of the Memory Control Beliefs Scale

indication0,05	T value		hypothetical mean	Standard deviation	SMA	Number	variable
	Tabular	Calculated					
Significant	1,96	28,321	57	8,14951	68,540	400	memory control beliefs

Conclusions

In light of the results of this research, the researcher reached the following conclusions:

University students have beliefs in memory control.

Recommendations

In light of the results and their discussion, the researcher reached a number of recommendations:

Organizing educational and awareness courses, conferences and programs for students by universities and educational institutions in the Ministry of Higher Education on the importance of the beliefs of memory control in order to strengthen and invest them in the cognitive and educational situations of students.

Suggestions

To complement the results of this research and to develop it, the researcher suggested conducting the following studies

- 1) Identifying the relationship between control beliefs and emotional understanding among other samples (such as postgraduate studies).
- 2) Beliefs of memory control and its relationship to mental alertness among graduate students.
- 3) Beliefs of memory control and its relationship to the control center among university students.

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