Building and Applying the Repetitive Thinking Scale among Students of the Faculties of Education for Humanities and Pure Sciences

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DOI: https://doi.org/10.47772/IJRISS.2026.100300471

Received: 25 March 2026; Accepted: 01 April 2026; Published: 13 April 2026

ABSTRACT

The present research aims to build and apply the Repetitive Thinking Scale among the students of the Faculties of Education for Humanities and Pure Sciences.

The research sample consisted of (400) male and female students who were selected by stratified random method with equal distribution, from all academic stages of the Faculties of Education for Humanities and Pure Sciences, and to measure the research variable (Repetitive Thinking), a scale was built based on theoretical bridging (synthesis method), consisting of (24) items.

The apparent validity value (95%), as well as the structural validity of the scale were extracted in terms of comparing the calculated T-value with the tabulated T-value (1.96), and all the paragraphs were functional, and the degree of stability coefficient was also extracted by the repeat method (86%), and the statistical methods used were the Social Statistical Package (SPSS).

The result showed that the arithmetic average of the students' score was (55.20) with a standard deviation of (13.35) and when comparing the arithmetic average of the students' score with the hypothetical average of performance of (60) and using the T scale of one sample, it was found that the calculated T value is equalto (7.19) which is greater than the tabular T value (1.96) at the significance level of (0.05) and a degree of freedom (399). It was found that the T-value indicates the existence of a statistically significant difference, in the sense that the students of the faculties of education for the humanities and pure sciences do not have Repetitive Thinking.

One of the most important findings of the research is that students' lack of Repetitive Thinking reflects an adaptation to the dynamic university environment, where students turn "apparent weakness" into a force in innovation and practical decision-making, away from stereotyping.

Keywords: Repetitive Thinking, Intrusive Thoughts, Rumination, Anxiety, Emotional Distress.

INTRODUCTION

Over the past two decades, technological advancements have radically transformed the world, contributing to its transformation into a global village. This phenomenon has had a clear impact on various aspects of life, particularly education and teaching and learning methods. Amid these transformations, university students, especially in their first year, face numerous health, psychological, and academic challenges due to the difficulty of adapting to the new educational environment and its demands. Such changes can lead to feelings of anxiety and depression associated with negative or unhealthy thinking patterns. With continued psychological and environmental pressures, individuals may adopt illogical beliefs and ideas that affect their personal lives and limit their intellectual flexibility. The situation becomes even more complicated when there is blind submission to authority or intellectual references, as such behavior weakens reasoned and evidence-based thinking and

diminishes research and knowledge. Ultimately, such behavior results in flawed thinking methods and an inability to consciously engage with the laws and principles of the universe. (AL-Ogaidi, 2025b, p. 1)

Our self-reality is shaped to a greater extent by our personal perceptions and experiences than by objective facts themselves; it is not necessarily what is true that determines our behavior, but rather what we believe is true about ourselves and others. This biased self-perception leads to what are known as cognitive biases, which are systematic errors in thinking that affect how we interpret events and construct our own meanings of reality. Disturbing disorders may be associated with anxiety disorders and obsessive-compulsive disorders, and are exacerbated by the tension between traditional cultural values and content imported through digital platforms. Constant exposure to unrealistic ideals fosters feelings of incompetence and dissatisfaction, especially among young people who lack critical thinking and emotional regulation skills, leading them to form negative generalizations that emanate from specific events, but turn into general cognitive patterns that reproduce themselves through mechanisms of cognitive bias, such as selective focus on failure or over-interpretation of negative experiences. As this process continues, these thought patterns become an automatic system of interpretation that guides one's perception of reality It determines their emotional and behavioral responses, fueling a vicious cycle of negative expectations, anxiety, frustration, and feelings of inferiority. This episode often begins with a fleeting thought, such as a belief in unworthiness or fear of rejection, but it soon acquires an emotional power that causes it to recur and take hold, reshaping one's perception of oneself and the world around oneself, and perpetuating a distorted psychological reality characterized by exaggerated negativity and detachment from the objective evaluation of experience. (AL-Ogaidi, 2025a, p. 78)

Intrusive thoughts, which are unwanted and involuntary mental interventions, often lead to distraction and distress. For students, these thoughts may include fears of academic failure, social rejection, or unresolved personal conflicts. Research in this area suggests that these thoughts are common during periods of high stress, such as exams, and are associated with decreased task efficiency. Clark's study found that (68) University students reported that intrusive ideas interfere with their study routines, highlighting their pervasive role in academic environments. (Clark & Purdon, 1995, p. 78), this statistic underscores the need for proactive mental health support in educational institutions to mitigate learning disorders. Similarly, exploring repetitive thought patterns links rumination to depressive symptoms, emphasizing its role in long-term mental health risks. These findings demonstrate the importance of early detection and coping strategies to prevent their worsening. (Watkins, 2008, p. 216)

The repetitive emotional impact is profound, amplifying feelings of helplessness and sadness. Negative thought cycles activate stress responses, exacerbating anxiety and depression. This emotional distress in students is associated with decreased academic engagement and social introversion. Nolen-Hoxma et al. (2008) found that students with high rumination tendencies reported 40% higher emotional distress than their peers, illustrating the two-way relationship between cognition and emotion. (Nolen-Hoeksema et al., 2008, p. 400)

Repetitive thought patterns, such as rumination or chronic anxiety, involve a prolonged focus on unresolved stressors. Unlike intrusive thoughts, these patterns may be intentional but maladaptive, perpetuating anxiety cycles. Students prone to rumination show higher rates of burnout, as persistent excessive analysis impairs their ability to solve problems. Watkins (2008) suggests that repetitive negative thinking predicts depressive symptoms in students' university students, which confirms its role in the deterioration of their mental health. (Watkins, 2008, p. 216)

The interaction of intrusive thoughts, repetitive patterns, emotional distress, and cognitive interference highlight the multifaceted burden of repetitive thinking. For students, these dimensions together erode academic resilience and mental health. Interventions such as mindfulness training, cognitive-behavioral strategies, and structured problem-solving have been shown to be effective in breaking cycles of maladjustment. Addressing these patterns comprehensively can enhance both educational outcomes and mental health. (Ehring & Watkins, 2008, p. 200)

Defining of Terms

- **Theoretical definition of repetitive thinking:** "A cognitive process in which ideas repeatedly return and overlap into consciousness using recurring stereotypical cognitive structures of a basic principle or rule when confronted with disparate situations or events."

Theoretical Framework

Response Styles Theory

This theory focuses on rumination as a negative response to stress, in which the individual repeatedly recalls the problem without taking action. For example, a student may focus on memories of failing previous exams instead of preparing for the next exam. Studies show that this pattern prolongs the depressive period and impairs the ability to solve problems, thus entering a spiral. (Nolen-Hoeksema, 1991, Pp. 569-571).

Ironic Process Theory

It suggests that the attempt to suppress unwanted thoughts increases their appearance due to the mechanism of "reverse observation." While the individual focuses on avoiding the idea (such as forgetting a mistake he or she has made), the subconscious mind remains on the lookout for any signal associated with it, bringing it back to consciousness strongly. This theory explains why intrusive thoughts are more common during periods of stress, as suppression attempts are increased (Wegner, 1994, Pp. 34-36).

Control Theory of Repetitive Thought:

This model interprets thinking as a mechanism that aims to bridge the gap between current reality and desired goals. When an individual is faced with a threat or challenge (such as academic failure), they enter into a cycle of repetitive thinking to try to find solutions. If this process continues without progress, it turns into unproductive rumination, which increases anxiety and hinders performance. This model supports the idea that repetitive thinking is not always negative, but may be an adaptive attempt that fails due to a lack of resources or skills. (Segerstrom et al., 2003, Pp. 5-7)

Transdiagnostic Model

This model assumes that repetitive thinking (such as rumination and excessive anxiety) is a common factor in depression and generalized anxiety disorder. It suggests that focusing on treating repetitive thinking itself—rather than individual symptoms—may be more effective. For example, brainstorming techniques (such as cognitive reassessment) are being used successfully across different diagnoses. (Ehring & Watkins, 2008, Pp. 195-197)

Cognitive Appraisal Model

This model links the persistence of intrusive ideas to an individual's interpretation of them as an existential threat or moral imbalance. For example, a student may see failing an exam as evidence of their "incompetence" rather than viewing it as a passing experience. This exaggerated evaluation stimulates the persistence of the idea as an attempt to solve a perceived problem, even if it is unrealistic (Clark & Purdon, 1995, Pp. 72-74).

Research Methodology

The research aims to describe the measurement of the Repetitive Thinking of students of the Humanities and Pure Sciences, so the descriptive study was relied upon, as this description is the beginning of new horizons for experimental studies that deal with research variables, depending on the results of this descriptive study.

Research Population

The current research population consists of (10045) male and female students from the College of Education for Humanities and Pure Sciences for the morning study and for the academic year (2024-2025), * (7208) male and

* The researcher obtained this statistic from the Studies, Planning and Follow-up Division at the Presidency of the University of Mosul, according to the task facilitation book No. 3/2/12522 dated 7 /11/2024.

female students from the College of Education for Humanities, and (2837) male and female students from the College of Education for Pure Sciences. A stratified random sample of (400) was drawn from it.

Research Instrument

Defined as the way in which a feature, phenomenon, or subject is measured (Al-Bayati, 2018, p. 270). and the current research Instrument includes:

Repetitive Thinking Scale

Based on the definition, dimensions of Repetitive Thinking were formulated that were presented to experts as basic components of this concept, and the percentage of agreement of experts on the dimensions reached (95%), as well as determining the relative importance of each dimension. These dimensions also included a number of (24) paragraphs within it to form the Repetitive Thinking Scale in its initial form of four dimensions, which are as follows: (intrusive thoughts, repetitive thought patterns, negative emotional influence, and intellectual overlap).

Psychometric Properties of the Scale

This concept in the psychological literature indicates the correlation of the basic qualities specified in the model of the theory adopted to construct the tool with the standard statistical characteristics of that tool, including: multiple correlations, the stability of the tool and the methods of measuring them, and the extent to which the scores of the tool are consistent with respect to the measured trait, in order to integrate the information that will in essence constitute the validity of that tool. (Markus & Denny, 2013, Pp. 63-64). These characteristics include:

Validity of the scale

Honesty represents the ability of the psychological test to meet a purpose or a set of purposes that the researcher seeks, and in order for the test to be the basis for making correct and important decisions, it must provide correct and realistic information about the trait to be measured. (Mikhail, 2016, p. 163). Two main types of honesty have been extracted, which are as follows:

Face Validity

Face Validity means what the test seems to measure, and it does not necessarily mean what the test measures, as it is possible that the test measures something, but the test in reality measures something other than what it seems to measure. The importance of Face Validity lies in how the test looks to those who will be applied to them as well as to those who will apply it, and it is important that the test appears to be true for all these individuals (Al-Tariri, 2014, p. 269). The apparent validity of the scale was extracted by presenting it to a group of experts and specialists in educational and psychological sciences to express their opinion on the validity of the scale and the relative importance of each dimension of its dimensions and the ability of its paragraphs to measure the Repetitive Thinking of the research sample, all experts agreed on the honesty of the paragraphs of the scale and their suitability to measure the phenomenon under research, and after taking their observations and opinions, the paragraphs were accepted and obtained a percentage of agreement (95%).

Construct Validity

It means the extent to which it measures the relationship between the theoretical basis of the scale and its paragraphs (Maamriya, 2012, p. 149), and it can be said that constructive truthfulness is one of the aspects of the validity of the scale that is most directly related to the question of whether it actually measures the basic psychological concept or structure involved in the measurement in its essence. Constructivism refers to the initial principles and explores the theoretical ideas that support the concept or variable that is measured in depth. (Jones & Mark, 2012, Pp. 127-128), and to verify the validity of the scale construction, the researcher took the following measures:

Item Analysis

Tests and measures are based on the principles of modern measurement theory by linking the standard characteristics of the instrument (coefficients of difficulty and distinction) to the levels of the measured attribute, as it seeks to analyze the statistical analysis of each item to find out its distinctive characteristics. (Habib & Sadiq, 2018, Pp. 359-360), therefore, the aim of this analysis is to verify the validity of the paragraphs of the scale through the following methods:

Extreme Groups Method for Item Discrimination

Each of the paragraphs of this scale has been corrected to extract the total score for each person, the researcher ranks the scores of the people in descending order, starting from the highest score of the people and ending with the lowest score, then the researcher selects a percentage (27%) of the forms with the highest scores and such a percentage of the forms with the lowest scores, with the aim of identifying two groups characterized by the largest size and the maximum variation (Harrison & Bramsen, 2003, p. 172). In order to calculate the discriminating power of the Repetitive Thinking Scale in light of this method, the following steps were followed:

After determining the upper and lower groups, the discriminating power of each of the items of the Repetitive Thinking Scale was calculated using the t-test for two independent samples to calculate the average scores of the upper group with the average scores of the lower group for each of the (51) items of the scale. Calculated (1.96) or more are distinct paragraphs because they are statistically significant at the level of (0.05) and at the degree of freedom (216). Table (1) shows this.

Table (1) Repetitive Thinking Scale Paragraph Discrimination Coefficients

Paragraph Number	Lower Group (108)		Top Group (108)		Value (t-test)
	Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation	
1.	2.03	0.87	3.28	0.80	15.52
2.	1.97	0.90	3.28	0.92	14.89
3.	2.31	1.17	3.30	1.01	9.37
4.	1.77	0.77	3.32	0.87	19.69
5.	1.79	0.82	3.24	0.90	17.52
6.	1.41	0.69	2.76	1.05	15.72
7.	1.17	0.42	2.94	1.09	22.19
8.	1.40	0.54	2.89	0.97	19.73
9.	1.12	0.38	2.45	1.07	17.16
10.	1.56	0.63	2.93	1.00	17.05
11.	1.29	0.61	2.53	1.12	14.29
12.	1.13	0.36	2.52	1.08	17.92
13.	1.55	0.70	2.71	1.11	13.08

14.	1.19	0.44	2.38	1.09	14.83
15.	1.81	0.89	3.18	0.99	15.13
16.	1.85	0.81	3.31	0.75	19.24
17.	1.77	0.79	3.16	0.98	16.16
18.	1.61	0.83	3.08	0.95	17.11
19.	2.34	1.16	3.28	0.93	9.20
20.	1.67	0.83	3.21	0.82	19.49
21.	1.56	0.70	3.00	0.91	18.43
22.	1.84	0.73	3.10	0.91	15.76
23.	1.71	0.95	3.06	0.95	14.62
24.	1.54	0.74	3.14	1.00	18.85

Internal Consistency Reliability

Internal consistency refers to the extent to which a group of similar elements are related to each other for the paragraphs of the scale. Technically, internal consistency is determined by the degree of interrelationships between the subjects' responses to a set of relevant scale items or a set of subscales with the overall score of the scale, and to create a reliable test, the scale items must be significantly related to each other, then they are retained, while those with low correlations are projected through A numerical indicator of the reliability of internal consistency called Cronbach's alpha coefficient. (Dunn, 2013, p. 222), and for the purpose of calculating the internal consistency of the scale, the researcher applied the scale to a random stratified sample of (400) male and female students from the faculties of education for the humanities and pure sciences, then according to the correlation coefficients between the items of the scale and the total score of each field, and between the paragraphs of each field with the total score of the field, and finally between the score of each field together and the total score of the scale. To know the significance of the correlation coefficients, he used the (t) test for the significance of the correlation coefficient was found by comparing the calculated values of (t) with the tabular value of (t) of (1.96) at the significance level of (0.05) and the degree of freedom (2014) that all the paragraphs are statistically significant, and the internal consistency of the paragraphs of the Repetitive Thinking test was verified through the following methods:

Finding the relationship between the paragraph score and the total score of the Item-Total Correlation scale.

The researcher used the internal test represented by the total score of the scale to extract the validity of the construction, as the honesty of the paragraphs is extracted by most researchers in psychometric empirically by calculating the correlation coefficient between the scores of the paragraph and the total score of the scale, which is a strong indicator of the internal consistency of the scale, Cronbach's alpha coefficient is calculated based on the correlations between the score of each paragraph separately and the total result obtained from Scale (total correlations between paragraphs). (Brough, 2019, p. 51), and for the purpose of identifying the significance of the correlation coefficient values, the value of (t) was calculated as a significance as the correlation factor, and it was found that the calculated value of (t) is greater than the tabular value of (t) of (1.960) at the level of significance (0.05) and degree of freedom (399), and Table (2) shows this.

Table (2) Correlation coefficients of each item of the Repetitive Thinking Scale with the total score of the scale

Paragraph Number	The relationship between the paragraph and the total score of the correlation coefficient	(T-test) for correlation coefficients
1.	0.51	11.83
2.	0.50	11.58
3.	0.36	7.65
4.	0.58	14.02
5.	0.53	12.50
6.	0.51	11.73
7.	0.63	16.18
8.	0.53	12.47
9.	0.56	13.35
10.	0.50	11.46
11.	0.49	11.30
12.	0.55	13.10
13.	0.43	9.61
14.	0.47	10.71
15.	0.50	11.55
16.	0.55	13.14
17.	0.50	11.49
18.	0.54	12.77
19.	0.34	7.12
20.	0.57	13.98
21.	0.55	13.07
22.	0.49	11.18
23.	0.48	10.86
24.	0.55	13.24

Reliability of the Scale

The importance of consistency is highlighted in the fact that we do not have absolute psychological and educational scales and tests, nor do we have complete control and precise control of measurement positions, and therefore the degree we obtain from the scale or scale does not accurately reflect the phenomenon we measure.

(Al-Jabali, 2005, p. 112), and stability is one of the important factors or characteristics that must be available for the validity of using any test or scale, as a fixed measurement will give almost the same result to the same person when the measurement is made several times on the same day or on different days, as this result is a good indicator of the abilities of that person (Mahasna, 2013, p. 123). The Reliability of the Scale is also evident in theory in two characteristics: The extent to which the scale produces consistent scores over time, and the consistency of the elements (paragraphs) in the scale, is the first and most direct way to measure the stability of the scale in examining whether the scores obtained are stable over time, and the validity of this technique depends on the structure being measured and the extent to which it is assumed, in theory, that it is stable over a specific period of time, andto know the degree of stability, it is preferable to have high positive correlations Relatively ranging between (above 0.70) and ideally (above 0.80), which indicates that the scores are generally stable, while the second method includes the internal consistency of the paragraphs of the scale (Brough, 2019:50).

Test–Retest Method

The Test–Retest Method of consistency measures the temporal Reliability of the Scale. In this method, the scale is administered for the same sample on two different occasions, this type of stability is used to assess the consistency of the scale over time (time stability), this approach assumes that there will be no significant change in the structure measured between the two occasions, by administering the same procedure on two different occasions. The researcher obtains two sets of scores. The correlation coefficient calculated for these two sets of scores is the consistency coefficient. (Verma, 2019, p. 47), and accordingly, the researcher extracted the Reliability of the Scale by re-scaling on a sample of (100) male and female students, and after (15) days, the same scale was reapplied to the members of the stability sample themselves, and the value of the correlation coefficient between the scores of the first measurement and the scores of the second measurement was (0.86), and in this type of estimation, we can determine the extent of reliability in the possibility of generalizing the results from the degree obtained by the individual.

Scoring the Repetitive Thinking Scale

Correction means setting a score for the examinee's response on each of the paragraphs of the scale and then adding the scores to find the total score, the scale was corrected according to the method prepared by the researcher as more appropriate than others, as the one who sets the scale is the one who has the key to correction (Rabie and Khatam, 2008, p. 206), while the weights and alternatives of the response on the paragraphs of the scale were four alternatives, which are: (Applies to me a lot, applies to me to a moderate degree, applies to me a little, does not apply to me). The lowest score was (24) and the highest score was (96), and with a hypothetical average of (60), see Figure (1).

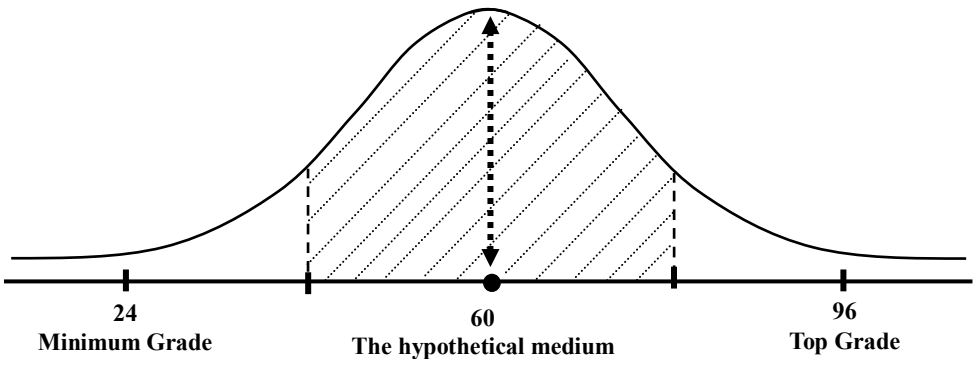

Figure (1) Standard distribution curve of the scores of the Repetitive Thinking Scale

RESULTS

Measuring of Repetitive Thinking

To achieve the goal and after processing the data statistically, the netshowed that the arithmetic average of the students' score was (55.20) with a standard deviation of (13.35) and when comparing the arithmetic average of

the students' score with the hypothetical average of performance of (60) and using the T scale for one sample, it was found that the calculated T value is equalto (7.19) which is greater than the tabular T value (1,96) at the significance level of (0.05) and the degree of freedom (399). It was found that the T-value indicates the existence of a statistically significant difference, in the sense that the students of the faculties of education for the humanities and pure sciences do not have Repetitive Thinking, and Table (3) shows this.

Table (3) Results of the T Scale for the Significance of Repetitive Thinking

Number	Hypothetical Average	Arithmetic Average	Standard deviation	T-value		Significance level at (0.05)
400	60	55.20	13.35	Calculated	Tabularity	function
				7.19	1.96	

The researcher attributes this finding to the students' mental flexibility that **allows them to** adapt to changing circumstances, especially in an environment such as the University of Mosul, which has experienced complex crises that required atypical creative solutions. It may also reflect a tendency towards innovation rather than routine steps, stimulating creativity in situations that require Thinking outside the box. Figure 2 illustrates this.

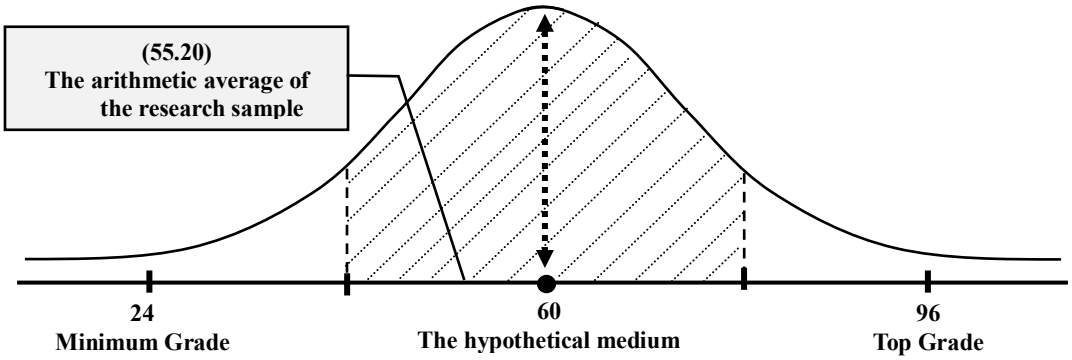

Figure (2) The level of Repetitive Thinking among the research sample

CONCLUSION

The lack of Repetitive Thinking reflects an adaptation to the dynamic university environment, where students turn their "apparent weakness" into a force to innovate and make practical decisions, away from stereotyping.

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