# Cognitive-Behavioral Guidance Program to Reduce Examination Anxiety at the End of Primary Education

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**Abstract**:

The study aimed to propose a cognitive-behavioral guidance program to reduce examination anxiety at the end of primary education at Tijini El Taher Elementary School (El oued) during the academic season 2022-2023. This guidance program seeks to alleviate examination anxiety, considering it as a variable that poses a real problem for students that needs adjustment. This is achieved through the utilization of cognitive-behavioral guidance methods and techniques. Using an experimental design with two independent groups (experimental and control), the study involved a sample of 24 students, divided into two groups: an experimental group of 12 students and a control group of 12 students from the fifth grade. The proposed guidance program was applied to the experimental group in this study.

After exposing the experimental group to a cognitive-behavioral guidance program aimed at reducing examination anxiety at the end of primary education, the program was conducted over twelve sessions. The control group continued their studies in a regular manner without any intervention. Both groups underwent pre-test and post-test measurements using an examination anxiety scale. The results revealed statistically significant differences between the two groups in favor of the experimental group. The scores of the experimental group in reducing examination anxiety were higher compared to the control group. Furthermore, females showed greater improvement than males after exposure to the cognitive-behavioral guidance program. Thus, the proposed guidance program proved to be effective in reducing examination anxiety at the end of primary education.

**Keywords**: Guidance Program; Cognitive-Behavioral; Examination Anxiety; Achievement Assessment; Primary Education Stage.

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## 1 - Introduction

Exam anxiety is a phenomenon experienced by most education systems, both in the Arab world and the Western world. Because the level of exam anxiety varies for each individual based on the specific test conditions they encounter, especially in the primary education stage, and with the addition of a new method in the Algerian educational system, which is competency assessment. If the test conditions align with the individual's capabilities and needs, psychological harmony is achieved. However, if the opposite is true, it can lead to fear, discomfort, and imbalance, negatively impacting exam results. Based on the above, this study aimed to develop the effectiveness of a guidance program based on cognitive-behavioral theory in reducing exam anxiety among primary education students. The program aims to help students learn appropriate skills and strategies to effectively cope with exam-related stress, reducing its impact on the mental, emotional, and physical aspects of the student.

### 1.1- Study problem

The problem of this study can be formulated in the following main question:

**To what extent is the effectiveness of the guidance program in reducing anxiety about the competency assessment exam at the end of the primary education stage?**

The following sub-questions fall under this problem:

- Are there statistically significant differences in the effectiveness of the guidance program in reducing anxiety about the competency assessment exam at the end of primary education among students, based on the means of the experimental and control groups in the post-measurement, favoring the experimental group?

- Are there statistically significant differences in the effectiveness of the program in reducing anxiety about the competency assessment exam among students, based on the means of the experimental and control groups in both the pre-measurement and post-measurement, favoring the post-measurement?

- Are there statistically significant differences in the application of the guidance program in reducing anxiety about the competency assessment exam among students, based on the means of individuals' scores in the experimental group on the exam anxiety scale and its dimensions in both the dimensional and follow-up measurements?

### 1.2- Study Hypothesis

This study proceeds from the following hypotheses:

- There are statistically significant differences in the effectiveness of the guidance program in reducing anxiety about the competency assessment exam at the end of primary education among students, based on the means of the experimental and control groups in the dimensional measurement, favoring the experimental group.

- There are statistically significant differences in the effectiveness of the program in reducing anxiety about the competency assessment exam among students, based on

the means of the experimental and control groups in both the pre-measurement and post-measurement, favoring the post-measurement.

- There are statistically significant differences in the application of the guidance program in reducing anxiety about the competency assessment exam among students, based on the means of individuals' scores in the experimental group on the exam anxiety scale and its dimensions in both the dimensional and follow-up measurements.

**1.3- Study importance**

The significance of this research lies in the research variable and the expected objectives it aims to achieve. This importance can be explained from both theoretical and practical perspectives.

Theoretical importance:

- This study focuses on the concept of test anxiety, specifically related to competency assessment in the education sector, using a theoretical scientific framework, providing a conceptual framework for relevant concepts and information.

- The research incorporates various cognitive-behavioral guidance techniques applicable across different counseling areas to overcome diverse problems in various aspects of life.

- It assists in planning and constructing a cognitive-behavioral guidance program in educational institutions.

- The research contributes to the development of a guidance program based on cognitive-behavioral principles, one of the latest modern extensions focusing on changing behavioral performance through influencing cognitive processes, assuming that individuals' knowledge affects their behavior.

Practical importance:

- The study results shed light on the level of exam anxiety among fifth-grade students, prompting specialists to offer necessary counseling services in this scenario.

- The cognitive-behavioral guidance program can be applied by teachers, managers, supervisors, and career counselors to reduce exam anxiety levels among fifth-grade students.

- Educational officials can benefit from the study results to understand how to address and guide test anxiety issues through cognitive-behavioral approaches.

- The results may inspire researchers to conduct similar studies in different fields with diverse samples and theories.

**1.4- Study Objectives:**

The current research aims to:

- Design a cognitive-behavioral guidance program to help reduce the level of anxiety about the competency assessment exam among fifth-grade students.

- Assess the effectiveness of the cognitive-behavioral guidance program in reducing exam anxiety levels among students at the end of the primary education stage.

## 2- The Study Keywords

### 2.1- Procedural Definition of the Primary Education Stage (10-11)

It consists of a group of male and female students aged between 10-11 years, studying in the fifth grade at Tijini El Taher Primary School in Hassani Abdelkrim, El Wadi Province. They are divided into two sections, and they meet the legal requirements of the Algerian school system.

### 2.2- Primary Education Stage Competency Assessment

The "Primary Education Stage Competency Assessment" aims to evaluate students' achievements based on targeted competencies in the curriculum. It seeks to determine the level of competency acquisition, diagnose and identify deficiencies in each student's learning to address them, and prevent their negative impact on the academic path. This is done to ensure a better chance of success in subsequent educational stages.

### 2.3- Definition of the Guidance Program

Planning counseling programs has become an integral part of psychological, health, and social service systems since the early 1960s. This includes caring for children, adolescents, the elderly, combating drug addiction, and addressing behaviors contrary to society.

Practitioners in the field of psychological counseling are required to enhance their skills in documenting information and developing necessary counseling plans for individuals and groups requiring these services (Al-Asmi R. N., 2015, p. 15).

The term "counseling programs" necessitates the presence of key counseling elements: a counselor, a guided individual, and counseling actions. Counseling programs involve organized counseling procedures in planning, execution, and evaluation. They are based on scientific and practical foundations to achieve developmental, preventive, and therapeutic counseling goals. Counseling programs serve as the interface of psychological counseling, indicating that counseling practice is a combination of interactions (science, art, practice, education, learning, and teaching) (Abdel Azim, 2013, p. 15).

As defined by Al-Khaldi and others, it is "a set of activities included in the general framework of the program and specific goals that seek to achieve these various activities in the educational system. It is a constructive educational process aimed at helping the student understand his personality and develop his abilities so that he can solve his problems in light of his knowledge, desires, education, and training to achieve his sought-after goals, thereby maintaining his mental health (Al-Khaldi & Al-Alami, 2008)."

The counseling program is "a set of organized steps based on scientific principles aimed at providing services to help individuals or groups understand their problems and find

solutions, develop their skills and abilities to achieve holistic growth in various areas of their lives. It is conducted through organized sessions within a framework of mutual relationship between the counselor and the guided individual (Abdel Azim, 2013, p. 48)."

The counseling program is a planned and organized program, based on scientific principles, to provide direct and indirect counseling services, individually and collectively, for all members of the institution. Its goal is to assist them in achieving holistic growth, making informed conscious choices, and achieving psychological harmony within and outside the institution. The counseling program involves planning and implementation. Many countries worldwide and Arab nations have introduced guidance and counseling programs into their ministries, training institutes, and various teacher education programs. Some Arab universities have also introduced this specialization into their education colleges, driven by the success achieved by other universities in the field of guidance and counseling (Malham, 2015, p. 205).

**3- Field Work Progress**

In the survey study, the phenomenon was described, and the research community consisted of elementary school students in the municipality of Hassani Abdelkrim registered for the academic year 2022-2023. The selection was based on students with a high level of exam anxiety, specifically from the primary school of Tahar, including 12 students from the first group and 12 students from the second group.

The counseling program used in the research was developed based on literature review and previous studies such as (Al-Ajmi, 1999), (Putwain & Symes, 2010), (Naveh, et al., 1981), (Khneich, 2015), and (Murai, 2006), among others. Through field visits and understanding the needs and requirements of the elementary stage, a counseling program consisting of twelve sessions was constructed. These sessions included various activities tailored to the developmental needs of this group of students, using cognitive-behavioral therapy techniques such as role-playing, reinforcement with rewards, storytelling, dialogue, play activities, cognitive restructuring, and a set of images.

The program emphasizes complete confidentiality, mutual trust, collaboration among students, and focuses on addressing mild psychological, social, or emotional compatibility issues rather than severe and high-risk problems.

The goals of multi-faceted counseling programs can be summarized as follows (Al-Asmi R. N., 2012):

- Reduce psychological distress and enhance personal growth as quickly as possible.
- Transform negative feelings into positive ones.
- Change negative mental images into positive ones.
- Transform illogical cognitive aspects into logical ones and correct misconceptions.

Therefore, any successful endeavor must be well-planned and carefully studied in terms of its purpose, means, and the desired outcomes. In counseling work, planning in the counseling intervention to help others solve their psychological and social problems is a

goal pursued by everyone involved in designing counseling programs (Ali & Abbas, 2015, p. 23).

Its procedural objectives in reducing the phenomenon of school violence through effective application include: introducing students to themselves and their relationship with the counselor, defining the roles of each, introducing them to the counseling program, defining violent behavior, its types, causes, risks, effects, and how to modify and change it with positive behaviors such as kindness, love, and respect. The program also utilizes group games to alleviate violence and achieve emotional discharge. The program employs various tools such as stories, posters, assignments, data projectors, computers, images, videos, pens, papers, and draws from previous studies related to exam anxiety and psychological counseling, referencing how to prepare counseling programs. It consists of eleven sessions, each lasting 60 minutes, utilizing methods such as dialogue, discussion, and lectures. The program is conducted from 11:15 PM to 12:15 AM.

## 4- Method and Tools

### 4.1- Study Methodology

This study adopted the experimental methodology, which is one of the research methods closest to solving problems scientifically. It is also the only research method capable of genuine testing of hypotheses related to cause-and-effect relationships, providing the highest levels of scientific precision (Sabir & Khafaja, 2002, p. 57).

Based on this, the study employed the experimental methodology to deal with the variables involved. This was achieved by conducting an initial test on the two groups and then conducting a follow-up test to measure the impact of the counseling program.

### 4.2- Study Population and Sample

The study population included all fifth-grade students of the Elementary School, totaling 69 students for the academic year 2022/2023, as illustrated in the following table:

**Table (1): Study Population**

| **Pattern/gender** | First group | | Second group | | Repeated | | Not repeated | |
|---|---|---|---|---|---|---|---|---|
| Gender | Number | % | Number | % | Number | % | Number | % |
| Males | 14 | 53.84 | 12 | 46.15 | 0 | 0 | 26 | 100 |
| Females | 23 | 53.48 | 20 | 46.51 | 0 | 0 | 43 | 100 |
| Total | 37 | | 32 | | 0 | | 69 | |

**Source**: School map

The table indicates that there are 26 male students and 43 female students, with 68 students being non-repeating and 1 student repeating the grade.

### 4.3- Primary Study Sample

Twenty-four students who obtained the highest scores on the exam anxiety scale used in this study were selected from fifth-grade students. They were divided into two groups randomly: 12 students in the control group, which did not undergo the proposed

counseling program, and 12 students in the experimental group, which will receive the proposed counseling program in this study.

**Table (2): Distribution of Study Sample Individuals in the Experimental and Control Groups**

| Group | Number | % |
|---|---|---|
| Experimental group | 12 | 50 |
| Control group | 12 | 50 |
| Total group | 24 | 100 |

**Source**: Prepared by the researcher

**Table (3): Distribution of Study Sample Individuals in the Experimental and Control Groups**

| Pattern/gender | Experimental group | | Control group | |
|---|---|---|---|---|
| | Number | % | Number | % |
| Males | 8 | 66.66 | 7 | 58.33 |
| Females | 4 | 33.33 | 5 | 41.66 |
| Total | 12 | | 12 | |

**Source**: Prepared by the researcher

### 4.4- Study Tools

A researcher may use more than one method or tool to collect information about the study problem, answer its questions, or examine its hypotheses. The researcher must decide in advance the appropriate method for his research or study and be familiar with various tools and methods for collecting information for scientific research purposes (Mustafa & Mohamed, 2000, p. 81).

Based on this, the current study relied on the following tool:

#### 4.4.1- Exam Anxiety Scale

#### a. Description of the Exam Anxiety Scale

The Exam Anxiety Scale by (Dabar, 2018) was adopted for this study, comprising 40 Paragraphs distributed across the dimensions of the scale. It includes 14 Paragraphs in the emotional-psychological dimension, 11 Paragraphs in the cognitive-mental dimension, and 15 Paragraphs in the physiological-body dimension. The following table illustrates this:

**Table (4): Paragraph Numbers Distributed Across the Dimensions of the Exam Anxiety Scale**

| Dimensions | Paragraph numbers | Number |
|---|---|---|
| Psychological-emotional dimension | 1 – 3 - 4 – 6 – 7 – 8 - 9 – 11 – 12 – 14 – 25 – 38 – 39 – 40. | 14 |
| Cognitive-intellectual dimension | 32 – 33 - 34 – 35 – 36 – 37 - 20 – 02 – 05 – 29 - 31. | 11 |

| | | |
|---|---|---|
| Physiological-body dimension | 15 – 16 - 17 – 18 – 19 – 30 - 21 – 22 – 23 – 24 - 26 – 27 – 28 – 10 – 13. | 15 |
| Total | | 40 |

**Source** (Dabar, 2018)

### b. Distribution of Paragraphs on the Exam Anxiety Scale

The Paragraphs on the scale were distributed between positive Paragraphs, totaling 16 Paragraphs, and negative Paragraphs, totaling 24 Paragraphs, as illustrated in the following table:

**Table (5): Distribution of Paragraph on the Exam Anxiety Scale**

| Alternatives | Paragraph numbers | Number |
|---|---|---|
| Positive Paragraph | 39 ،37 ،36 ،34 ،30 ،28 ،27 ،25 ،23 ،19 ،18 ،12 ، 09 ،07 ،04 ،02 | 16 |
| Negative Paragraph | ،24 ،22 ،21 ،20 ،17 ،16 ،15 ،14 ،13 ،11 ،10 ،08 ، 06،05 ،03 ،01 40 ، 38،35 ،33 ،32 ،31 ،29 ،26 | 24 |
| | Total | 40 |

**Source** (Dabar, 2018)

### c. Scale Correction

The scale is corrected for both positive and negative Paragraphs by adopting four response alternatives: Always – Sometimes – Rarely – Never. Each response alternative is assigned a graded score from 01 to 04 for positive Paragraphs and vice versa for negative Paragraphs. The following table illustrates this:

**Table (6): Correction of Positive and Negative Paragraphs for the Exam Anxiety Scale**

| Alternatives | Always | Sometimes | Rarely | Never |
|---|---|---|---|---|
| Negative Paragraph | 4 | 3 | 2 | 1 |
| Positive Paragraph | 1 | 2 | 3 | 4 |

**Source** (Dabar, 2018)

The total scores for the scale range from a minimum of 40 to a maximum of 160 for the exam anxiety level. The following table shows the classification of exam anxiety levels in the scale:

**Table (7): Classification of Exam Anxiety**

| Classification | Score Range |
|---|---|
| Low Exam Anxiety Level | From 40 to 80 |
| Moderate Exam Anxiety Level | From 81 to 120 |
| High Exam Anxiety Level | From 121 to 160 |

**Source** (Dabar, 2018)

Levels in the Scale As shown in Table (07), exam anxiety levels are divided into three categories:

- Level 1, which ranges from 40 to 80.
- Level 2, which ranges from 81 to 120.
- Level 3, which ranges from 121 to 160.

### 4.5- Study Implementation Procedures

The study implementation procedures were conducted according to the following steps:

- Preparation of the study tool, "Exam Anxiety Scale," and verification of its psychometric properties.

- Preliminary application of the study tool to ensure the equivalence of the control and experimental groups.

### 4.5.1- Experimental Control

The current study included the following variables:

- **Independent Variable:** The proposed cognitive-behavioral counseling program for the study.
- **Dependent Variable:** Level of exam anxiety among fifth-grade elementary students.

The study controlled for variables that might have an impact on the dependent variable, aiming to stabilize them in both the control and experimental groups. This was done to ensure their uniform impact and prevent them from influencing the study results. The researchers faced numerous influencing variables in the experiment, including student ages, educational attainment, intelligence, mental age, attention, motivation, inclinations, and attitudes, as well as the social levels of the students (Qados, 1995, p. 365). Therefore, the researchers adopted selective control to determine the control of the following variables:

- **Number:** The number of individuals in the experimental group was set at 12 students, and the control group had 12 students as well.

- **Gender:** The sample of individuals in both the experimental and control groups was classified by the same genders (males, females).

- **Chronological Age:** Chronological age was controlled in both the experimental and control groups, with an average age of 10.6 years.

- **Grade Retention:** No students were retained in the fifth grade, and there were no students who had repeated a previous academic year.

- **Educational Level:** Individuals in both groups were selected from fifth-grade elementary students. Statistical control was also used for the following variables:

- **Exam Anxiety Score:** The total scores for exam anxiety were controlled for individuals in both the experimental and control groups. Finally, the researchers utilized environmental control to manage some material and spatial variables:

- **Social Environment:** Individuals from both groups were selected within a similar social environment—residents of Hassani Abdelkrim municipality, specifically students from the primary school "Tijini El Taher" in Hassani Abdelkrim, Ouargla.

- **Physical Conditions:** Measures were taken to isolate noise, eliminate distracting factors, standardize lighting levels, and ensure ventilation. The counseling program was conducted in the teachers' hall.

- **Location:** The program sessions were conducted in a unified location, mainly in the teachers' hall, with some sessions held in the schoolyard for relaxation training.

### 4.5.2- Verification of the Normality Assumption

To check the normality of the distribution for the study sample, the researchers used the Kolmogorov-Smirnov test, and Table (07) shows the results of the test on the total scale.

**Table (8): Mean, Standard Deviation, Z-Value, and Statistical Significance on the Exam Anxiety Scale**

| Scale | Groups | Number | Mean | Standard deviation | Z-score | Sig level |
|---|---|---|---|---|---|---|
| Exam anxiety | Experimental | 12 | 127.000 | 43.857 | 0.275 | 0.003 |
| | Control | 12 | 126.000 | 21.400 | 0.246 | 0.015 |

**Source**: Prepared by the researcher based on the outputs of the SPSS program

Table (08) indicates that the calculated Z-values are statistically significant at a significance level of (0.05). This confirms that the scores of the study sample are not normally distributed and are not suitable for the use of parametric tests in statistical data analysis. Therefore, alternative non-parametric tests were used for data analysis later on.

### 4.5.3- Equivalence of the Two Groups in the Exam Anxiety Scale

Based on the results of the control group and the experimental group in the exam anxiety scale, the researchers calculated the average ranks of exam anxiety for both groups. As shown in Table (08), the results of the statistical test (Mann-Whitney) for pairwise comparisons based on the exam anxiety variable are presented.

**Table (9): Significance of Differences Between the Average Ranks of the Experimental and Control Groups in the Pretest**

| The variables | | Sample size (n) | Mean ranks | ranks Sum | U value | Sig level | Sig |
|---|---|---|---|---|---|---|---|
| Exam Anxiety | Experimental group | 12 | 15,18 | 227,50 | 107,500 | 0,838 | Not significant |
| | Control group | 12 | 15,84 | 237,50 | | | |

**Source**: Prepared by the researcher based on the outputs of the SPSS program

The summarized results in Table (09) indicate that the average rank for the experimental group was (15.18), and the average rank for the control group was (15.84). The calculated U-value was (107.500), and the significance level was (0.838), which is greater than (0.05). Therefore, it can be concluded that there is no significant difference between the two groups in their total scores on the exam anxiety scale.

### 4.6- Statistical Methods

The statistical package for the social sciences (SPSS) was used along with various statistical methods, including:

- Kolmogorov-Smirnov Test: Used to check the normality of the distribution.
- Mean and Standard Deviation: Calculated to determine the level of exam anxiety in the study sample before and after the implementation of the counseling program.
- Mann-Whitney Test: Employed to test the significance of differences between the average ranks of scores for the control and experimental groups in the pretest.
- Wilcoxon Test: Used to test the significance of differences between the average ranks of scores for the experimental group in the pretest and posttest.

## 5- Brief Sessions of the Counseling Program

### 5.1- Operational Objectives

- Identifying the problem.
- Understanding facts related to the problem.
- Ensuring the relevance of facts to the problem.
- Ensuring the consistency of facts among themselves.

### 5.2- Session Plan

A preliminary session was conducted before implementing the program to establish a connection between the counselor and the counselee before the program started. It was characterized by dialogue, discussion, and active listening.

**Table (10): A table showing the session plan**

| N | The topic | Counseling techniques |
|---|---|---|
| 1 | Building the counseling relationship (introduction to the program) | Counseling contract |
| | | Dialogue and discussion |
| | | Explanation and clarification |
| 2 | Exam anxiety (its concept, causes, symptoms, and its impact on the individual's life) | Lecture |
| | | Dialogue and discussion |
| | | Emotional venting |
| | | Homework assignments |
| 3 | | Dialogue and discussion |

| | | |
|---|---|---|
| | Psychological preparation for the exam (halting negative thoughts – positive self-talk) | Homework assignments |
| | | Role-playing |
| | | Emotional venting |
| | | Reinforcement |
| | | Cognitive restructuring |
| 4 | Psychological preparation for the exam (relaxation and its types) | Lecture |
| | | Dialogue and discussion |
| | | Relaxation technique |
| | | Homework assignments |
| | | Modeling |
| 5 | Competency assessment exam (definition, objectives, importance, results) | Lecture |
| | | Biological feedback |
| | | Dialogue and discussion |
| | | Homework assignments |
| | | Systematic desensitization |
| 6 | Psychological preparation for the exam (optimism - confidence - dedication to work) | Lecture |
| | | Dialogue and discussion |
| | | Modeling |
| | | Positive reinforcement |
| | | Storytelling |
| | | Relaxation technique |
| 7 | Academic and mental preparation for the exam (time management – problem solving) | Lecture |
| | | Dialogue and discussion |
| | | Brainstorming |
| | | Homework assignments |
| | | Role-playing |
| 8 | Academic and mental preparation for the exam (study methods – mind mapping – effective memorization) | Lecture |
| | | Cognitive restructuring |
| | | Homework assignments |
| | | Dialogue and discussion |
| | | Positive reinforcement |
| | | Modeling |
| | | Reinforcement |
| 9 | Academic and mental preparation for the exam (attention – concentration) | Lecture |
| | | Homework assignments |
| | | Dialogue and discussion |
| | | Mental relaxation technique |
| 10 | Academic and mental preparation for the exam (planning – organization – summarization) | Lecture |
| | | Homework assignments |
| | | Reinforcement |
| | | Dialogue and discussion |
| 11 | Physical preparation for the exam (balanced nutrition - rest – adequate sleep) | Lecture |
| | | Dialogue and discussion |
| | | Homework assignments |
| | | Positive reinforcement |
| | | Relaxation technique |
| 12 | | Dialogue and discussion |

| | |
|---|---|
| Closing session and evaluation of the counseling program (feedback on nutrition) | Feedback |
| Session content: expressing gratitude and appreciation to the counseling group, followed by honoring the participants and presenting some sweets and small gifts. | |

**Source**: Prepared by the researcher

## 6- Results and Discussion

### 6.1- Presentation of the Results

#### 6.1.1- Presentation of the First Hypothesis

The first hypothesis states: "There are statistically significant differences in the effectiveness of the counseling program in reducing exam anxiety for the assessment of achievements at the end of the primary education stage among students, between the means of the ranks of the experimental and control groups in the dimensional assessment in favor of the experimental group."

To verify the hypothesis, the researchers used the Mann-Whitney test to detect differences between two independent samples. The results are presented in the table:

**Table (11): Mann-Whitney Test Results for the Significance of Differences between the Means of Ranks of Individuals in the Experimental and Control Groups on the Exam Anxiety Scale and its Dimensions in the Dimensional Assessment**

| **Dimensions** | Measurement | Number | Mean Ranks | Ranks Sum | U Value | Statistical Significance |
|---|---|---|---|---|---|---|
| Psychological | Experimental Group | 12 | 9.54 | 144 | 23 | 0 |
| | Control Group | 12 | 21.48 | 323 | | |
| Cognitive | Experimental Group | 12 | 8.14 | 123 | 2 | 0 |
| | Control Group | 12 | 22.88 | 344 | | |
| Physical | Experimental Group | 12 | 8.08 | 122 | 1 | 0 |
| | Control Group | 12 | 22.94 | 345 | | |
| Total | Experimental Group | 12 | 8.01 | 121 | 0 | 0 |
| | Control Group | 12 | 23.01 | 346 | | |

**Source**: Prepared by the researcher based on the outputs of the SPSS program

Table (11) shows that the calculated value (U) for the first dimension is 23, for the second dimension is 2, and for the third dimension is 1. As for the total score, it is 0. The significance level observed for the three dimensions and the total score of the scale was (0.000), indicating the significance of the differences.

It is also evident that the average ranks of the experimental group are lower than the average ranks of the control group. This implies that students in the experimental group became less anxious, as observed in the exam anxiety scale after implementing the

counseling program. Thus, the researchers conclude that the first hypothesis has been confirmed.

In other words, the counseling program applied to the experimental group has brought about a change that led to a reduction in the level of exam anxiety compared to the control group.

### 6.1.2- Presentation of the Results of the Second Hypothesis

The second hypothesis states: "There are statistically significant differences in the effectiveness of the program in reducing exam anxiety for the assessment of achievements among students, between the means of the ranks of the experimental group in the pre-test and post-test dimensional assessment in favor of the post-test."

To verify the hypothesis, the researchers used the Wilcoxon test for related groups. The results are presented in the table:

**Table (12): Wilcoxon Test Results for Differences between the Means of Ranks of Individuals in the Experimental Group on the Exam Anxiety Scale and its Dimensions in the Pre-test and Post-test**

| Dimensions | Measurement | Number | Mean Ranks | Ranks Sum | U Value | Statistical Significance |
|---|---|---|---|---|---|---|
| Psychological | Experimental Pre-measurement | 12 | 9.55 | 105 | _2.558 | 0.011 |
| | Experimental Post-measurement | 12 | 3.75 | 15 | | |
| Cognitive | Experimental Pre-measurement | 12 | 8 | 120 | _3.418 | 0.001 |
| | Experimental Post-measurement | 12 | 0 | 0 | | |
| Physical | Experimental Pre-measurement | 12 | 8 | 120 | _3.409 | 0.001 |
| | Experimental Post-measurement | 12 | 0 | 0 | | |
| Total | Experimental Pre-measurement | 12 | 8 | 120 | _3.413 | 0.001 |
| | Experimental Post-measurement | 12 | 0 | 0 | | |

**Source**: Prepared by the researcher based on the outputs of the SPSS program

Table (12) shows that the statistical significance level for the differences in exam anxiety scores among individuals in the counseling group in the pre-test and post-test reached (0.001). The values of (Z) for the three dimensions (psychological dimension, cognitive dimension, and physiological dimension) and the total scores are (2.258, 3.418, 3.409, 3.418) respectively. This indicates statistically significant differences in the counseling group between the pre-test and post-test in the level of exam anxiety in favor of the post-test. This result confirms the achievement of the second hypothesis.

### 6.1.3- Presentation of the Results of the Third Hypothesis

The third hypothesis states: "There are statistically significant differences in the application of the counseling program to reduce exam anxiety for the assessment of achievements between the means of the ranks of individuals in the experimental group on the Exam Anxiety Scale and its dimensions in the dimensional and follow-up assessment." To verify the hypothesis, the researchers used the Wilcoxon test for related groups. The results are presented in the table:

**Table (13): Wilcoxon Test Results for Differences between the Means of Ranks of Individuals in the Experimental Group on the Exam Anxiety Scale and its Dimensions in the Dimensional and Follow-up Assessment**

| **Dimensions** | Measurement | Number | Mean Ranks | Ranks Sum | U Value | Statistical Significance |
|---|---|---|---|---|---|---|
| Psychological | Experimental Post-measurement | 12 | 7.25 | 58 | _0.114 | 0.909 |
| | Experimental Follow-up Measurement | 12 | 8.86 | 62 | | |
| Cognitive | Experimental Post-measurement | 12 | 6.75 | 40.5 | _1.333 | 0.183 |
| | Experimental Follow-up Measurement | 12 | 3.63 | 14.5 | | |
| Physical | Experimental Post-measurement | 12 | 6 | 36 | _0.667 | 0.505 |
| | Experimental Follow-up Measurement | 12 | 7.86 | 55 | | |
| Total | Experimental Post-measurement | 12 | 10.4 | 52 | _0.031 | 0.975 |
| | Experimental Follow-up Measurement | 12 | 5.89 | 53 | | |

**Source**: Prepared by the researcher based on the outputs of the SPSS program

Table (13) indicates that the level of statistical significance for differences in the scores of the Exam Anxiety Scale and its dimensions among individuals in the counseling group in the dimensional and follow-up assessments is all greater than (0.05). The values of (Z) for the three dimensions and the total score are (0.114, 1.333, 0.667, 0.031) respectively, and they are all greater than (0.05). This suggests no statistically significant differences in the counseling group between the dimensional and follow-up assessments in the level of exam anxiety and its dimensions. This result leads to the rejection of the third study hypothesis, and we accept the alternative hypothesis, which suggests no statistically significant differences in the mean ranks of individuals in the experimental group between the pre-test and follow-up assessments.

### 6.2- Interpretation of the Study Results

#### 6.2.1- Interpretation of the Results of the First Hypothesis

The first hypothesis suggests: "There are statistically significant differences between individuals in the experimental group and individuals in the control group on the Exam Anxiety Scale and its dimensions in the dimensional assessment."

Through the results presented in Table (11), it is evident that there are statistically significant differences between individuals in the experimental group and individuals in the control group on the Exam Anxiety Scale and its dimensions in the dimensional assessment in favor of the experimental group. This result can be interpreted as follows: individuals in the experimental group benefited from the counseling sessions, leading to a reduction in exam anxiety levels. In contrast, individuals in the control group did not receive the counseling program, contributing to the differences in favor of the experimental group.

Despite the longer time period between the pre-test and post-test assessments of test anxiety, members of the control group had the same level of test anxiety. Some individuals in the control group even experienced an increased level of exam anxiety. This was implemented before and after the initiation of the counseling program.

The difference in test anxiety levels between the two groups can be attributed to the program's impact on reducing test anxiety levels in the experimental group. The program included a set of skills belonging to cognitive-behavioral counseling, applied during the counseling process. These skills included psychological preparation for exams and gaining clarity in stopping destructive negative thoughts faced by individuals, replacing them with positive self-talk that fosters success. They were filled with optimism, confidence, and sincere reliance on God in their hearts. They applied various relaxation techniques, resulting in psychological and overall body relaxation. They followed the stages of gradual exposure to anxiety as well as psychological therapy.

All the techniques used contributed to reducing test anxiety in the experimental group. The results favored the experimental group, and this suggests that the counseling program tailored sessions specifically addressing mental and methodological preparation for exams. These sessions included various techniques that helped individuals acquire exam preparation skills, such as time management, problem-solving, and learning study methodologies.

### 6.2.2- Discussion of the Results of the Second Hypothesis

The second hypothesis suggests: "There are statistically significant differences between the pre-test and post-test measurements on the Exam Anxiety Scale and its dimensions among individuals in the experimental group."

The results presented in Table (12) indicate statistically significant differences between the pre-test and post-test measurements on the Exam Anxiety Scale and its dimensions among individuals in the experimental group. This result is explained by the positive impact of the cognitive-behavioral counseling program, which effectively contributed to reducing exam anxiety levels among the students. It indicates that the counseling sessions had a clear significance in achieving the overall goal of the study. The sessions were well-planned based on the principles of cognitive-behavioral theory, organized according to the counseling needs of individuals in the experimental group, and diversified in terms of using various counseling techniques and methods.

Among these techniques was the gradual desensitization technique, through which individuals in the experimental group learned how to face situations that triggered anxiety. This technique played an effective role in reducing exam anxiety levels among the students at the emotional level. Several studies, including (Egbochuku & Obodo, 2005), have confirmed the effectiveness of relaxation in reducing exam anxiety levels among students, similar to the findings of (Abu Ghazaleh, 1978), (Al-Zarad, 1997), and (Al-Rihani, 1981).

The difference between the pre-test and post-test measurements can also be attributed to the acquisition of several skills by individuals in the experimental group. These skills include psychological, methodological, and physical exam preparation skills, which were effective in positively influencing cognitive, psychological, and physical levels. Consequently, this led to a reduction in exam anxiety levels among them.

This result indicates the effectiveness of the cognitive-behavioral counseling program used in this study. By measuring the differences, the study observed the opinions of individuals in the experimental group at the beginning of the counseling sessions, reflecting their negative and destructive thoughts about exam anxiety. The responses of individuals in the experimental group in the final session of this program on the evaluation form were positively judged, indicating satisfaction with their counseling needs and the achievement of the desired goal. All their results were positive, providing a clear indication of the differences between the two measurements, demonstrating the benefits of the counseling program provided to them and its effective contribution to reducing exam anxiety levels.

Additionally, the design of counseling programs based on the cognitive-behavioral approach for assistance in reducing exam anxiety levels proved to be highly effective in addressing this problem. Emotions are not isolated conscious states; rather, they are integrated and interactive aspects of observable behavioral activity and internal cognitive activity (Belash, Ait Haboush, & Boudali, 2019).

Therefore, the impact of the counseling program on individuals in the experimental group was comprehensive and interactive in terms of psychological, emotional, mental, and physiological aspects. Each aspect had an influence on the others, and this was observed during the implementation of the counseling program, with its well-planned and organized sessions using methods and techniques aimed at bringing about positive change among individuals in the experimental group, moving them from a worse state to a better one, and aiming to reduce their exam anxiety levels.

The results of this study are consistent with various studies, both Arabic and foreign, such as the studies by (Boutera, 2021), (Al-Khawaja, 2013), (Abdulrahman, 2020), (Hamadneh, 2017), and others. These studies confirm the effectiveness of the programs applied in guiding exam anxiety levels among the experimental groups to which those programs were applied.

### 6.2.3- Interpretation of the Results of the Third Hypothesis

The third hypothesis states: "There are statistically significant differences between the post-test and follow-up measurements on the Exam Anxiety Scale and its dimensions among individuals in the experimental group."

The results presented in Table (13) indicate that there are no statistically significant differences among individuals in the experimental group in both the post-test and follow-up measurements. These findings suggest the continued effectiveness of the cognitive-behavioral counseling program in reducing exam anxiety levels throughout the entire period after its implementation. This implies that the passage of time does not impact the results for individuals in the experimental group, even after 60 days post-application. Therefore, we can conclude that the program is distinguished by its comprehensiveness in achieving goals and its continuous effectiveness over time.

One of the indicators of this result is the sustained positive impact that the program had on individuals in the experimental group in psychological, cognitive, and physical aspects even after its completion. Mayer (2000) emphasized the importance of the cognitive component, assuming that a learner who knows a lot about memory strategies is more likely to adopt and effectively employ these strategies. This leads to the efficient utilization of cognitive and mnemonic resources, enabling good selection of interpretation strategies and the retrieval of suitable strategies that contribute to continuous self-monitoring, organization, and self-evaluation of performance (Dabar, 2018).

In conclusion, the proposed cognitive-behavioral counseling program demonstrated stability in its positive impact, reducing the level of exam anxiety at the end of the primary education stage in the current study. This positive impact was observed in the experimental group, aligning with several other studies such as (Kendall, et al., 1997), (Saigi & Salima, 2004), (Al-Attiya, 2002), (Abu Ghali, 2011), (Maeley & Ibrahim, 2014), (Gharbi, 2014), (Husona, 2016), (Al-Khafaji., 2018), and others.

## 7- Conclusion

Building on the theoretical framework presented earlier, encompassing cognitive-behavioral counseling methods and counseling programs, and considering everything related to the nature of exam anxiety among students, along with the statistical analysis of the data within the main goal of the study—to reveal the effectiveness of a cognitive-behavioral counseling program in reducing exam anxiety at the end of the primary education stage—the study's results highlight the following:

- There are statistically significant differences between individuals in the experimental group and those in the control group on the Exam Anxiety Scale and its dimensions in the post-test measurement, favoring the experimental group.
- There are statistically significant differences between the pre-test and post-test measurements on the Exam Anxiety Scale and its dimensions for individuals in the experimental group, favoring the post-test measurement.
- There are no statistically significant differences between the post-test and follow-up measurements on the Exam Anxiety Scale and its dimensions for individuals in the experimental group.

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