


RESEARCH ARTICLE 	<h1>Efficacy of a Cognitive-Behavioural Counselling programme in alleviating psychological stress among fourth-year Middle school students (Semi-experimental field study in Bouzidi Al-Massoud Middle School – Djelf )</h1>
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<b>Doi Serial</b>	<a href="https://doi.org/10.56334/sci/8.10.71">https://doi.org/10.56334/sci/8.10.71</a>
<b>Keywords</b>	Efficacy; Counselling programme; Cognitive-Behavioural Counselling; psychological stress.
<b>Abstract</b> This study examined the efficacy of a Cognitive-Behavioural Counselling programme in alleviating psychological stress among fourth-year Middle school students at Bouzidi Al-Massoud Middle School in Djelfa during the 2019/2020academic year. The study sample consisted of (24) students distributed equally into two groups (control and experimental), using the semi-experimental approach, to test the hypotheses of the study, the following tools were relied upon: The Psychological stress scale prepared by Fatima Tubal, and the intelligence test for the progressive matrices of John Raven (normal level) for adolescents, the questionnaire of the economic and social level of the family by Abdul Karim Qureshi, and the designed counselling programme. And for processing it, the statistical package programme SPSS was used. The study's key findings revealed results: statistically significant differences between the mean scores of the experimental groups' the pre and post-measurement on the dimensions of the Psychological stress scale. There are statistically significant differences between the mean scores of the experimental group and the mean scores	

of the control group in the post-measurement on the dimensions of the Psychological stress scale. There are no statistically significant differences between the mean scores of the pre-measurement and the mean scores of the post-measurement of the control group members on the dimensions of psychological stress scale. There are statistically significant differences between the mean scores of the experimental group in the post-measurement and the follow-up measurement on the dimensions of the Psychological stress scale. There are statistically significant differences between the mean scores of the experimental group and the mean scores of the control group on the dimensions of the Psychological stress scale in the follow-up measurement.

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#### Introduction:

The quick pace of the scientific and technological development today, has significantly affected various aspects of life, making psychological stress one of the most prevalent in the current era. This is due to the abundance of problems and difficulties that exert significant pressure and on individuals. As Sheldon Cohen has mentioned " Psychological stress happens when the individual realizes that the environment exceeds his ability to adapt".(Cohen, Georgy, & Denise, 2007, p. 168)

Psychological stress has become a topic of focus in recent years, due to its significant and negative affects on both psychological and physiological health , In this context , According to Neil Schneiderman"Although the response of psychological stress developed as adaptation processes but Selye mentions that the severe responses might lead to several diseases, that was confirmed by the studies applied on chimpanzees, which have indicated that the emotionally stressful behaviour may accelerate the process of atherosclerosis"(Schneiderman, Gail, & Scott, 2005, p. 7)

This has been confirmed by many scientists who have indicated that psychological stress affects an individual's life and the course of viral diseases, frequent exposure to social and psychological stress leads to many health problems and then to a low survival rate for individuals at different ages .

Based on the above, the researchers' efforts focused on the subject of psychological pressure in order to understand and analyse its causes and try to provide appropriate solutions that can help to deal with it and mitigate its negative effects.

However, the first empirical studies highlighted the idea of changing the environment , in this context we mention Selye's experiences. "It was conducted on a group of animals, the results demonstrated the importance of social context, past experiences and constant exposure to stressful situations in psychological stress responses.(Monroe & Slavich, 2016, p. 112)

As cognitive science has advanced, adaptation has become more important. According to Koutsoimou and his colleagues, accidents are not the primary cause of stress experience, but rather how an individual reacts to it.(Ayat Hamouda, Taibi, & Ayat Hamouda, 2018, p. 3)

This is what Lazarus stated: "The threat that we successfully avoid thinking about even temporarily doesn't bother us, and similarly, reassessing the threat in non-threatening terms removes the cognitive basis of the psychological pressure reaction.(Lazarus, 1993, p. 12)

Based on what was stated above. Researchers highlighted the importance of cognitive therapeutic interventions as Neil Schneiderman stated that "Cognitive-Behavioural Therapeutic interventions have a beneficial effect on the quality of life of patients with chronic illness, decreasing perceived pressure and negative mood, and facilitating adaptation while changing cognitive assessments.(Schneiderman, Gail, & Scott, 2005, p. 12)

Within the same context, As Fawzi and others observed "The survival rate of patients with early-stage melanoma in the experimental group who underwent CBT for six weeks was significantly greater than those of the group who underwent surgery.(Cohen, Georgy, & Denise, 2007, pp. 167-168)

The previous studies were applied on the category of adults .However, the category of adolescents weren't exempt from psychological stress, as confirmed by the Ovrachel's study. Also 64.5 % of teenagers diagnosed with stress have developed depressive symptoms later. (Ibrahim, 1998, p. 40)

It means that early intervention to deal with psychological stress can contribute to positive effects in preventing more severe illness symptoms. Especially with studies whose results concluded that individuals who experienced traumatic events or physical, emotional, or sexual abuse during the early years of their lives may have a long-term risk of heart disease and blood vessels.(Cohen, Georgy, & Denise, 2007, p. 168)

According to Neil Schneiderman additional forms of abuse include "negative views of parents towards their children's learning and poor school performance"(Schneiderman, Gail, & Scott, 2005, p. 8)

This signifies that psychological stress can also affect schoolchildren. as it may lead to emotional and physiological disorders later in life. So it is important to pay particular attention to this category .

In view of the foregoing. The current study aims to design a Cognitive-Behavioural Psychological programme, and measure its efficacy to alleviate psychological stress among the category of schoolchildren. Middle school students .

In the light of the above, the study's problem is based on the following questions:

#### **General question :**

Is this programme effective in alleviating psychological stress among the 4<sup>th</sup> year Middle school students ?

#### **Partial questions :**

1. Are there statistically significant differences between the average scores of the pre- and post-measurement on the experimental group members on the dimensions of the Psychological stress scale ?
2. Are there statistically significant differences between the average scores of the pre- and post-measurement on the control group members on the dimensions of the Psychological stress scale ?
3. Are there statistically significant differences between the average scores of the experimental group and the control group on the pre-measurement on the dimensions of the Psychological stress scale ?
4. Are there statistically significant differences between the average scores of the experimental group on the pre-measurement and the follow-up measurement on the dimensions of the Psychological stress scale ?
5. Are there statistically significant differences between the average scores of the experimental group and the control group on follow-up measurement on the dimensions of the Psychological stress scale ?

#### **Study hypotheses:**

##### **General hypothesis:**

The Cognitive-Behavioural Psychological programmes effective in alleviating psychological stress among the 4<sup>th</sup> year Middle school students

##### **Partial hypotheses:**

1. There are statistically significant differences between the average scores of the pre- and post-measurement on the experimental group members on the dimensions of the Psychological stress scale.
2. There are no statistically significant differences between the average scores of the pre- and post-measurement on the control group members on the dimensions of the Psychological stress scale.
3. There are statistically significant differences between the average scores of the experimental group and the control group on the pre-measurement on the dimensions of the Psychological stress scale.
4. There are statistically significant differences between the average scores of the experimental group on the pre-measurement and the follow-up measurement on the dimensions of the Psychological stress scale.
5. There are statistically significant differences between the average scores of the experimental group and the control group on the follow-up measurement on the dimensions of the Psychological stress scale.

#### **Study importance:**

The importance of this study is seeking to alleviate psychological stress that the adolescent faces at school which affects his psychosocial and academic compatibility. We've focused on the category of adolescents, Considering that they are vulnerable to psychological stress which coincides the certificate of Middle school exam .

Due to the lack of psychological support among adolescents suffering from psychological stress. Through this study, we are trying to draw the attention of the concerned bodies to the need to direct social institutions to the importance of psychological care for this category. and the appropriate ways to deal with these students who are suffering from psychological stress by assigning psychologists for giving them the right picture about this exam.

Based on our interest in the urgent psychological and educational problems experienced by these students, some of which were seen through the survey This programme involves ideas, methods and contents, that are expected to help students alleviate psychological stress by applying a the Psychological stress scale that considers all aspects , Psychologically academically , physiologically and relationally of the adolescent.

This study is an important step for subsequent studies; the researchers expect to provide theoretical and empirical foundations for alleviating psychological stress and providing the method of preparing associated indicative programmes.

#### **Study objectives:**

##### **General objective :**

Recognizing the efficacy of the Cognitive-Behavioural Psychological programme in alleviating psychological stress among the 4th year Middle school students

##### **Partial objectives :**

1. Recognizing the statistically significant differences between the average scores of the pre- and post-measurement on the experimental group members on the dimensions of the Psychological stress scale.
2. Recognizing the statistically significant differences between the average scores of the pre- and post-measurement on the control group members on the dimensions of the Psychological stress scale.
3. Recognizing the statistically significant differences between the average scores of the experimental group and the control group on the pre-measurement on the dimensions of the Psychological stress scale.
4. Recognizing the statistically significant differences between the average scores of the experimental group on the pre-measurement and the follow-up measurement on the dimensions of the Psychological stress scale .
5. Recognizing the statistically significant differences between the average scores of the experimental group and the control group on the pre-measurement and the follow-up measurement on the dimensions of the Psychological stress scale .

### Defining study's concepts:

#### 1. Efficacy :

Technically : Description of everything effective.

**Procedurally:** Desired effect from applying the Cognitive-Behavioural Counselling programme in order to alleviate psychological stress among the sample .

#### 2. Counselling programme :

Technically : A program formulated according to psychological; counselling theories to help and aware individuals to understand the problems that lead to misalignment. The programme also works on enlighten individuals in solving their problems in order to achieve individuals and others happiness. So that they reach alignment and satisfaction and mental health .(Al Samili , 2009, p. 10)

Procedurally: A series of group mentoring sessions aimed to alleviate psychological stress of the students of the experimental sample based on behavioural cognitive techniques such as imagination, lecture, discussion, etc. Its theoretical framework is based on the Cognitive-Behavioural orientation within which Beck's studies, Alice, Pandora, Meichenbaum.

#### 3. Psychological stress :

Technically: Psychological stress is defined as the body's non-qualitative response to any defensive demands. it is the involuntary way in which the body responds with its mental and physical preparedness to any event . expressing emotions of fear or threat as an operation.(Al Saedi, 2012, p. 63)

Procedurally : In the current study, psychological stress means the high degree of the 4<sup>th</sup>-year Middle school student on the Psychological stress scale in its dimensions (psychological, physiological, relational and academic) to its creator "Tubal Fatima Al-Zahra", 2017, which makes the individual feel distressed and uncomfortable.

**4. Middle school :** It is a course between primary and high school. It consists four years of study both in general and private education. The student then moves to the high level, ranging from 12 to 15 years of age.(Ahmed, 2008, p. 75)

**5. 4<sup>th</sup> year Middle school students :**the group representing the current study sample consists Middle school students with high psychological stress and it is a homogeneous sample in terms of time age, psychological stress level, intelligence, and economic and social level.

### Study methodology :

The quasi experimental methodology was used, due to its appropriateness to the nature of the study , Which is based on designing two groups : Experimental group and control group. (24) students(12 students to each group ).The quasi experimental methodology is known as the method where the researcher controls the independent variable then studies the efficacy of that artificial control on the dependent variable or variables. This methodology aims to prove the connectionbetween the reason and the result . Through conducting the experiment that involves processing an independent variable or more, and studying its effectiveness on the dependent variable or the result variable. With adjusting the confounding variables . (Ghrieb , 2016)

The study used a sample of two groups of 12 students in each group (experimental group and control group), and also it used the pre and post-measurement, and the follow-up measurement to verify the efficacy of Cognitive-Behavioural Counselling programme in alleviating psychological stress among the 4<sup>th</sup> year Middle school students .

**Table n°1 : Shows the experimental design of the two groups**

Groups	Pre-measurement	Experimental Treatment	Post-measurement	Follow-up measurement
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<b>Experimental group</b>	Applying the Psychological stress scale	Applying the counselling programme	Applying the post-measurement (The Psychological stress scale)	Applying the follow-up measurement (The Psychological stress scale)
<b>Control group</b>	Applying the pre-measurement (The Psychological stress scale)	Programme wasn't applied	Applying the post-measurement (The Psychological stress scale)	Follow-up measurement (The Psychological stress scale) weren't applied

### Study tools :

1. **The Psychological stress scale :** Designed by "Fatima Tubal" , In order to measure psychological stress among adolescents, It contains (42) items distributed to four dimensions, Psychological, academic , physiological and relational dimensions .

#### 1.1. Psychometric properties :

1.1.1. **Validity :** It was calculated in Internal and discriminant ways, Its validity was proved through the following :

- **Internal validity :** It was used because it is equal to the square root of the constant factor. Then calculate it in Alfa Cronbach . T = the square root of 0.87 is equal to 0.93, which is a function value at the denominator level of 0.01. Which means validity factor is high

- **Discriminant validity :** To calculate the validity of the scale, Discriminant validity were applied on a random sample of (30) students of the 1<sup>st</sup> year of high school.

**Table n°2**

	Number	Arithmetic average.	Variation	Freedom degree	Calculated Value of T	Scheduled Value of T	Indicative level
<b>Lower group</b> 27%	7	30.57	69.82	12	12.53	2.68	0.01
<b>Upper group</b> 27 %	7	80.57	45.04				

Since the calculated T (12.53) is more than scheduled T (2.68) at the indicative level 0.01. there are statistically significant differences between the lower and the upper levels of the scale . Which indicates that psychological stress scale has a high degree of validity .

1.1.2. **Stability:** It was calculated by applying and re-applying for a sample estimated at 30 students. Pearson's coefficient of binding was calculated. The coefficient of binding was equal to (96.0) This is a high factor.

2. **Family's economic and social status form :** This form is used to estimate the family's economic and social status. Data are collected and supplemented by specific grades. By collecting the scores obtained. (Koraishi, 1999, p. 361)

This form contains:

- Student-specific data (name and surname, date of birth, school year, gender, place of residence).
- Family data related to:

The educational level and the professions of the parents, the number of family members, the type of housing and its specifications, including the number of rooms, the family income in Algerian dinars, (this question was cancelled because the members of the sample did not respond to it).

This form has been used as required by the study and according to psychological research, and collecting of information on members of the experimental and control groups in order to identify the family's economic and social status.



### 3. The coloured progressive matrices test by John Raven:

#### 3.1. Test description :

One of the non-verbal IQ tests of the normal level, designed by the English scientist "Raven", applies individually or collectively and consists of (60) matrix divided into five groups: (a, b, c, d, e) Each contains (12) matrix graded in difficulty. Each matrix consists of a drawing, geometric design or shape pattern lacking a piece developed with alternatives. The examiner must select the completed piece and record its number in the replies registration form.

#### 3.2. Psychometric properties of the test :

- **Test validity :** The authenticity of the test's synchronization test was confirmed using the Wexler and Benier tests as examiners, and the test's authenticity coefficient ranged between (86.0, 50.0). (El Atewy, 2006, p. 37) Fouad Abu Habab in Saudi Arabia also used the man's drawing test for "Jadonov" as a synchronistic massage and the correlation transactions ranged between (60.0 ÷ 56.0 ) The validity of the test was also calculated with the verbal and the visual youth intelligence test of Hamid Zahran, and the correlation transactions reached (78. ÷ 073.0) And it's all a statistical function at 0.01 indicating the validity of the test. (El Atewy, 2006, p. 32)

#### - Test stability :

Raven has calculated the stability of the test in a retest manner, and found the stability factor between (96.0 ÷ 66.0). Fouad Abu Habab also calculated the test stabilization factor using the retest method and ranged from (85.0 ÷ 46.0) which is a statistical function at the indicative level (0.01) indicating the stability of the test.

### 4. The Cognitive-Behavioural Counselling programme :

The total sample selection process for the study proceeded according to a number of procedural steps that are explained below:

- Choosing the school by which the study was applied: Bouzidi Al-Massoud Middle school
- Distributing of the Psychological stress scale to the school community: estimated at 172 students .

**Tablen°3 showing the original community of Middle school students for the 2019/2020 scholar season**

The Middle school	Total	Academic level
Bouzidi Al-Massoud Middle school	172	4 <sup>th</sup> year
<b>Total</b>	<b>172</b>	

### 5. Sample division : (24 students)

**Tablen°4 sample distribution into 2 groups**

Groups	School	Number of sample members	Percentage
<b>Experimental</b>	Bouzidi Al-Massoud Middle school	12	%50
<b>Control</b>		12	%50
<b>Total</b>	24		%100

Sample homogenization by applying psychological stress and cultural and social level form and intelligence test

**Table n°5**

Variable	Source of variation	Squares total	Freedom level	Square average	F	Sig value
Psychological stress	Inside groups	126. 283	3	42. 034	3. 587	0. 771statically non-significant
	Between groups	2178. 675	20	111. 94		
	Total	2364. 958	23			
IQ level	Inside groups	2091. 46	3	697. 142	2. 569	0. 087 statically non-significant
	Between groups	5427. 532	20	271. 377		
	Total	7518. 958	23			

Cultural and social level	Inside groups	49. 776	3	16. 592	1. 522	0.087 statically non-significant
	Between groups	131. 557	20	6. 578		
	Total	181. 333	23			

#### 6. Cognitive-Behavioural Counselling programme to alleviate psychological stress :

- **Counselling programme definition :** Hamed Zahran defined it as a programmes trusted and organized in the light of scientific foundations, to provide direct and indirect guidance services, individually or collectively to all those included in the institution, with the aim of assisting them in achieving equal growth and making reasonable conscious choice and achieving psychological compatibility within and outside the institution. It is planned, implemented, and evaluated by a committee and a team of qualified officials .(Zahran, 2000, p. 499)

The two researchers define the counselling programme in the current study as: a group counselling programme based on the customary-behavioural orientation that Ellis and Beck are pioneers of.

It aims to alleviate psychological stress in a sample of 4<sup>th</sup>-year students with a range of Cognitive-Behavioural techniques.

**Benefit from previous studies:** Used from a series of previous studies, including the following:

**Tubal Fatima's Study (2017):** Entitled:"The effectiveness of a Cognitive-Behavioural Counselling programme in alleviating the symptoms of psychological stress among a sample of high school adolescents ", where the study aimed to identify irrational thoughts in a sample of high school adolescents. Which were trained to replace these thoughts with more rational and logical ones, the study sample was composed of 24 adolescent students, the tools used for the purpose of collecting data represented in: Psychological Stress Measure by Researcher, Economic and Social Status Form. The results of this study show that there are statistically significant differences between the experimental and control groups in favour of the experimental group in post-measurement. (after applying the programme) This indicates the effectiveness of the programme in reducing Symptoms of psychological stress in members of the sample.

**Boumjan Nadia Study (2016):** Entitled: "Building a Cognitive-Behavioural programme to alleviate psychological stress in a married university professors. The study aimed to develop a counselling programme to alleviate psychological stress in a married university professors. The researcher used the experimental curriculum. The sample study was composed of 74 married university professors. The following tools were used: Psychological stress source measure and psychological stress response measure prepared by the researcher, and the counselling programme. the main results of the study are: There are statistically significant differences between the grades of the members of the experimental and control groups in favour of the experimental group of post-measurement on the dimensions of the two scales, the sources of psychological stress and the Psychological stress scale response, as well as statistically significant differences between pre and post-measurement of the members of the experimental group on the dimensions of the two scales in favour of the post-measurement . the effect of the programme continued even in the following-measurement among the experimental members.

**Table n°6 Programme sessions**

The number of sessions	Subject of the sessions	Goals of the sessions	Techniques	Tools	Duration
Session n°1	Acquaintance and building the counselling relation	-Acquaintance between the two researchers and the group members - Working to build a positive counselling relation considering confidence and respect.	- Collective lecture and discussion - Moral and material reinforcement -Icebreaking technique. - Homework.	- Counselling programme and psychological stress brochures. - A board - Computer - Data show device	60 min



		<ul style="list-style-type: none"> <li>- Clarify the counselling programme.</li> <li>- Define the psychological stress.</li> </ul>			
<b>Session n°2</b>	Introducing the ABC theory	<ul style="list-style-type: none"> <li>- Clarify and explanation of ABC theory</li> <li>- Train on irrational thoughts rebuttal .</li> </ul>	<ul style="list-style-type: none"> <li>- Collective lecture and discussion.</li> <li>- Emotional release.</li> <li>- Modelling (Story)</li> <li>- Moralreinforce ment</li> <li>- Homework</li> </ul>	<ul style="list-style-type: none"> <li>- Computer</li> <li>- Data show device.</li> <li>- Irrational thoughts rebuttal brochure</li> <li>- Session evaluation form.</li> </ul>	60 min
<b>Session n°3</b>	Disprove the irrational thoughts	<ul style="list-style-type: none"> <li>- Completing the ABC theory explanation .</li> <li>- Train on positive self-talk</li> </ul>	<ul style="list-style-type: none"> <li>- Collective lecture and discussion.</li> <li>- Emotional release.</li> <li>- Modelling</li> <li>- Moral reinforcement</li> <li>- Feedback.</li> <li>- Homework about irrational thoughts rebuttal</li> </ul>	<ul style="list-style-type: none"> <li>- Computer</li> <li>- Data show device.</li> <li>- Self confidence and independence brochure</li> <li>- Session evaluation form</li> </ul>	60 min
<b>Session n°4</b>	Muscles relaxation training	<ul style="list-style-type: none"> <li>- Explaining muscles relaxation and its forms and benefits .</li> <li>- Muscles relaxation training in order to alleviate physiological effects of psychological stress.</li> </ul>	<ul style="list-style-type: none"> <li>- Collective lecture, discussion , explanation and interpretation.</li> <li>- Muscles relaxation technique .</li> <li>- Homework</li> <li>- Modelling</li> </ul>	<ul style="list-style-type: none"> <li>-Computer</li> <li>- Data show device.</li> <li>- Relaxing music.</li> <li>- Comfy chair</li> <li>- Brochure about all types of relaxation.</li> <li>- Session evaluation form</li> </ul>	60 min
<b>Session n°5</b>	Relaxation training (respiratory visual relaxation )	<ul style="list-style-type: none"> <li>- Define the visual respiratory relaxation and its benefits .</li> <li>- Train on Visual respiratory relaxation to alleviate physiological effects of psychological stress.</li> <li>- Provide examples</li> </ul>	<ul style="list-style-type: none"> <li>- Collective lecture and discussion.</li> <li>- Visual respiratory relaxation technique .</li> <li>- Modelling</li> <li>- Homework</li> </ul>	<ul style="list-style-type: none"> <li>-Computer</li> <li>- Data show device.</li> <li>- Relaxing music.</li> <li>- Session evaluation form</li> </ul>	60 min

		to consolidate the guidelines and techniques of this session.			
<b>Session n°6</b>	Training on problem solving mechanism	<ul style="list-style-type: none"> <li>- Training on problem solving step by step</li> </ul>	<ul style="list-style-type: none"> <li>- Collective lecture and discussion.</li> <li>- Moral reinforcement</li> <li>- Feedback</li> <li>- Modelling</li> <li>- Role playing mechanism.</li> <li>- Homework</li> </ul>	<ul style="list-style-type: none"> <li>- A board</li> <li>- Session evaluation form</li> </ul>	60 min
<b>Session n°7</b>	Self-efficacy training	<ul style="list-style-type: none"> <li>- Clarifying the concept of self-efficacy</li> <li>- Forming a positive self-perception</li> <li>- Modifying negative thoughts with positive ones.</li> </ul>	<ul style="list-style-type: none"> <li>- Collective lecture and discussion.</li> <li>- Emotional release.</li> <li>- Moral reinforcement</li> <li>- Feedback</li> <li>- Modelling</li> <li>- Homework</li> </ul>	<ul style="list-style-type: none"> <li>- Computer</li> <li>- Data show device.</li> <li>- A board</li> <li>- Self-efficacy brochure.</li> </ul>	60 min
<b>Session n°8</b>	Time management	<ul style="list-style-type: none"> <li>- Clarification of the concept and importance of academic skills.</li> <li>- Clarifying the concept of time management and its importance</li> <li>- Training on the skill of time management</li> </ul>	<ul style="list-style-type: none"> <li>- Collective lecture and discussion.</li> <li>- Moral reinforcement</li> <li>- Feedback</li> <li>- Homework</li> </ul>	<ul style="list-style-type: none"> <li>- Computer</li> <li>- Data show device.</li> <li>- A board</li> <li>- Time management brochure.</li> </ul>	60 min
<b>Session n°9</b>	Exams Preparation	<ul style="list-style-type: none"> <li>- Clarifying the importance of exams preparation</li> <li>- Discussing preparation obstacles.</li> <li>- Acquire the skill of exams preparation .</li> </ul>	<ul style="list-style-type: none"> <li>- Collective lecture and discussion.</li> <li>- Moral reinforcement</li> <li>- Feedback</li> <li>- Homework</li> </ul>	<ul style="list-style-type: none"> <li>- A board.</li> <li>- Exams preparation brochure.</li> </ul>	60 min
<b>Session n°10</b>	Final session	<ul style="list-style-type: none"> <li>- Identifying the objectives achieved by the counselling programme.</li> <li>- Applying the dimensional measurement using the Psychological stress scale.</li> </ul>	<ul style="list-style-type: none"> <li>- Collective lecture and discussion.</li> <li>- Moral and material reinforcement</li> <li>- Feedback</li> </ul>	<ul style="list-style-type: none"> <li>- A board</li> <li>- The Psychological stress scale.</li> <li>- Session evaluation form.</li> </ul>	60 min

		- Giving advices regarding the follow-up phase.			
Session n°11	Follow-up session	- Observing progress continuity and objectives achieved in previous sessions . - Applying the Psychological stress scale	- Collective lecture and discussion. - Feedback	- The Psychological stress scale.	unspecified

#### Statistical methods used in the study :

in order to verify the hypotheses of the study. Identify the characteristics of society sample and calculate the psychometric properties of study tools. The SPSS statistical packaging programme has been used, including the following statistical methods:

- Reliance on the repetitions and percentages to describe the characteristics of the society and the sample of the study.
- Computational averages and standard deviation were also used to calculate psychological stress level of the study sample.
- The Mann-Whitney test and the Wilcoxon test (nonparametric statistics) were used to detect differences between the rank averages of the experimental group and the control group on the Psychological stress scale, and the rank averages of the pre and post-measurement and following-measurement on the same scale.
- The Cohn equation was also used to calculate the size of the effect (scientific indication).
- The parametric statistics was used in the study due to the size of the sample below (30 students) on one side, and on the other side because the selection of the sample was non-random (free distribution).

#### 7. Analysis and discussion of research results:

**7.1. Analysis and discussion of the 1<sup>st</sup> hypothesis :** There are statistically significant differences between the average scores of the pre- and post measurement on the experimental group members on the dimensions of the Psychological stress scale.

**Table n°7: Clarifies the results of the Wilcoxon test to determine the difference between pre-measurement scores and the post-measurement of experimental sample individuals on the scale's dimensions**

Measured variable	Measurements	N	$\bar{X}$	S	Wilcoxon test Z	Sig
Psychological stress	pre-measurement	12	17.96	11.77	-3.064 <sup>b</sup>	0.002 Statistically significant
	post-measurement	12	25.75	14.14		

#### Effect size :

$$r = \frac{z}{\sqrt{n}}$$

Effect size	Small	Medium	Large	Range
r	0.10 : < 0.30	0.30 : < 0.50	≥ 0.50	[0,1]

- Effect size equal to z value split root sample size 12 means: 3.464
- 1<sup>st</sup> dimension effect size: -2.104 / 3.464 = 0.60 which means a large effect size as shown in the table above by Cohen
- 2<sup>nd</sup> dimension effect size: 3.064 / 3.464 = 0.88 which means a large effect size
- 3<sup>rd</sup> dimension effect size: 3.060 / 3.464 = 0.88 which means a large effect size
- 4<sup>th</sup> dimension effect size: 2.909 / 3.464 = 0.83 which means a large effect size

- Entire scale effect size: which means a large effect size  $3.064 / 3.464 = 0.88$  which means a large effect size

The table above indicates that:

The Wilcoxon test ( $Z = -3.064$ ,  $p < 0.01$ ) confirmed a significant reduction in psychological stress, supporting the hypothesis that "there are statistically significant differences between the average scores of the pre- and post-measurement on the experimental group members on the dimensions of the Psychological stress scale in favour of pre-measurement", where the calculation average of the post-measurement in the experimental group is the value = 75.25 which is lower than the calculated average pre-measurement value in the experimental group that reached the value = 77.96. So, The first hypothesis was proven to be true.

**The result of the hypothesis indicates** the effectiveness of the programme in alleviating psychological stress of the members of the experimental group, where the programme relied on several behavioural and cognitive techniques, and it also had a significant and visible effect in reducing psychological stress, including modelling, Relaxation, cognitive restructuring, rebuttal and self-monitoring, as well as the use of several methods in the programme: dialogue, discussion, persuasion, reinforcement and agreement with the members on the need to homework and discussing it at the beginning of each session, thereby alleviating psychological stress of the members of the experimental group.

**These results** align with the scientist Albert Ellis's principles and foundations of the Cognitive-Behavioural Theory. training on the ABC model highlighted the relationship between events, knowledge, beliefs and emotions identified by the individual. The programme training provided students with skills to recognize irrational thoughts and to refute, confront, and overcome them without causing them any psychological stress.

**The results of this hypothesis** are consistent with what many previous studies have indicated. Such as Hisham al-Khuli (2004), al-Jawad Mohammed (2006), Ahmad Hussein (2011), Majid Khayat and Malloh Sebaia (2012), Ahmad Kamel (2015), Tubal Fatima (2017) and Hidayat ben Saleh (2016), Despite the different techniques used in each study, all of them concluded that CBT-based counselling programmes were effective. However, they agreed on the vital role of these behavioural and emotional cognitive programmes in alleviating psychological stress.

**7.2. Analysis and discussion of the 2<sup>nd</sup> hypothesis :** There are no statistically significant differences between the average scores of the pre- and post-measurement on the control group members on the dimensions of psychological stress scale.

**Table n°8: Clarifies the results of the Wilcoxon test to determine the difference between pre-measurement scores and the post-measurement of control sample individuals on scale's dimensions**

Measured variable	Measurements	N	$\bar{X}$	S	Wilcoxon test Z	Sig
Psychological stress	pre-measurement	12	93.83	8.23	-1.300 <sup>b</sup>	0.194 Statistically non-significant
	post-measurement	12	94.17	8.54		

The table above indicates that :

The Wilcoxon test ( $Z = -1.300$ ,  $p > 0.01$ ) , supporting the hypothesis that there are no statistically significant differences between the average scores of the pre- and post-measurement on the control group members on the dimensions of the Psychological stress scale So the second hypothesis came true.

The hypothesis's results showed no progress in the control group any progress over time, neither after the end of the program nor while it was being applied. Because the programme was not applied to them and due to their lack of training in the same way as the experimental group.

This can be explained by the fact that the intervention of the Cognitive-Behavioural Counselling with its various techniques applied to the members of the experimental group has led to the achievement of the desired goals that can alleviate their psychological stress other than the control group on which no improvement has been observed, as confirmed by Meichenbaum, Albert Ellis and Aron Beck "In order to change an individual's behaviour, it must include his beliefs, feelings and thoughts". (Fathy, 2006, p. 36)

The results of the current study are consistent with the study of Fatima Tubal (2017) which emphasized the effectiveness of applying a Cognitive-Behavioural Counselling programme in alleviating psychological stress of the experimental group compared to the control group to which no type of counselling programme was applied on, and the study of Nabila Ahmed Abu Habib (2010) and Bakiri Najia (2012) which emphasizes that there are no statistically significant differences between the control group's average scores in pre and post-measurement.

In the light of the of the 2<sup>nd</sup> hypothesis results and the conclusions of previous studies, it is clear to us the importance of indicative intervention for the purpose of alleviating symptoms of psychological stress, according to a structured plan that includes appropriate techniques that are an important factor in the programme's success.

This has not benefited members of the control group, which has shown no improvement. This result supports the success of the programme in alleviating psychological stress of the experimental group compared to the control group.

**7.3. Analysis and discussion of the 3<sup>rd</sup> hypothesis :** There are statistically significant differences between the average scores of the experimental group and the control group on the pre-measurement on the dimensions of psychological stress scale.

**Table 9:** Explains the results of the Mann-Whitney test to determine an indication of the differences between the average scores of experimental group members and the average scores of control group members in post-measurement on the dimensions of the scale

Measured variable	Groups	N	Mean rank	Sum of rank	Mann-Whitney test Z	Sig
Psychological stress	Experimental group	12	7.96	95.50	17.500	0.002
	Control group	12	17.04	204.50		Statistically significant

Effect size :

$$r = \frac{Z}{\sqrt{n}}$$

effect size :  $-3.151/3.464 = 0.909$

Which means a large effect size as per Cohen's previous table

Through the table we observe that:

The value of the Man Whitney test was 17.500 at the indicative level of sig = 0.02

Which is a smaller value than the 0.01 indicator level, we accept the hypothesis that there are statistically significant differences between the average scores of the experimental group and the control group on the pre-measurement on the dimensions of the Psychological stress scale for the control group.

The mean rank for the experimental group was 7.96, which was lower than the mean rank value for the control group, which was 17.04. Thus, the 3<sup>rd</sup> hypothesis was proven.

There were statistically significant differences between the average scores of the experimental group and the average scores of the control group in the post-measurement of the dimensions of psychological stress for the control group.

This means that the programme has proven to be effective in relieving psychological stress for the experimental group members to whom it is applied. It alleviated the symptoms of psychological stress in its educational, relational, psychological and physiological aspects.

Behavioural cognitive techniques, especially lecture, dialogue, discussion, and homework, informed the individuals of the experimental sample of the sources of psychological pressure, its reasons and effects, how to cope with it or adapt to it and acquire self-monitoring skills.

This is consistent with Beck's thoughts on helping an individual learn about their own thinking and learn more realistic ways to formulate their experiences. This way gives meaning to the beneficiary because it allows them to use their knowledge of misconceptions and misinterpretations early on. (Al Shenawi, 1995, p. 49)

The researchers believe that the students' strong desire, willingness, and enthusiasm for the programme, especially after explaining its objectives and benefits at the first session, is the reason of this result. This gave researchers the opportunity to practice sessions in a positive and interactive manner, the students show a need for more information on psychological stress and methods of confronting it.

This was due to the fact that they were experiencing psychological stress, especially during the examination period, which made them desperately in need of such counselling programmes.

**7.4. Analysis and discussion of the 4<sup>th</sup> hypothesis :** There are statistically significant differences between the average scores of the experimental group on the pre-measurement and the follow-up measurement on the dimensions of the Psychological stress scale .

**Table n°10 : Clarifies the results of the Wilcoxon test to determine the difference between the average individual scores of the experimental group in post-measurement and tracking measurement on the dimensions of the scale**

Measured variable	Measurements	N	$\bar{X}$	S	Wilcoxon test Z	Sig
Psychological stress	post-measurement	12	75.25	14.14	-1.663 <sup>b</sup>	0.102 Statistically non-significant
	follow-up measurement	12	74.92	14.33		

Due to the table above :

The Wilcoxon test value of is -1.633 at sig = 0.102, which is above the indicator level of 0.01, which it is significant .Thus, we deny the 3<sup>rd</sup> hypothesis that there are statistically significant differences between the average scores of the experimental group on the pre-measurement and the follow-up measurement on the dimensions of the Psychological stress scale .

The computational average for post-measurement in the experimental group was =75. 25.

It is greater than the value of the same group's follow-up average of = 74. 92

We accept the alternative hypothesis that there are no statistically significant differences between the average scores of experimental group members in post-measurement and follow-up measurement on the dimensions of the Psychological stress scale .

Thus, the fourth hypothesis is not correct. When comparing post and follow-up measurements with pre-measurements, it is clear to us how successful and effective the programme is in alleviating psychological stress in the members of the experimental group.



This result also indicates the programme's continued effectiveness. This indicates its efficiency, effectiveness, acceptance and willingness of the students to take advantage of it, as evidenced by their commitment to the sessions and the obligation to perform their required homework and to train them well. Also, practising technicians through sessions and responding to instructions, in other words, After benefiting from the programme and applying the ABC model to Albert Ellis, pupils were able to argue and reject irrational beliefs and misconceptions. Their challenge to irrational thoughts led them to change them with logical ones. And then they achieved a state of general satisfaction and psychological stability, which is to say, relieve psychological stress.

This result is consistent with the results of the Khouiled Asmaa Study (2013), the Mohamed Marzouk Study (2005) and the Yusfi Hadaa Study (2012).

The results of their studies confirmed the continued effectiveness of behavioural cognitive counselling and emotional rational programmes after a certain period of implementation. This is due to students' acquisition of mechanisms for permanently applying technicians and strategies to cope with psychological stress.

**7.5. Analysis and discussion of the 5<sup>th</sup> hypothesis :** There are statistically significant differences between the average scores of the experimental group and the control group on the follow-up measurement on the dimensions of psychological stress scale .

**Table n°11 : Explains the results of the Mann-Whitney test to determine an indication of the differences between the average scores of experimental group members and the control group members in follow-up measurement on the dimensions of scale .**

Measured variable	Groups	N	Mean rank	Sum of rank	Mann-Whitney test Z	Sig
Psychological stress	Experimental group	12	8.04	96.50	18.50	0.002 Statistically significant
	Control group	12	16.96	203.50		

**Effect Size:** Using the same previous equation:

$3.093 / 3.464 = 0.89$  Which means a great effect size

**Based on the above table we note that:**

The value of the Mann Whitney test was 17.50 at SIG = 0.002

It is a value lower than the indicative level of 0.01.

So we accept the hypothesis that there are statistically significant differences between the average scores of the experimental group and the control group on the follow-up measurement on the dimensions of the Psychological stress scale in favour of the control group, where the mean rank in the experimental group are 8. Which is less than the mean rank value for the control group, which was 16.96.

Thus, the fifth hypothesis has been proven because there has been a significant decrease in the results of the experimental group on the dimensions of the Psychological pressure scale compared to the control group whose stress remained high due to lack of assistance, psychological services, or counselling programmes, in addition to students hearing about the difficulty or understanding the exams.

This means that the programme has proven effective in alleviating psychological stress symptoms, in all its relational, educational and physiological aspects in the experimental sample.

Cognitive and behavioural techniques based on Cognitive-Behavioural Theory, rational and emotional theory, cognitive theory of Beck, and learning theory by Seligman such as relaxation, working to develop subjective effectiveness, fighting negative thoughts, refuting and replacing them with constructive positive ones, material and moral reinforcement, modelling, persuasion, etc. All had a major effect on alleviating psychological stress of the experimental group members, because all these techniques have contributed to training these students to observe their own thoughts and refute them themselves without waiting for the help of the counsellor, who plays an important role in the success of the mentoring process according to Albert Ellis "It is not the counsellor but the patient".

According to the results of the current study, counselling and treatment programmes are effective in reducing psychological stress, improving students self-understanding, and improving educational achievement, as agreed upon by Khouiled Asmaa (2013) and Nasser al-Khawalda Asmaa (2018).

Most hypotheses were proven to be true so we conclude that Cognitive-Behavioural Counselling programme to alleviate psychological stress has achieved its desired goals and proven its effectiveness.

**8. Conclusion :** The current study is included within the psychological applied studies. Discussing one of the most important subjects affecting many groups of society, especially adolescents. "Psychological stress", as this category is more vulnerable to psychological stress depending on the specificity of the stage they are going through, The adolescent may find himself incapacitated in the face of these pressures, especially if they coincide with the Middleschool stage that ends with the Middleschool certificate examination. Thus increasing the conflict and psychological suffering experienced by adolescents at this stage within educational institutions, Based on the previous, the adoption and implementation of counselling programmes has become an urgent needed to help this important group cope with psychological stress through a range of effective behavioural cognitive techniques and strategies.

The results indicated that the programme had contributed to alleviating psychological stress of the experimental group students.

Finally, it should be noted that these results remain within the spatial, temporal and human limits and the approach and data collection tools used in this research, so other research on this subject or aspects of it can be carried out with the expansion of the aforementioned aspects.

Thus, The Cognitive-Behavioural Counselling in this study has enabled to develop the skills of the experimental sample members that enable them to cope with psychological stresses and help them overcome their psychological, academic and social problems and contribute to reduce their level of psychological stress through trained behavioural cognitive techniques.

#### 9. Study suggestions :

In the light of the results of the current study, the importance of the scientific study reveals many research points for interested researchers for new or supplementary research we suggest:

- Conducting studies on middle and high school students for being deprived of psychological support.
- Conducting studies on counselling programmes for the prevention of psychiatric disorders at early educational levels.
- Designing other CBT-based programmes and applying them to different samples and other psychological problems.
- The need to activate the role of a psychologist in educational institutions to help students overcome their psychological problems and alleviate their psychological stress.
- Using the family and professors to provide support and psychological support to students.
- Use the role of counselling and guidance within educational institutions.

#### References :

1. Ahmed, M. (2008). *Dictionary of contemporary arabic*. World of the book.
2. Al Saedi, M. (2012). Sources of psychological stress among physical education and sport teachers. *Bachelor's thesis*. Ouergla: University of Kasdi Merbah.

3. Al Samili , H. (2009). Efficacy of rational behavioral counselling program in alleviating disruptive behavior among a sample of high school students in the area of academic Jazana . *PhD thesis*. Saudi arabia: University of Oum Al-Qoura.
4. Al Shenawi, M. (1995). *Psychotherapy and counselling theories Encyclopedia of Counselling and psychotherapy*. Cairo - Egypt: Dar Al Gharib for publishing and distribution.
5. Ayat Hamouda, H., Taibi, E.-H., & Ayat Hamouda, D. (2018). *Strategies to cope with the stress of life events and their relationship to mental and physical health*. Algeria: University Publications Office.
6. Cohen, S., Georgy, E., & Denise, J.-d. (2007). Psychological stress and disease. *American medical association . vol298 no 14*.
7. El Atewy, F. (2006). Standardization of the colored progressive matrices test by Raven the normal level for the age group 16 to 18 in Saudi Arabia. *Master's thesis*. Jordan: University of Mutha.
8. Fathy, S. (2006). Cognitive-Behavioural Counselling *theory in service of the individual to improve social skills among children*. Retrieved from [www.dr-fathy.com](http://www.dr-fathy.com).
9. Ghrieb , H. (2016). *Applied methodology in psychosocial studies* . Djelfa - Algeria: Dar El Douha for Publishing and Distribution.
10. Ibrahim, A.-E. (1998). *Depression, Modern-day disorder, knowledge and methods of treatment*. Kuwait: World of knowledge series.
11. Koraishi, A. (1999). Compatibility issues among adolescents in high school. *PhD thesis*. Algeria: University of Constantine.
12. Lazarus, S. (1993). From psychological stress to the emotions : A history of changing outlooks. *Annual review psycho-inc .44 : 1-21*.
13. Monoroe, S., & Slavich, G. (2016). *Psychological stressors : overview*. Retrieved from <http://dx>.
14. Schneiderman, N., Gail, I., & Scott, D. (2005). Stress and health : psychological, behavioral and determinants.
15. Zahran, M. (2000). *Mini psychological counselling to deal with scholar problems* . Cairo: World of the book.