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**| RESEARCH ARTICLE**

**Post-Traumatic Growth among Iraqi Refugee Adolescent Girls in Jordan: A Quasi-Experimental Study to evaluate the Effectiveness of a Group Counseling Program Based on Rational Emotive Behavior Therapy**

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**| ABSTRACT**

This study aimed to identify the effectiveness of a group counseling program based on Rational Emotive Therapy in achieving post-traumatic growth among Iraqi refugee adolescent girls in Jordan. The study employed a quasi-experimental design, and the sample consisted of (30) Iraqi refugee girls attending the Our Lady of Mercy Center in Zarqa Governorate, Jordan. They were randomly divided into two groups: an experimental group (n=15) that received a 16-session counseling program based on Rational Emotive Therapy, and a control group (n=15) that did not receive any counseling program. The results showed statistically significant differences between the scores of the experimental and control groups on the post-traumatic growth scale, favoring the experimental group. Furthermore, the results showed no statistically significant differences between the post-test and follow-up measurements of the experimental group on the post-traumatic growth scale, indicating the continued effectiveness of the counseling program as measured by the follow-up assessment. The study concluded with a set of recommendations, most importantly training counselors in counseling program based on Rational Emotive Therapy-based counseling programs in schools serving refugees, given its role in fostering post-traumatic Growth among them.

**| KEYWORDS**

Counseling Program, Rational Emotive Behavior Therapy, Post-Traumatic Growth, Iraqi Adolescent Girls, Jordan.

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**1. Introduction**

Individuals facing war are exposed to numerous traumatic events resulting from violence, bombing, torture, home destruction, loss, and kidnapping, with a significant proportion of them being at risk of physical, mental, and social health problems.

Consequently, millions are forced to flee their homes and seek refuge in other countries. In 2020, the number of people whose humanitarian crises contributed to their forced displacement across national borders in various parts of the world reached 34 million refugees—double the number in 2000. In Jordan, the conflict environment that began in Iraq caused the displacement of many Iraqi refugees. Specifically, there are currently approximately 66,386 Iraqi refugees, according to UN statistics, distributed across several regions in Jordan (UNHCR, 2020). Toth-Bos, Wisse & Farago (2019) highlighted some of the main reasons driving refugees to leave their homeland, including seeking security and safety, fleeing war, changing their life circumstances and those of their children related to material goals for financial well-being, and protecting personal and social identity.

Refugees' response to experiences in the host country varies based on several factors, including personal and psychological traits, age stage, adaptability, and personal orientations. Older refugees are more capable of absorbing stress than adolescents and are more balanced. Despite the strong negative impact of trauma, they tend towards positive growth and change after trauma, known as post-traumatic growth. Post-traumatic growth coincides with attempts to cope with negative circumstances (Seligman, 2012).

Ahmed (2017) indicates that adolescents are the most vulnerable and most affected among all war victims due to the fact that wars undermine the social structure of communities and force them to leave their homes and country, which in turn separates them from their community and culture. In contrast, Calhoun & Tedeschi (2014) point out that traumatic and shocking experiences may enable adolescents to recognize their own strengths, increase self-confidence, and become more empathetic, compassionate, and reflective in relationships with others. Changes in life philosophy entail changing life priorities, increasing appreciation of life, and work towards achieving post-traumatic growth.

Thinking about the future leads traumatized refugee adolescents to evaluate the benefits of the distant future more significantly, helping them regulate emotions and exhibit adaptive behaviors.

Adolescents with positive future orientations have fewer negative outcomes when facing trauma-induced stress, as well as lower levels of depressive symptoms and higher levels of well-being. Therefore, post-traumatic growth is particularly important in the process of emotion regulation and mental health, and can serve as an approach to help them manage emotions, self-regulate, and reduce the potential harmful impact of trauma (Zheng, Chen & Gan, 2021).

Based on the foregoing, researchers, policymakers, and counselors are interested in protective factors that mitigate the risks of irrational thoughts among adolescents through their exposure to war, by focusing on achieving post-traumatic growth in adolescents through counseling programs. When refugee adolescents strive to achieve post-traumatic growth and develop their future orientation within the self-system, attitudes and beliefs about the self become central to the behavioral choices they make (Echterhoff et al., 2020; Jackman & MacPhee, 2017).

Farnia et al. (2018) pointed to the effectiveness of rational emotive therapy and cognitive interventions in improving post-traumatic growth among adolescents who have experienced trauma, and that rational emotive therapy can help increase levels of post-traumatic growth among adolescents who have been abused. Ellis introduced the rational emotive therapy approach, proposing that changing individuals' irrational thoughts results in a change in their behaviors. By changing the irrational or illogical thoughts of disturbed individuals, they will get rid of their disorders and symptoms (Corey, 2023).

## **2. Study Problem**

Jordan has witnessed waves of Iraqi refugees for approximately thirty years, i.e., after the Gulf War (1990-1991), then the American invasion of Iraq in the spring of 2003, and then the control of ISIS over vast areas in northern Iraq starting in the summer of 2014. All these negative circumstances led many Iraqis to leave their homes and homeland and seek refuge in another country. They are also among the most important factors leading to the development of psychological disorders, accompanied by preoccupation with daily life and how to satisfy daily needs among Iraqi refugees in general and their adolescent children in particular, making the refugee adolescent more vulnerable compared to an ordinary person.

The researcher, through her direct work with this group of adolescent females visiting the health and psychological clinic at the Our Lady of Mercy Center affiliated with the Pontifical Mission located in Zarqa Governorate, observed that they sought help and advice regarding their appraisal of life, relationships with others, personal growth, new opportunities, and future planning as a result of the refugee experience they had undergone on one hand and the circumstances they live in on the other. Accordingly, they are—in the researcher's belief—in need of further psychological attention and care. Given the statistics on the numbers of refugees, especially Iraqis in Jordan, and their impact on the refugees themselves and the difficult circumstances and traumatic events they experience, this study, which focuses on the group of adolescent Iraqi refugee females, aims to investigate the effectiveness of a rational emotive program in improving post-traumatic growth among this group. The researcher notes the scarcity of Arab studies that have investigated this topic. The research problem lies in attempting to verify the effectiveness of a group counseling program based on rational emotive therapy in enhancing post-traumatic growth among Iraqi refugee adolescents in Jordan. Specifically, this study tested the validity of the following hypotheses:

**First Hypothesis:** There are statistically significant differences at the significance level ( $\alpha = 0.05$ ) between the mean performance scores of the experimental and control groups on the post-measurement of the post-traumatic growth scale attributable to the counseling program.

**Second Hypothesis:** There are statistically significant differences at the significance level ( $\alpha = 0.05$ ) between the mean performance scores of the experimental group on the post-measurement and follow-up measurement of the post-traumatic growth scale.

## **3. Significance of the Study**

The theoretical significance of the study lies in enriching Arab studies with research on achieving post-traumatic growth, which can be referenced in future research. This variable is rarely used in Arab studies to the researcher's knowledge. The current study also links rational emotive therapy with post-traumatic growth, and to the researcher's knowledge, no Arab studies have included this variable. This study may be beneficial and add value to studies on refugees worldwide, in addition to deepening psychological research on the adolescent population, which is a critically important age stage whose circumstances reflect on the individual's life trajectory in the long term.

From a practical perspective, its significance is summarized in the importance of the therapeutic program in the positive impact it may achieve for the adolescent female participants in this study, including improving their post-traumatic growth. It also provides researchers and scholars with research tools such as a rational emotive program that can be applied to adolescents and to groups similar to the current study's population in characteristics and traits, and the possibility of investigating the effectiveness of rational emotive therapy on variables other than those of the current study. It also provides researchers with a standardized scale suitable for adolescents and similar groups, namely the post-traumatic growth scale, which may assist researchers in the psychological field in future research, given the world's circumstances of wars, diseases, economic crises, and societal problems, and the increasing need for programs and tools to help individuals overcome and cope with these crises.

#### 4. Conceptual Definitions

**Group Counseling Program** : A set of planned psychological procedures and methods in terms of preparation, organization, supervision, evaluation, and follow-up, used with a specific, limited number of individuals, defined by specific strategic controls and special tools for a particular goal, for use by professionals in the psychological field (Corey, 2023).

**Post-Traumatic Growth** : Typically refers to "the continued positive psychological change resulting from adversity, trauma, or extremely challenging life circumstances" (Jayawickreme et al., 2021:145).

**Refugee** : Defined by Article 1 of the 1951 Convention relating to the Status of Refugees as a person who is outside their country of nationality or habitual residence due to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion, and is unable or, owing to such fear, unwilling to avail themselves of the protection of that country or return to it for fear of persecution (UNHCR, 1951).

#### 5. Previous Studies

Given the importance of this topic, the educational literature is replete with numerous studies investigating various subjects addressing counseling programs and post-traumatic growth among refugees. For example, (Duha, Baioumy, Annuar & Rahman ,2021) conducted a study to explore the effectiveness of a religious counseling program based on Albert Ellis's theory in treating psychological alienation among Syrian refugee students in schools of Qasabat Al-Karak in Jordan. The study employed a quasi-experimental approach. The sample consisted of (60) Syrian students in schools of Qasabat Al-Karak, randomly divided into two groups: a control group that did not receive the counseling program, and an experimental group that applied the counseling program. The researchers developed a counseling program consisting of (16) sessions over (6) weeks, with two sessions per week, each session lasting (60) minutes. The study's results showed the effectiveness of the religious counseling program based on Albert Ellis's theory in treating psychological alienation among Syrian students in Karak schools in Jordan. The results also demonstrated the stability of the counseling program's effect one month after its application to the experimental group.

Usunobun, Asatsa & Macharia (2021) conducted a study aimed at identifying the effect of post-traumatic growth on post-traumatic stress disorder among refugees in Nairobi County, Kenya. The study used a descriptive approach. The study sample consisted of (133) refugees. The results showed a weak negative relationship between post-traumatic stress disorder and post-traumatic growth.

Meanwhile, a study by Al-Samadi and Qasim (2020) aimed to reveal post-traumatic growth and its relationship to self-management and optimism among Syrian refugee students in Jordanian schools. The study employed a descriptive approach. The study sample consisted of (501) male and female students. The results showed that the level of post-traumatic growth and self-management was moderate, and there was a positive correlational relationship between post-traumatic growth and self-management, and between post-traumatic growth and optimism.

A study by Wen et al. (2020) aimed to explore levels of post-traumatic growth and associated factors among adult Syrian refugees living in Istanbul, Turkey. The study used a descriptive approach. The sample consisted of (768) Syrian refugees living in Istanbul, Turkey. The results showed that adult Syrian refugees had a moderate level of post-traumatic growth. Post-traumatic growth and post-traumatic stress disorder were related in a curvilinear manner. The results also showed the highest levels of post-traumatic growth for those suffering from moderate levels of post-traumatic stress disorder.

Al-Sharman (2019) conducted a study aimed to explore the effectiveness of a counseling program based on rational emotive behavior therapy in modifying cognitive distortions and meaning of life among Syrian female refugee students in Jordan. The study employed a quasi-experimental approach. The sample consisted of (30) Syrian female students, randomly assigned to two groups: an experimental group (15 students) that applied the counseling program over (17) sessions at a rate of two sessions per week, and a control group (15 students) that did not receive any counseling intervention. The results showed the effectiveness of the program based on rational emotive behavior therapy in modifying cognitive distortions and improving meaning of life. The results also demonstrated the stability of the counseling program's effect one month after its application to the experimental group.

Cengiz, Ergün & Cakici (2019) conducted a study aimed at investigating the relationship between post-traumatic stress disorder and post-traumatic growth in Syrian refugees. The study used a descriptive approach. The study sample consisted of (310) Syrian refugees living in the Reyhanli district of Hatay, Turkey. The results showed that refugees with post-traumatic stress disorder suffered from war-related traumatic events, and that post-traumatic growth was higher among refugees with post-traumatic stress

disorder, particularly in domains related to others and spiritual change. Resilience and post-traumatic growth were found to be positively correlated, and regression analysis showed that resilience promotes post-traumatic growth.

Al-Samadi and Shehadeh (2018) conducted a study aimed at exploring the effectiveness of a program based on rational emotive behavior therapy in reducing abusive behaviors among a selected sample of Syrian refugee mothers who practice aggressive behavior against their children in the Zaatari camp in Jordan. The study used a quasi-experimental approach. The sample consisted of (32) women who scored highest on the abusive behavior scale, randomly selected into an experimental group (16 mothers) and a control group (16 mothers). The results showed the effectiveness of the program based on rational emotive behavior therapy in reducing abusive behaviors among Syrian refugee mothers who practice aggressive behavior against their children. The results also demonstrated the stability of the counseling program's effect one month after its application to the experimental group.

Previous studies resemble the current research in several aspects, particularly in some of them using counseling programs based on rational emotive therapy as a fundamental approach. This study also agrees with some of those studies in adopting a quasi-experimental design and using a similar sample size. What distinguishes this study is its focus on examining the effectiveness of a group counseling program based on rational emotive therapy in enhancing post-traumatic growth among Iraqi refugee adolescents in Jordan. To the researcher's knowledge, no previous studies have addressed this topic in the Jordanian context, highlighting the importance of conducting this research.

## **6. Study Methodology :**

The quasi-experimental approach was adopted due to its suitability to the nature of the study and its ability to achieve the study objectives.

### **6.1 Study Population and Sample :**

The study participants consisted of all Iraqi female refugee adolescents aged between (15-18) years who visit the Our Lady of Mercy Center, who arrived in Jordan within the past five years, totaling (125). The conditions for participation in the study were :

- Be an Iraqi female refugee visiting the Our Lady of Mercy Center.
- Be aged between (15-18) years.
- Not be diagnosed with or have any intellectual difficulties.
- Scores of the Iraqi female refugee on the study's post-traumatic growth scale should indicate a problem warranting counseling intervention targeted by the counseling program based on rational emotive therapy specific to the current study.
- Have the willingness and personal consent to participate in the counseling program, in addition to parental consent.

To select the study sample, the post-traumatic growth scale was administered to them. (30) Iraqi female refugees who met the participation criteria were purposefully selected based on the lowest scores obtained on the post-traumatic growth scale. They were then randomly divided equally into two groups : an experimental group of (15) refugees who received the group counseling program based on rational emotive therapy, and a control group of (15) refugees without any therapeutic intervention.

### **6.2 Study Instrument**

#### **First : Post-Traumatic Growth Scale**

The researcher developed the post-traumatic growth scale for Iraqi female refugee adolescents in Jordan after reviewing available sources from previous literature and the following studies : (Tedeschi & Calhoun, 1996 ; Younes, 2018 ; Vazquez et al., 2021 ; Chen et al., 2021). The initial form of the scale consisted of (42) items distributed across three dimensions : Self-Perception dimension (17 items), Relationships with Others dimension (12 items), and Philosophy of Life dimension (13 items).

To verify the content validity of the post-traumatic growth scale, the scale was presented to (9) arbitrators who are university professors specializing in the field of psychological counseling at Jordanian universities. Based on the opinions of the arbitrators, the wording of some scale items was modified. Items numbered (10, 12, 13, 15) from the Self-Perception dimension and item (10) from the Philosophy of Life dimension were deleted. The following items have a reverse direction relative to the scale : (2, 3, 10, 13) from the Self-Perception dimension, items (3, 4, 7) from the Relationships with Others dimension, and items (2, 7, 12) from the Philosophy of Life dimension, while the remaining items are in the same direction as the scale. Thus, the scale became composed of (37) items.

Construct validity of the scale was also verified by administering it to a pilot sample of (20) Iraqi female refugees from the study population and outside its sample. The correlation coefficient values for the Self-Perception dimension items ranged between (0.53 - 0.87) with their dimension, and between (0.53 - 0.74) with the total scale. The correlation coefficient values for the Relationships with Others dimension items ranged between (0.50 - 0.79) with their dimension, and between (0.52 - 0.68) with the total scale. The correlation coefficient values for the Philosophy of Life dimension items ranged between (0.55 - 0.88) with their dimension, and between (0.50 - 0.79) with the total scale. These were statistically significant at the significance level ( $\alpha = 0.05$ ), indicating that the scale possesses high validity and is suitable for the study's purposes.

To verify the reliability of the post-traumatic growth scale, it was administered to a pilot sample from the study population and outside its sample of (20) Iraqi female refugees. After two weeks, the study instrument was re-administered to the same sample.

The Pearson correlation coefficient values for the scale dimensions and the scale as a whole were (0.78, 0.85, 0.74, 0.89) respectively. The internal consistency coefficient was also extracted using Cronbach's Alpha for each dimension of the scale. The internal consistency coefficient values for the scale dimensions and the scale as a whole were (0.92, 0.88, 0.92, 0.95) respectively, indicating that the scale possesses high reliability and is suitable for the study's purposes. Thus, the scale was finalized in its definitive form consisting of (37) items. To judge the levels of post-traumatic growth, respondents respond to each item on the scale using five options ranging from a score of (5) "Always," (4) "Usually," (3) "Often," (2) "Sometimes," and (1) "Rarely." Consideration was given to the gradation of the scale used in the study, adopting a criterion divided into three equal categories : (1 - 2.33) low degree of post-traumatic growth, (2.34 - 3.67) moderate degree of post-traumatic growth, (3.68 - 5) high degree of post-traumatic growth.

**Second : The Counseling Program**

The researcher constructed the therapeutic counseling program according to the following procedures :

Determining the General Objective of the Therapeutic Counseling Program : To construct a group counseling program based on rational emotive therapy in achieving post-traumatic growth among Iraqi female refugee adolescents in Jordan.

Identifying the Target Group: Iraqi female refugee adolescents visiting the Our Lady of Mercy Center in Zarqa City, Jordan.

Sources of the Therapeutic Counseling Program Content : The content of the therapeutic counseling program was selected from the following sources:

- The theoretical framework of the study.
- The post-traumatic growth scale used in the current study.
- Books, references, and previous studies related to group counseling programs based on rational emotive therapy, after reviewing available sources from the following studies: (Anggreini, Daharnis & Karneli, 2019; Popa & Predatu, 2019; Japar, Lianasari, & Suryawan, 2020).

Counseling Program Sessions: The therapeutic counseling program in its initial form consisted of (16) sessions, in addition to one final session one month after the program's conclusion during which the follow-up measurement was applied to the experimental group members only.

Duration of the Counseling Program Sessions: The group counseling program sessions were conducted by the researcher over (8) weeks, at a rate of two sessions per week, with each session lasting approximately (80) minutes, during the second academic semester at the Our Lady of Mercy Clinic.

Validity of the Counseling Program: To ensure the content validity of the group counseling program based on rational emotive therapy in achieving post-traumatic growth among Iraqi female refugee adolescents in Jordan, it was presented to (7) arbitrators who are university professors specializing in the field of psychological counseling at Jordanian universities. They were asked to provide their opinions regarding the clarity and accuracy of the counseling program's objectives, the adequacy of the number of sessions in the program, the adequacy of the duration of each session, the adequacy and diversity of the number of activities, the appropriateness of the counseling methods for the subject of the current study, the accuracy of the wording and linguistic construction of the program, and to suggest any modifications they deemed appropriate. Based on the opinions and suggestions of the arbitrators, modifications were made to the group counseling program based on rational emotive therapy. Table (1) shows the detailed topics of the counseling program sessions.

**Table (1):  
Detailed Topics of the Group Counseling Program Sessions**

Session	Title	Objectives	Methods	Tools
First	Introductory	- The counselor gets to know the participants in the group. - Build a degree of trust between the counselor and the participants in the group. - Participants become familiar with the objectives of the counseling program. - Identify participants' expectations of the program and provide feedback. - Determine and agree upon the time and place of the counseling sessions.	- Information delivery - Icebreaking - Questions - Feedback	- Paper and pens - Whiteboard - Group instructions consent form

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Session	Title	Objectives	Methods	Tools
Second	Identifying Irrational Thoughts (1)	- Define the meaning and importance of thoughts. - Recognize awareness of thoughts. - Train participants to identify their thoughts. - Identify thoughts related to self-perception.	- Lecture (information delivery), examples, cognitive connector, thought bubbles, thought record, mirror exercise	- Whiteboard and marker - Paper and pens - Illustrative models and forms
Third	Identifying Thoughts (2)	- Identify thoughts related to relationships. - Identify thoughts related to philosophy of life.	- Information delivery, questions, discussion, thought record	- Paper and pens - Whiteboard and marker
Fourth	Connecting Thoughts to Emotions and Behavior (1)	- Recognize the relationship between thoughts, emotions, and behavior by explaining the (ABC) model. - Distinguish between rational and irrational thoughts.	- Information delivery, discussion questions, examples, comparison table between rational and irrational thoughts, (ABC) model, homework	- Whiteboard - Pens - Paper
Fifth	Connecting Thoughts to Emotions and Behavior (2)	- Connect participants' thoughts to emotions and behavior regarding self-perception, philosophy of life, relationships, and future orientations.	- Information delivery, discussion questions, brainstorming questions	- Whiteboard and marker - Pens and paper
Sixth	Thoughts and Dealing with Life Problems	- Identify the life problems participants face in their lives. - Recognize the importance of thoughts and the role they play in dealing with problems.	- Information delivery, examples, thought tree	- Whiteboard and marker - Question templates
Seventh	Refuting and Confronting Irrational Thoughts (1)	- Participants identify patterns of irrational beliefs.	- Information delivery, questions and discussion, examples	- Whiteboard and marker - Paper and pens
Eighth	Refuting and Confronting Irrational Thoughts (2)	- Participants learn how to refute their irrational thoughts. - Train participants to refute irrational thoughts about the self. - Train participants to refute irrational thoughts about relationships with others. - Train participants to refute irrational thoughts about life. - Train participants to	- Role-playing - Refutation (Socratic dialogue) - Dialectical questions - Self-talk - Thought record	- Whiteboard and marker - Paper and pens

Session	Title	Objectives	Methods	Tools
		refute irrational thoughts about future orientations.		
Ninth	Self-Perception and Strong Personality	- Participants identify traits of a strong personality. - Awareness of self-talk and its types. - Connect strong personality with self-perception. - Connect strong personality with the nature of thoughts. - Recognize the relationship between strong personality and self-talk. - Apply a self-talk exercise. - Discuss how to develop a strong personality.	- Lecture - Questions and discussion - Comparison table - Three columns - Role-playing - Dyads - Self-talk exercise	- Whiteboard and marker - Paper and pens
Tenth	Relationships with Others	- Participants recognize the importance of relationships in an individual's life. - Participants connect thoughts about relationships to emotions and behavior. - Participants distinguish between healthy relationships and toxic relationships. - Participants learn how to improve relationships with others.	- Information delivery - Modeling - Thought-stopping exercise - Role-playing	- Whiteboard and marker - Paper and pens - Chairs
Eleventh	Philosophy of Life (1)	- Explain post-traumatic growth. - Make participants aware of the importance of life and appreciating it. - Train participants to modify thoughts about life.	- Discussion questions, brainstorming, examples, life evaluation exercise, meditation exercise	- Whiteboard and marker - Illustrative drawing - Colored cards and pens
Twelfth	Philosophy of Life (2)	- Make participants aware of new opportunities in life.	- Lecture, video presentation (modeling), examples, storytelling, discussion, brainstorming questions, positive self-talk	- Whiteboard and marker - Video projector
Thirteenth	Predicting the Future	- Participants acquire the skill of assessing current circumstances, goals, and planning. - Participants acquire the skill of predicting the future.	- Information delivery, questions and discussion, symbolic modeling: video presentation, examples	- Video projector, whiteboard and marker, paper and pens

Session	Title	Objectives	Methods	Tools
Fourteenth	Planning for the Future	- Recognize the meaning of effective planning. - Recognize the elements of a plan. - Apply problem-solving method	- Lecture, information delivery, discussion, modeling, problem-solving	- Whiteboard and marker, paper and pens, video clip
Fifteenth	Free Will	- Participants recognize the meaning of choice. - Participants recognize the meaning of free will. - Participants recognize how to have free will. - Connect free will to thoughts.	- Discussion questions, examples, brainstorming questions, video presentation, role-playing	- Whiteboard and marker - Video presentation software - Pens and paper
Sixteenth	Termination	- Summarize the content of previous sessions, recalling key skills and themes. - Evaluate the extent of participants' benefit from the group session content. - Administer post-traumatic growth scales. - Termination.	- Summarization - Discussion - Feedback - Positive reinforcement	- Participant evaluation forms for the group program, Post-Traumatic Growth Scale, symbolic gifts

## 7. Results and Discussion

Results Related to the First Hypothesis : There are statistically significant differences at the significance level ( $\alpha = 0.05$ ) between the mean performance scores of the experimental and control groups on the post-measurement of the post-traumatic growth scale attributable to the counseling program. Arithmetic means, standard deviations, adjusted means, and standard errors were calculated for the scores of the experimental and control group members on the dimensions of the post-traumatic growth scale and the total score, pre- and post-measurement. Table (2) shows this.

**Table (2):  
Arithmetic Means, Standard Deviations, Adjusted Means, and Standard Errors of Sample Members' Scores on the Dimensions of the Post-Traumatic Growth Scale and the Total Score According to the Group Variable (Experimental, Control).**

Dimension	Group	N	Pre-Measurement		Post-Measurement		Adjusted Mean	Standard Error
			Arithmetic Mean	Standard Deviation	Arithmetic Mean	Standard Deviation		
Self-Perception	Experimental	15	2.08	.320	3.29	.260	3.30	0.075
	Control	15	2.14	.140	2.23	.310	2.21	0.075

Dimension	Group	N	Pre-Measurement		Post-Measurement			
Relationships with Others	Experimental	15	2.27	.180	3.34	.230	3.31	0.048
	Control	15	2.18	.280	2.27	.220	2.28	0.048
Philosophy of Life	Experimental	15	2.23	.170	3.45	.300	3.46	0.097
	Control	15	2.15	.280	2.24	.410	2.22	0.097
Total Scale	Experimental	15	2.19	.130	3.37	.140	3.36	0.042
	Control	15	2.16	.160	2.23	.170	2.22	0.042

Table (2) shows apparent differences between the arithmetic means and standard deviations of the experimental and control group members' scores on the total post-traumatic growth scale scores. To determine the significance of these differences at the significance level ( $\alpha = 0.05$ ), a one-way analysis of covariance (ANCOVA) was used. Table (3) shows this.

**Table (3):  
One-Way Analysis of Covariance (ANCOVA) for Differences between Post-Measurement Means of Experimental and Control Group Members' Scores on the Total Post-Traumatic Growth Scale.**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Pre-measurement	.017	1	.017	.655	.426	.024
Group	9.701	1	9.701	368.131	.000*	.932
Error	.711	27	.026			
Corrected Total	10.476	29				

It is observed from Table (3) that there are statistically significant differences at the significance level ( $\alpha = 0.05$ ) between the arithmetic mean scores of the experimental group members and the arithmetic mean scores of the control group members on the total post-traumatic growth scale post-measurement. These differences were in favor of the experimental group members who received the group counseling program based on rational emotive therapy. To reveal the effectiveness of the counseling program on the post-traumatic growth scale scores of the experimental sample members, Eta squared ( $\eta^2$ ) was calculated to measure the effect size, which was (0.932). This means that (93.2%) of the variance in the sample members' scores on the post-traumatic growth scale is attributable to the counseling program, while the remainder is attributable to other uncontrolled factors. Table (2) also shows apparent differences between the arithmetic means and standard deviations of the experimental and control group

members' scores on the dimensions of the post-traumatic growth scale. To determine the statistical significance of these differences at the significance level ( $\alpha = 0.05$ ), a multivariate analysis of covariance (MANCOVA) was used. Table (4) shows this.

**Table (4):  
Results of Multivariate Analysis of Covariance (MANCOVA) for the Dimensions of the Post-Traumatic Growth Scale in the Post-Measurement According to the Experimental and Control Group Variable.**

Source		Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Pre-measurement	Self-Perception	.093	1	.093	1.154	.293	.044
	Relationships with Others	.004	1	.004	.118	.734	.005
	Philosophy of Life	.047	1	.047	.351	.559	.014
Group (Hotelling's = 19.523, F = 149.679, p = .000)	Self-Perception	8.087	1	8.087	100.090	*.000	.800
	Relationships with Others	7.222	1	7.222	218.599	*.000	.897
	Philosophy of Life	10.333	1	10.333	77.076	*.000	.755
Error	Self-Perception	2.020	25	.081			
	Relationships with Others	.826	25	.033			
	Philosophy of Life	3.351	25	.134			
Corrected Total	Self-Perception	10.835	29				
	Relationships with Others	10.048	29				

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Philosophy of Life	14.699	29				

Table (4) shows apparent differences between the arithmetic means and standard deviations of the experimental and control group members' scores on the dimensions of the post-traumatic growth scale attributable to the group variable. These differences were in favor of the experimental group members who received the group counseling program based on rational emotive therapy. This indicates an improvement in the post-traumatic growth dimensions among Iraqi female refugee adolescents in the experimental group compared to the control group. To reveal the effectiveness of the group counseling program based on rational emotive therapy on the scores of the post-traumatic growth scale dimensions, Eta squared ( $\eta^2$ ) was calculated to measure the effect size for the three dimensions. It is observed that the best improvement rate among the three dimensions was for the Relationships with Others dimension (89.7%).

This positive result of the counseling program based on rational emotive therapy used in this study, regarding the improvement of experimental group members in the post-measurement compared to control group members on the post-traumatic growth scale for Iraqi female refugee adolescents, may be interpreted as potentially due to the counseling program being fundamentally designed to meet the needs of Iraqi female refugee adolescents for positive change and overcoming the pain and suffering resulting from the conflict with the ordeal of war in Iraq, which caused them to leave their country and seek refuge in Jordan. The counseling program employed specific techniques to meet these needs, such as questions and discussion, role-playing, and self-talk exercises, which may have contributed to achieving this result when targeting their desired post-traumatic growth through this program. This agrees with what Pillay (2022) indicated, that post-traumatic growth defines the phenomenon of positive change in a person when facing traumatic events.

This may also be attributed to the use of cognitive restructuring techniques used with the participating Iraqi female refugee adolescents, which relied on discussing their irrational thoughts about themselves, re-evaluating their representations of themselves and others, and identifying the characteristics of a self-accepting individual. This technique may have helped modify negative thoughts that could have contributed to achieving post-traumatic growth in them. These deep reconsideration processes may have enabled them to set new life goals. Irrational thoughts associated with traumatic and shocking experiences, when changed into rational and reality-based thoughts, may lead to eliminating their erroneous thoughts and adopting new thoughts that help them adapt to situations resulting from the traumatic event. This agrees with what Henson, Truchot & Canevello (2021) indicated, that "cognitive reconstruction" that occurs after trauma pushes individuals to repeatedly rethink the circumstances of the traumatic event they experienced, hoping to give it some meaning. They refer to this process as "cognitive engagement," and this first step toward growth may lead individuals to realize that some of their life goals are achievable. The results of this study agree with the results of some studies that used counseling programs based on rational emotive behavior therapy on a sample of refugees and had a positive impact, including the studies by Duha, Baioumy, Annuar & Rahman (2021), Al-Sharman (2019), and Al-Samadi and Shehadeh (2018).

**Results Related to the Second Hypothesis :** There are no statistically significant differences at the significance level ( $\alpha = 0.05$ ) between the mean performance scores of the experimental group on the post-measurement and follow-up measurement of the post-traumatic growth scale. To verify the validity of the hypothesis, arithmetic means and standard deviations were calculated for the post-measurement and follow-up measurement on the dimensions of the post-traumatic growth scale and the total scale score. A paired samples t-test was also used for the scores of the experimental sample members on the dimensions of the scale and the total score for post-measurement and follow-up measurement. Table (5) shows this.

**Table (5): Means, Standard Deviations for Post-Measurement and Follow-up Measurement, and Paired Samples T-Test for Experimental Group Members' Scores on the Dimensions of the Post-Traumatic Growth Scale and the Total Score.**

Scale Dimension	Mean	Std. Deviation	df	t	Sig
Self-Perception	3.29	.264	14	.646	.529
Follow-up	3.36	.281			
Relationships with Others	3.34	.230	14	.849	

Follow-up	3.43	.311			.410
Philosophy of Life	3.45	.302	14	.447	.662
Follow-up	3.52	.481			
Total	3.37	.147	14	.928	.369
Follow-up	3.44	.227			

Table (5) shows no statistically significant differences between the arithmetic means and standard deviations of the experimental sample members on the dimensions of the post-traumatic growth scale and the total scale score between the post-measurement and follow-up measurement, indicating the stability of the effect of the group counseling program based on rational emotive therapy on the dimensions and total score of the post-traumatic growth scale. This result indicates that the counseling program based on rational emotive therapy developed for this study demonstrated its effect in enabling the Iraqi female refugee adolescents in the experimental group to retain the counseling gains achieved in the post-measurement and to continue their improvement during the follow-up measurement period one month after the conclusion of the counseling program. This result may be attributed to the fact that the nature of the counseling relationship among the participants in the counseling program was based on confidentiality, freedom of emotional expression, and trust-building, which had an impact on the success of the counseling program in enabling the Iraqi female refugee adolescents to maintain the achievement of post-traumatic growth.

This result can also be interpreted by the nature of the activities in the counseling program according to Albert Ellis's theory, whose topics focused on dealing with irrational thoughts by identifying them within themselves and replacing them with different, more rational thoughts.

This helped them imagine themselves thinking and feeling the way they wanted, recall undesirable events while speaking realistically, and then helped them replace them with more positive, happy, and joyful events and situations. This may have helped them maintain post-traumatic growth. The results of this study agree with the results of some studies that used counseling programs based on rational emotive behavior therapy on a sample of refugees and showed stability in the effect of the counseling program one month after its application to the experimental group, including the studies by Duha, Baioumy, Annuar & Rahman (2021), Al-Sharman (2019), and Al-Samadi and Shehadeh (2018).

### **8.Recommendations**

Based on the findings of the study, the researcher recommends the following :

- Training male and female counselors on counseling programs based on rational emotive therapy in schools that cater to refugees, due to their role in achieving post-traumatic growth among them.
- The necessity for schools to adopt counseling courses aimed at achieving post-traumatic growth among Iraqi students in Jordanian schools.
- Conducting further studies using counseling programs based on rational emotive therapy to treat psychological problems resulting from Iraqi students' exposure to traumatic events.

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