

Relashinship between Emotional Regulation and PTSD

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Abstract

The aim of this study was to investigate the relationship between emotional regulation with PTSD for teen's sample. The study population was the total number of homeless adolescents in Baghdad, Iraq were selected using the Cochran's formula . PTSD symptoms were assessed on the PTSD Checklist Scale (PCL) Influence, avoidance, and over-arousal. A threshold score of 44 was used to diagnose post-traumatic stress disorder and Cognitive emotion regulation strategies were assessed with the Cognitive Emotion Regulation Questionnaire (CERQ). The research method was descriptive correlational studies. Data were analyzed using regression method Results showed that there was a positive significant relationship between, self-blame, catastrophizing, rumination and symptoms of PTSD and there was a negative significant relationship between Positive refocusing, refocusing on planningand symptoms of PTSD.

Key words: Emotional Regulation, PTSD, epistemic volition, resolution strategies.

1. Introduction

1.1 PTSD

PTSD stands for Post-Traumatic Stress Disorder, is a mental disorder. This disorder is a state of trauma that can occur to any person or person who has witnessed one or more tragic events. Examples of events that can lead to PTSD include war, severe pain, rape, rape, kidnapping, car accident, natural disaster, and fires.

These natural events are horrible and cause a person to see his life in danger. Some are really at risk of death while others just feel they are in danger of death. What matters is not whether

it exists or not, but how it feels or how the brain reacts. A major feature of PTSD is the dreaded repositioning of a shocking condition. As a result, they try their best to prevent anything that reminds them of that emotional shock.

Human life has never been free from the traumatic events and also trauma has never been free from the economic, somatic, social and especially psychological consequences such as PTSD that is a prevalent outcome of traumatic events and includes reexperiencing, avoidance, negative cognitions and mood, and arousal [1].

Early work on the epidemiology of posttraumatic stress disorder (PTSD) demonstrated high prevalence in high-income countries, sociodemographic correlates (e.g., female sex), and the associated significant subsequent comorbidity and morbidity. Recent epidemiological studies from around the world have included low and middle-income countries [2], providing novel evidence on the distribution of trauma and PTSD cross-nationally. In most epidemiological surveys, respondents report lifetime exposure to a large number of traumas, precluding the separate assessment of PTSD for each traumatic event experienced by every respondent [3]. Historically, studies have asked respondents to nominate the worst traumatic event they had ever experienced, and assessed PTSD concerning that worst event. Because worst traumas are not the most commonly experienced events in the population and, presumably, have a higher risk of PTSD than typical traumas, this approach overestimates the conditional risk of PTSD [4].

Researchers have always studied factors such as demographic factors, gender [5], and various types of psychological variables [6] to explain the mechanism of formation and continuation of this psychological problem. Among the many traumatic events that lead to disruption, we can mention the experience of floods and earthquakes.

Extensive studies have shown that PTSD is associated with limited and inflexible access to emotion regulation strategies, in other words, difficulty in emotion regulation, often characterized by unsuccessful attempts to avoid experiencing emotion. [7]

1.2 Cognitive Emotion Regulation

Emotion regulation is to “start, maintain, regulate or change the appearance, intensity or duration of internal sensory state and emotion related physiological process”. Expression suppression is a response-centered strategy, which means the inhibition of external cues of a person's internal emotional state. [8] In recent decades, the role of emotion regulation and maladaptation has been increasingly emphasized in psychopathology [9]. Maladaptive cognitive emotion regulation strategies have been proposed to contribute to the maintenance of PTSD [10]. It also applies after trauma [7] Emotion regulation refers to the ability to effectively exert control over one's emotions through a wide range of strategies to influence which emotions one has, experiences, or expresses [11] . It is a meta-diagnostic and trans-theoretical process that affects a wide range of forms of psychopathology from the perspective of a variety of theoretical approaches and refers to activities that allow individuals to monitor, evaluate and adjust. Gives the nature and duration of emotional responses [12]. emotion regulation describes a cybernetic system. Specifically, emotion regulation refers to the goal-directed processes through which individuals attempt to elicit, change, or maintain emotional states [13];[14].

Intensification and neutralization of emotion have been proposed as two forms of emotional dysregulation. In the case of aggravation of emotions, emotions are experienced unintentionally, disturbingly, helplessly, and problematically, like what happens to people who experience harm. Emotion neutralization can also involve differential experiences such as changes in your nose or environment, isolation, or numbness. Emotional neutralization impedes emotional processing and is part of the avoidance coping style. [12]

The main topic of predicting emotional disorders related to adolescent anxiety is based on emotion regulation, coping strategies, and symptoms of borderline personality disorder[15]. Theories of emotional regulation of psychological trauma claim that the inability to apply emotion regulation strategies leads to negative emotions that are uncontrollable, severe, and chronic and lead to the possibility of the formation of psychological damage. [12] The above studies emphasize that constantly suppressing and avoiding their emotions, they are at risk for depression, anxiety, and post-traumatic stress disorder. Although impairment in emotion regulation affects a wide range of psychological disorders [16]; However, this feature is recognized as a prominent feature in the context of post-traumatic stress disorder and leads to an overestimation of threat, reduced estimation of coping resources and emotional responses associated with stress in the face of environmental stressors, and difficulty regulating emotion

in approx. 71% of people experiencing injury predict post-traumatic stress disorder, therefore it seems to be involved in the etiology of post-traumatic stress disorder [17].

Early work viewed emotion regulation as a within-person process that involved regulating positive and negative emotions [13]. However, researchers now recognize the social nature of emotion regulation, which can also involve attempts to specify the emotions of others [12]; [14].

There has been a lot of debate about the similarity of PTSD in children and adults in the recent literature. In general, children and adolescents are more likely to be affected by traumatic events than adult survivors. The cognitive model of post-traumatic stress disorder suggests that individuals may have a sense of threat to traumatic events, and eventually lead to post-traumatic stress symptoms, due to the inaccurate and negative evaluation of new traumatic event information. In Lang's theory, emotions are stored in memory networks, which contain information about stimuli, responses, and meanings related to emotional events. Besides, post-traumatic stress disorder is to some extent an experiential and emotional avoidance disorder, as people with post-traumatic stress disorder try to restrict or avoid being exposed to trauma-related stimuli. Therefore, individuals with post-traumatic stress disorder are more likely to use avoidant emotion regulation strategies.[8]

Cognitive emotion regulation refers to the processes by which a person determines what emotion, when, and how to experience it [18]. Cognitive emotion regulation strategies are classified into two general categories, positive and negative. Positive strategies include positive refocus, refocus on planning, positive reassessment, perspective, and acceptance, and negative strategies include self-blame., Blame others, catastrophizing, and rumination[19].

Emotion regulation, which is said to be closely related to anxiety and emotional disorders, refers to strategies used to reduce, increase, or maintain emotional experiences. In general, deficiency, defect, or difficulty in emotion regulation has been consistently associated with psychological pathology in children and adolescents, and especially emotional disorders [20]. Therefore, research on emotional disorders related to anxiety requires considering the regulation of emotions; especially the regulation of emotion in adolescents, which is more important due to the transformational conditions of this critical period of life.

The research of showed that catastrophizing and rumination were associated with more post-traumatic stress symptoms and higher psychological distress. On the other hand, positive reappraisal, refocus on planning, and acceptance was associated with fewer post-traumatic stress symptoms and lower psychological distress [21]. People who experience more

experiential avoidance use more self-destruction, denial, emotional support, behavioral disruption, and self-blame, and experience more intense emotional experiences than pleasant and unpleasant stimuli [22]. A link between experiential avoidance and PTSD symptoms is well established, particularly cross-sectionally [9]. There is a link between negative affectivity, experiential avoidance, cognitive concerns, emotional non-acceptance, and symptoms of PTSD among traumatized individuals [23]. The results showed that a number of individual difference factors, including emotional distress intolerance, experiential avoidance and anxiety sensitivity, have been implicated in the development and maintenance of posttraumatic stress (PTS) symptomatology [24]. Experimental avoidance for soldiers with high anxiety sensitivity and anxiety traits is used as an effective short-term strategy and causes PTSD in them [25].

Adolescents come up with a series of coping strategies in the face of experiencing emotional states and anxiety [26]. They modify how they express themselves and reveal the influence of their underlying factors. A framework for organizing different emotion regulation strategies focuses on their interruption in the emotion production process. [27] These cases show the importance of paying attention to emotion regulation, especially in adolescents; because their age and developmental conditions and the special emotions of this period of life are very important.

This study aimed to investigate the Emotional Regulation with PTSD for teens sample. Previous research has shown that the way people regulate their emotions determines how they express the symptoms of mental disorders inside or outside themselves [28]. It also supports the concept of emotional regulation as a key component in understanding the phenotype in trauma disorders [29].

2. Method

2.1 study population

The study population of the present study was homeless adolescents in Baghdad, Iraq. Therefore 300 were selected randomly using the Cochran's formula. Due to comorbidity of post-traumatic stress disorder (PTSD) and other disorders such as anxiety and depression, it was difficult to find adolescents who only had this disorder, and a few people were not admitted to a specific center and had the PTSD process. Hence according to the results of structured clinical interviews (see the section on data collection tools) individuals were selected to participate in the study. It should be noted that in addition to PTSD, these

individuals were evaluated for other mental disorders, but did not receive diagnostic criteria in PTSD for any of those disorders. In other words, these 5 people with PTSD are the only diagnostic criteria for symptoms such as (nightmares, repeated reminders of stressful memories, avoidance of stressful situations, physical problems such as sweating and tremors, irritability and aggression, indifference and indifference). To themselves). In addition, they did not receive any specific medical or psychological treatment during the research process.

$$n = \frac{Nz^2pq}{Nd^2 + z^2pq}$$

N: community size; z: equal to 1.96; p = q = 0.5; d: Permissible error value (error value)

2.2 Procedure

All participants expressed their informed written consent based on anonymity before participating in the study. Participants answered a paper questionnaire through the forums, and participants who contacted them through social media answered an online questionnaire. At the end of the questionnaire, if desired, after completing the analysis, participants were given feedback (email, phone).

The questionnaire participants' instructions are as follows: Please think about how you create the emotions you want to experience and how you avoid the emotions you do not want to experience. The emotions you want to experience may include feelings of joy and pride, and the emotions you may not want to experience maybe fear or anger. Although some of the questions may seem similar, given the different importance of the subjects, they respond to the items based on a Likert spectrum in which they are. A lower number indicates strong opposition and a higher number indicates a strong agreement.

Inclusion criteria for participants include having an age range between 12 and 15 years and the diagnosis of post-traumatic stress disorder by a psychiatrist and written consent to participate in the study.

2.3 Measures

In this research, descriptive indicators including mean and standard deviation have been used to describe the data. The reliability of the instrument was evaluated by the internal consistency method (Cronbach's alpha). In this article, the following tools are used.

2.3.1 Accident Impact Scale:

This scale was designed by Weiss and Marmar in 1997 to measure common mental distress after a traumatic event in life. It has 22 items and consists of three subscales: Avoidance (8

items), Harassment (8 articles), arousal (6 articles). The highest score on this scale is 88. A pre-test reliability coefficient for avoidance subscale 0.89, uninvited thoughts and images subscale, / 94. And the arousal subscale was reported to be 0.92 (Vakili, Fani, and Habibi, 2013). Also, in Sajjadian (2013), Cronbach's alpha was reported to be 0.74. In the present study, this questionnaire was used to determine the severity of post-traumatic stress disorder. In the present study, Cronbach's alpha method was used to check the reliability. for the dimensions of Avoidance, Harassment and arousal , Respectively 0.839, 0.815 and 0.843 was obtained. the value of this coefficient was 0.912 for the whole questionnaire.

2.3.2 Cognitive Emotion Regulation Questionnaire:

Costa and McCray introduced the C-BFQ Five Great Personality Factor, which identifies the key five-dimensionality of personality. The five-factor character of the character provides a suitable conceptual model for character classification, according to Diang et al. This model is the most systematic model for character classification, discovering five large factors of the interpersonal personality to create a common study of researchers. And is widely used in clinical and research matters. Including five factors; Extraversion is neuroticism, openness to experience, conscientiousness, and agreement. Each factor has different implications for academic achievement, physical health, and professional well-being, social relationships [30, 31]

According to the model of Costa and MCCS, neuroticism refers to the loss of compatibility with the surroundings and emotional instability, externalism is considered with characteristics such as socialization, irritability, high self-esteem and activity, the attribute of the experience Features such as imagination, adventure, and new experiences, with conscience, proper performance in the control of impulses, target behaviors, order and order, and accountability, and the agreement attribute includes features like kind of friendship, cooperation, There is a high agreement with others and community-friendly behaviors [32]. The agents showed that stable five major factors in life are relatively long, but some of the characteristics in the life cycle tend to increase and decrease in the life cycle. For example, being conscientious with increasing age leads to more personal and professional relationships due to growth, or neuroticism and extraversion. Six-year-olds tend to decrease[33].

The questionnaire was designed by Garnowski in 1999 to assess individuals' cognitive strategies in response to life-threatening and stressful experiences [34]. The questionnaire is a 36-item self-report tool with nine different subscales including self-blame, self-blame,

acceptance, rumination, positive refocusing, refocus on planning, positive reassessment, catastrophizing, and perspective [35] The range of scores is between 1 (almost always) to 5 (almost always). The results of Cronbach's alpha (with a range of 0.68 to 0.82) showed that 9 subscales of the Persian version of the Cognitive Emotion Regulation Questionnaire have good validity and principal component analysis while explaining 75% of the variance, the 9-factor model of the Cognitive Emotion Regulation Questionnaire Is supported. Also, the correlation between subscales was relatively high [36] . In this study, Cronbach's alpha method was used to check reliability. which was obtained for all factors in the range of (0.725 to 0.868). The value of this coefficient for the whole questionnaire was 0.925.

3. Result

3.1 Descriptive statistics

In order to describe the study variables, measures of central tendency and dispersion were used (Table 1).

Table 1: Measures of central tendency and dispersion of the study variables.

variable	M	SD	N
Maladaptive emotion regulation strategies	59.22	9.4	300
Self-blame	14.49	2.47	300
Catastrophizing	15.10	2.77	300
Blaming others	14.39	2.76	300
Rumination	14.55	2.72	300
Adaptive emotion regulation strategies	72.55	12.76	300
Acceptance	14.56	2.61	300
Positive refocusing	14.68	2.61	300
Positive reappraisal	14.97	2.75	300
Refocusing on planning	14.53	2.69	300
Putting into perspective	14.33	2.74	300
Symptoms of PTSD	25.16	8.13	300

Table 1 shows that:

- a) The dispersion of adaptive emotion regulation strategies is more than maladaptive emotion regulation strategies. Among, maladaptive emotion regulation strategies, catastrophizing is more dispersed than other variables. Moreover, among, adaptive emotion regulation strategies, positive reappraisal is more dispersed than other variables.
- b) PTSD data have a good dispersion.

3.2 Inferential statistics

Before data analysis, assumptions were examined as follows:

3.2.1 Testing for Normality

Kolmogorov–Smirnov test was used for normality (Table 2).

Table 2: Kolmogorov–Smirnov test for Testing for Normality

variable	z	sig
Maladaptive emotion regulation strategies	1.09	.28
Self-blame	1.19	.21
Catastrophizing	1.29	.18
Blaming others	1.07	.29
Rumination	1.31	.15
Adaptive emotion regulation strategies	1.03	.32
Acceptance	1.11	.27
Positive refocusing	1.27	.19
Positive reappraisal	1.16	.23
Refocusing on planning	1.23	.20
Putting into perspective	1.31	.16
Symptoms of PTSD	1.07	.29

Table 2 shows that normality is observed ($P > 0.1$).

3.2.2 Multicollinearity of predictor variables

Measures of VIF and Tolerance were used for multicollinearity of predictor variables (Table 3).

Table 3: Multicollinearity of predictor variables

variable	VIF	Tolerance
Maladaptive emotion regulation strategies	1.08	.86
Self-blame	1.12	.85
Catastrophizing	1.20	.82
Blaming others	1.19	.82
Rumination	1.25	.80
Adaptive emotion regulation strategies	1.14	.85
Acceptance	1.16	.84
Positive refocusing	1.20	.82
Positive reappraisal	1.17	.83
Refocusing on planning	1.21	.82
Putting into perspective	1.19	.83

Table 3 shows

that multicollinearity of predictor variables is observed ($VIF < 2$, Tolerance ≈ 1).

3.2.3 Autocorrelation in the residuals

Durbin-Watson statistic was used for testing autocorrelation in the residuals (Table 4).

Table 4: Measures of Durbin-Watson

Test	statistic
Durbin-Watson	1.89

Table 4 shows that autocorrelation in the residuals is observed (Durbin-Watson statistic: 1.5-2.5).

Table 5: Correlation Matrix

variable	r	Sig
Maladaptive emotion regulation strategies	.27	.001
Self-blame	.19	.01
Catastrophizing	.28	.001
Blaming others	.06	.08
Rumination	.30	.001
Adaptive emotion regulation strategies	-.25	.001
Acceptance	-.09	.05
Positive refocusing	-.15	.03
Positive reappraisal	-.12	.04
Refocusing on planning	-.15	.03
Putting into perspective	-.08	.01

Table 5 shows that:

There is a positive significant relationship between maladaptive emotion regulation strategies and symptoms of PTSD ($r=.27$, $p<.05$). 6) There is a positive significant relationship between self-blame and symptoms of PTSD ($r=.19$, $p<.05$). 7) There is a positive significant relationship between catastrophizing and symptoms of PTSD ($r=.28$, $p<.05$). 8) There is a positive significant relationship between rumination and symptoms of PTSD ($r=.30$, $p<.05$). 9) There is a negative significant relationship between adaptive emotion regulation strategies and symptoms of PTSD ($r=-.25$, $p<.05$). 10) There is a negative significant relationship between acceptance and symptoms of PTSD ($r=-.09$, $p<.05$). 11) There is a negative significant relationship between positive refocusing and symptoms of PTSD ($r=-.15$, $p<.05$). 12) There is a negative significant relationship between positive reappraisal and symptoms of PTSD ($r=-.12$, $p<.05$). 13) There is a negative significant relationship between refocusing on planning and symptoms of PTSD ($r=-.15$, $p<.05$). 14) There is a negative significant relationship between putting into perspective and symptoms of PTSD ($r=-.08$, $p<.05$).

In order to determine the multiple correlations between predictor variables and symptoms of PTSD as well as to determine their total role in PTSD symptoms, multiple regression method was used (Table 6).

Table 6: Multiplecorrelation and R-squared value in multiple regression analysis

Model	R	R ²	F	df1	df2	sig
Enter	.70	.49	121.92	14	285	.0001

$P \leq .05$

Table 6 shows that:

- 1) There is a multiple correlation between predictor variables and symptoms of PTSD ($r = .70$).
- 2) Predictor variables could significantly explain 49% ($R^2 = .49$) of PTSD symptoms variance ($F = 121.92$, $p \leq .05$).

In order to determine the role of predictor variables in the prediction of PTSD symptoms standardized coefficient (B) and t-test were used (Table 7).

Table 7: Standardized coefficient (B) and t-test

variable	B	Std error	t	Sig
Self-blame	.10	1.02	2.15	.01
Catastrophizing	.22	.09	3.89	.001
Blaming others	.03	.89	.25	.42
Rumination	.25	.11	4.70	.001
Acceptance	-.02	.91	-.22	.47
Positive refocusing	-.10	.90	-2.17	.01
Positive reappraisal	-.05	.49	-.39	.30
Refocusing on planning	-.09	.69	-2.10	.02
Putting into perspective	-.03	.42	-.28	.41

$P \leq .05$

Table 7 shows that:

- 1) Self-blame has a positive significant effect on symptoms of PTSD ($r = .10$, $p < .05$).
- 2) Catastrophizing has a positive significant effect on symptoms of PTSD ($r = .22$, $p < .05$).
- 3) Rumination has a positive significant effect on symptoms of PTSD ($r = .25$, $p < .05$).
- 4) Positive refocusing has a negative significant effect on symptoms of PTSD ($r = -.10$, $p < .05$).
- 5) Refocusing on planning has a negative significant effect on symptoms of PTSD ($r = -.09$, $p < .05$).

4. Discussion

The aim of this study was to investigate the Emotional Regulation with PTSD for teen's sample. In this research, descriptive indicators including mean and standard deviation have been used to describe the data. The reliability of the instrument was evaluated by the internal consistency method (Cronbach's alpha). for the questionnaires PTSD, Emotion Regulation Respectively 0.912, 0.925 was obtained which was above 0.7 for all questionnaires, Therefore, they have an acceptable reliability in the culture of Iraq. Based on the findings of the present study, Self-blame, Catastrophizing, Rumination has a positive significant effect on symptoms of PTSD and Positive refocusing, Refocusing on planning has a negative significant effect on symptoms of PTSD.

In line with the findings of studies [37] as for the relationship between adaptive cognitive emotion regulation strategies and PTSD, found that putting into perspective and positive reappraisal were negatively associated with PTSD. [38] demonstrated the efficacy of mindfulness training in improving the emotion regulation of patients with PTSD, and it may well have a role to play too in reducing neuroticism levels [39].

We analyzed studies that examined emotion regulation strategies before trauma as factors that induced PTSD symptoms. The results showed that specific emotion regulation strategies before traumatic event predicted post-traumatic event PTSD symptoms. In particular, [40] used CERQ, which is subdivided into 9 factors, and showed that catastrophizing and rumination before traumatic event predicted high PTSD symptoms after traumatic event. This is in line with studies by [41] and [42] which found catastrophizing to be a main factor for the development of symptoms.

Cognitive emotion regulation strategies were analyzed as a maintenance factor for PTSD symptoms based on studies which measured emotion regulation strategies after traumatic event. There was a greater number of studies that measured emotion regulation strategies after traumatic event than those that measured pre-traumatic variables; this seems to be due to the fact that it is much easier to study people who already have trauma experience in research design. rumination, catastrophizing, and self-blame were shown to have a close relationship with the maintenance of PTSD symptoms. In particular, it is worth noting that catastrophizing and rumination were shown to be factors that affect not only the development of PTSD symptoms but also their maintenance. These results support that rumination and catastrophizing must be considered in the cognitive intervention of PTSD. Moreover, adaptive emotion regulation strategies, such as positive reappraisal, putting into perspective, positive refocusing, were also shown to have alleviating and protective roles on PTSD

symptoms. However, as seen in the meta-analysis of studies relating to emotion regulation, maladaptive emotion regulation strategies have a larger effect size than adaptive emotion regulation strategies.. Given that rumination and catastrophizing have been shown to be risk factors irrespective of diagnoses in previous studies, the results that rumination and catastrophizing are members of the emotion regulation strategies that maintain PTSD symptoms are not surprising.

Cognitive strategies should play an important role in theoretical models and intervention strategies. It may, therefore, be worthwhile to aim intervention efforts simultaneously at psychopathology and cognitive emotion regulation strategies. The assumption that a patient's symptoms will be relieved if irrational beliefs or dysfunctional thoughts are changed is not a new one. In fact, one of the basic premises of cognitive therapies is that things are inappropriately viewed by people suffering from depressive or anxiety symptoms and that therapy should bring about changes in those views see for example [43, 44]. New is that our approach and results might give some clues for a more targeted tailoring of treatment, for example by challenging 'unadaptive' strategies such as self-blaming and catastrophizing and supplying more 'adaptive' strategies such as positive reappraisal, at the same time.

To be able to further develop the concept of cognitive emotion regulation, it is important to answer questions such as whether strategies that are considered 'adaptive' in the present study are indeed adaptive in all circumstances [45]. It may very well be true that a certain cognitive coping strategy that is highly adaptive in one situation is absolutely not in another situation. According to [46] the approaches to coping both as a style and as a situation-specific process are essential in that they each address different aspects of the coping process. In our opinion, it is a challenge in the development of the concept of cognitive emotion regulation to address both the trait and the situation-specific aspects in future, or, as Lazarus very wisely states, 'combining the approaches without sacrificing what is unique in each might be a worthwhile enterprise' [46]. On the one hand, it is important to study cognitive emotion regulation over time and across diverse types of negative life event in the same persons. On the other hand, cognitive emotion regulation should be studied across individuals experiencing the same type of negative life event or trauma. Both types of study call for complex, long-term research designs. It is also suggested that researches in the field of designing treatment protocols that focus on It is based on the components of cognitive-emotional regulation.

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