

# The Relationship between Emotion Regulation Methods and Post-traumatic Stress

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**Abstract: Objective:** This study aims to investigate the relationship between emotion regulation methods and post-traumatic stress symptoms in children. **Method:** 712 children aged 8-14 years, ( $M_{age}=11.45$ ,  $SD=1.37$ ; 32.9% male) who experienced an explosion accident completed the Trauma Screening Questionnaire (TSQ) and the Emotion Regulation Questionnaire (ERQ). **Results:** Results showed that expressive suppression was positive significantly associated with cognitive reappraisal ( $r = 0.27$ ,  $p < 0.001$ ) and positive significantly associated with post-traumatic stress symptoms ( $r = 0.13$ ,  $p < 0.01$ ).

## 1. Introduction

Post-traumatic stress disorder (PTSD) refers to delayed and longer-lasting psychophysiological disorders caused by threats or catastrophic events. It is considered to be the most common negative psychological phenomenon after trauma. Studies have shown that the prevalence of post-traumatic stress disorder among survivors of natural disasters is 0%-95%.

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. Besides, when researchers explored personal factors that could help individuals recover from trauma, they found that emotional regulation was a key factor affecting people's psychological adaptation.

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. Some researchers believe that individuals who tend to adopt expression inhibition strategies after extreme negative events may reduce their direct perception of negative emotions, which helps to alleviate the effects of negative emotions on individuals. However, some researchers believe that depression may lead to difficulty in emotion regulation, which reflected in the individuals' inability to distinguish, tolerate, and regulate emotions, and thus make individuals rely on avoidant coping strategies to deal with the traumatic events, suggested by Gratz and Roemer's emotion regulation difficulty mode. Besides, some researches have shown that those who use expression inhibition frequently may have higher levels of post-traumatic stress symptoms. Therefore, the use of expression inhibition strategies may aggravate post-traumatic stress symptoms.

Compared with adults, children are more likely to be affected by traumatic events and have more serious emotional reactions. It is quite essential to regulate their emotional response and alleviate their post-traumatic stress disorder. Therefore, this study will explore the mechanism between

emotion regulation methods and post-traumatic stress symptoms in children and adolescents who have experienced explosions. Based on combining previous theories, we hypothesize that there is a significant negative correlation between cognitive reevaluation strategies and post-traumatic stress symptoms in traumatic children.

## 2. Method

### 2.1. Participants and Procedure

712 children and adolescents who experienced the explosion in Xiangshui, China, participated in this study. 622 valid questionnaires were finally collected. The participants' average age was 11.45 (SD = 1.37), and 348 (55.9%) participants were male. The participants' parents all provided written informed consent. They spent about 15 minutes to complete the questionnaires in a quiet room. After that, they received a list of self-help psychology books.

### 2.2. Measures

#### 2.2.1. Emotion Regulation Questionnaire Chinese Revised Version (ERQ)

The emotion adjustment questionnaire consists of 10 items, which are divided into two dimensions: cognitive reappraisal (1, 3, 5, 7, 8, 10) and expressive suppression (2, 4, 6, 9). The project was rated at 7 points, from 1 (very disagree) to 7 (very agreed). In this study, internal consistency coefficient of cognitive reappraisal was 0.633 and expressive suppression was 0.625.

#### 2.2.3. Trauma screening questionnaire (TSQ)

Trauma screening questionnaire is a tool for screening post-traumatic stress disorder, and it is adjusted by PTSD symptom table. TSQ is a 10 item scale, which consists of five repetitive experiences and five incentive projects. It comes from DSM IV and PTSD standards. Participants were asked if symptoms had occurred at least twice in the past week. Brewin et al. found an optimal cut off score of 6. In this study, the scale shows that the internal consistency of the scale is good ( $\alpha = 0.918$ ).

### 2.3. Data analysis

In all scales, 6.9% of data was missing. Little's Missing Completely At Random (MCAR) test showed that the missing rate of all measurement data was equal ( $p > 0.05$ ). SPSS 21.0 software was used to calculate the mean value, standard deviations (SD), Cronbach's alpha coefficients and correlations of the scales in the current study.

## 3. Results

Table 1 presented the means, standard deviations of the variables and correlation matrix. Results showed that expressive suppression was positive significantly associated with cognitive reappraisal ( $r = 0.27$ ,  $p < 0.001$ ) and positive significantly associated with post-traumatic stress symptoms ( $r = 0.13$ ,  $p < 0.01$ ).

Table 1 Descriptive statistic and correlation coefficients of all variables.

Variable	M (SD)	1	2	3
1 cognitive reappraisal	70.45 (14.36)	1		
2 expressive suppression	25.87 (6.34)	0.27***	1	
3 post-traumatic stress symptoms	3.31 (2.24)	-0.05	0.13**	1

Note: \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ .

## 4. Discussion

The study investigated the associations between emotion regulation methods and post-traumatic stress symptoms in children. Specifically, the results showed that the expressive suppression was significantly connected with post-traumatic stress symptoms and cognitive reappraisal strategy. As far as we know, this is the first study to examine these relationships among children who experienced an explosion.

Consistent with previous studies, the results show that expression suppression strategies can positively predict post-traumatic stress symptoms. The use of expression suppression strategies may increase individual negative emotion, so individuals tend to avoid negative emotional stimulation, which may lead to more severe post-traumatic stress symptoms. Furthermore, expressive suppression strategy makes individuals depressive and damages the ability of emotion regulation. Difficulty in emotion regulation affects not only interpersonal relationships, but also many aspects of individual function, which may consume a lot of psychological resources. Due to the exhaustion of coping resources, individuals cannot effectively deal with the negative consequences of trauma, and post-traumatic stress symptoms may become more severe.

It is worth noting that this has some limitations. First, all data is collected through self-reporting. Therefore, the correlation among the main measures may be influenced by the “system error variance shared between variables measured with the same method and/or source and introduced as a function”, and cause some potential in evaluating relationship. Second, the participants in this study are people 8-14 years old who have experienced explosions. Therefore, we need to be cautious in extending our results to patients with other traumatic stories or people at different ages. Finally, this study is cross-sectional, so it can only made non-causal attributions.

Although there were these limitations, this study explored the correlation between emotion regulation methods and post-traumatic stress symptoms in children and adolescents. The research results have further enriched the correlation between emotional regulation and post-traumatic stress symptoms, and have certain theoretical significance. In terms of clinical application, the results of this study tell us that in post-traumatic psychological intervention, we should not only pay attention to the specific symptoms of children and adolescents, but also consider using more effective emotional regulation methods to intervene to further improve their handling of traumatic events. At the same time, psychological intervention should help children and adolescents to recognize and adjust their own emotional regulation models, learn to express their inner feelings, establish awareness of disaster events from a new perspective, reduce their negative symptoms, and achieve positive changes after trauma.

## **5. Conclusions**

Findings suggested that traumatized children may have severer post-traumatic stress symptoms when they adopt an expressive suppression strategy.

## **Reference**

- [1] Benoit, M., Bouthillier, D., Moss, E., et al. Emotion regulation strategies as mediators of the association between level of attachment security and PTSD symptoms following trauma in adulthood. *Anxiety, Stress & Coping*, vol.23, no.1, pp.101-118, 2010.
- [3] Boden, M. T., Bonn-Miller, M. O., Kashdan, T. B., et al. The interactive effects of emotional clarity and cognitive reappraisal in posttraumatic stress disorder. *Journal of Anxiety Disorders*, vol.26, pp.233–238. 2012.
- [4] Coifman, K. G., Bonanno, G. A., Ray, R. D., et al. Does repression promote resilience? Affective-autonomic response discrepancy during bereavement. *Journal of Personality and Social Psychology*, vol.92, no.4, pp.745-758, 2007.
- [5] Eftekhari, A., Zoellner, L. A., & Vigil, S. A. Patterns of emotion regulation and psychopathology. *Anxiety, Stress & Coping: An International Journal*, vol.22, pp.571–586, 2009.

- [6] Gratz, K. L., & Roemer, L. Multidimensional assessment of emotion regulation and dysregulation: development, factor structure, and initial validation of the difficulties in emotion regulation scale. *Journal of Psychopathology and Behavioral Assessment*, vol. 36, pp.41–54, 2004.
- [7] Gross, J. J. The emerging field of emotion regulation: An integrative review. *Review of General Psychology*, vol.2, pp.271-299, 1998.
- [8] Marx, B. P., & Sloan, D. M. Peritraumatic dissociation and experiential avoidance as predictors of posttraumatic stress symptomatology. *Behaviour Research & Therapy*, vol.43, pp.569–583, 2005.