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The Investigation of Autobiographical memory and cognitive emotion regulation in refugee adolescents with posttraumatic stress disorder (PTSD)

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Abstract

Previous research has shown that prevalence of posttraumatic stress disorder (PTSD) and memory problems are high in migrating or refugee people but little is known about the mediating factors such as emotion regulation. The purpose of this study is to evaluate autobiographical memory (AM) and cognitive emotion regulation in 25 migrating adolescents (aged 14–18 years) who suffer from PTSD. According to this study like many other studies, adolescents with PTSD have had problems in autobiographical memory and also they've been significantly different in acceptance, rumination and other-blame. As well as they significantly differ in depression and anxiety. In the result section, we can see that adolescents with PTSD in addition to memory problems, suffer from bad strategies in emotion regulation, so it can be a mediating factor in autobiographical memory problems.

Keywords: adolescents, autobiographical memory**,** cognitive emotion regulation, PTSD, refugee

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1. Introduction

A large number of studies have demonstrated that psychological problems such as PTSD, depression and anxiety are high in refugee population (Momartin, S., Silove, D., Manicavasagar, V., & Steel, Z. 2004) even some studies has reported that prevalence of PTSD in refugee is about 50 %(Ssenyonga, J., Owens, V., & Olema, D. K. 2013). in addition to PTSD, depression and anxiety symptoms are the most common mental condition in refugee (Fazel, Wheeler, & Danesh, 2005; Steel et al., 2009).refugee children and adolescents experience severe stress in all the time of migrating (before, during and after migration) that it can be caused by security, Housing and financial problems and also issues about school and new culture (Hinton, D. E., Nickerson, A., & Bryant, R. A.2011). Trauma or stressful situations can induce different psychological symptoms (Green BL, Goodman LA, Krupnick JL, Corcoran CB, Petty RM, Stockton P, et al 2000 & Vrana S, Lauterbach D.1994 & Follette, V. M., Polusny, M. A., Bechtle, A. E., & Naugle, A. E.1996 and Williams SL, Williams DR, Stein DJ, Seedat S, Jackson PB, Moomal H.2007). The development of psychological symptoms after exposure to a traumatic or stressful situation may be mediated by some factors like personality features (Ghazinour M, Richter J, Eisemann M, 2003) and defense mechanisms(Jun, J. Y et al,2015).

Intrusive memory is a specific characteristic of PTSD and several studies have investigated the pattern of Autobiographical memory in it (Kylie Sutherland, Richard A. Bryant, 2008). Autobiographical memory (AM) is an especial kind of episodic memory that contains personal life history (Bauer.j.p2014). Notably, AM is a mental complex system that retrieve past information and experiences and this memory formations sense of identity and continuity (Wagener, A., Weigend, A., Boulanger, M., & Blairy, S.2014) A lot of articles confirm the relationship between AM and PTSD. For example Moradi et al. (2014) referred to it as a cognitive marker of PTSD. In most of documents, the persons with PTSD have had weak performances in AM Compared to others (McNally,Lasko, Macklin, & Pitman, 1995; McNally, Litz, Prassas, Shin, & Weathers, 1994; Sutherland, K., & Bryant, R. A.2007). Empirical evidence indicates that impairment of memory has important role in cognitive functions such as social problem-solving (Sutherland& Bryant, 2008), difficulty in imagining specific events in the future (Kleim, Graham, Fihosy, Stott, & Ehlers, 2014). In addition, researches (Williams et al. 2006) have shown that experimentally increasing specific retrieval led to improved social problem solving. Nevertheless, numerous studies attesting to association between PTSD and AM, there is no study investigating the underlying significance of this association. It may be emotion regulation, a key factor that may underlie the relationship between PTSD and AM.

In recent years, increasing attention has been paid to the role of emotion regulation processing in a wide range of disorders (Leahy, R. L., Tirch, D. D., & Napolitano, L. A. 2011). Gross (2007) defines emotion regulation as heterogeneous sets of processes that emotion is regulated by them. Empirical evidences suggest that people with childhood abuse and features of

borderline personality disorder have difficulties in emotion regulation (Gaher et al., 2013). Further, impaired capacity to regulate emotion has been reported by people suffering from PTSD (Weiss et al., 2012: Kulkarni M., Pole, N., Timko, C., 2013). Research supposes that refugees may be especially vulnerable to emotion deregulation because there are many kinds of trauma and stressor in their life (Nickerson, A et al, 2015) and also some studies confirm the role of emotion regulation in a variety of impulsive behaviors(Weiss, N. H., Tull, M. T., Viana, A. G., Anestis, M. D., & Gratz, K. L. 2012).

Posttraumatic stress disorder (PTSD) and depression and anxiety are exceedingly comorbid (Elhai et al., 2008; Creamer,Burgess, &McFarlane, 2001;Holman et al., 2000).). By the same token, Michelle E. Roley et al (2015) believe that it is important to investigate constructs that could play a role in this relationship. In the other studies, this comorbid persists even after the control of overlapping symptoms (Grubaugh, et al., 2010) and also several studies found that PTSD and depressive people report few specific memories (Williams et al., 2007; Sutherland, K., & Bryant, R. A.2007). And also another research confirms that aspects of memory have relationship with depression and anxiety (Mark, J., Williams, G., & Dritschel, B. H.1992).Even the first randomized controlled trial of Memory Specificity Training (MEST) indicated enhancing autobiographical memory and decreasing depressive symptoms(Neshat-Doost et al.2013).

Despite of large number of research which has focused on AM, depression and anxiety in people with PTSD, we still know little about the complex relationship between them. The Purpose of this research was to investigate the mediating role of emotion regulation in the relationship between AM, depression, anxiety and PTSD.

2. Method

2.1. Participants and procedure

For this study 150 adolescents (14-18) were examined by 5 clinician experts to diagnose PTSD. The participants were refugee adolescents from Afghanistan with (n=20) and without (n=20) PTSD. They were collected from 3 refugee child and adolescent institutes (Kiyana and Mehr1, 2 institutes). PTSD or non-PTSD groups were detected by the diagnostic criteria for PTSD as determined by the Iranian version of the Structured Clinical Interview for DSM-IV (First, Spitzer, Gibbon, & Williams, 1996). The validity and reliability of the Iranian version has been assessed and found to be adequate by the Institute of Psychiatry, Medical Tehran University. Some Clinical psychologists, who were Expert on the SCID, conducted the diagnostic evaluations. After an initial screening to diagnose PTSD, autobiographical memory test was taken from all the participants and then each subject completed emotion regulation, anxiety and depression questionnaires.

2.2. Measures

Autobiographical memory test

The gold-standard laboratory measure of AM is the Autobiographical Memory Test (AMT) which presents participants with lists of cue words and asks them to retrieve a specific memory to each word (Williams & Broadbent, 1986). There are promising psychometric properties for this test (Griffith, Kleim, Sumner, & Ehlers, in press). The AMT was administered in Farsi. In terms of word selection, in a pilot study the researchers gave a list of 100 words which were selected from a pool of Farsi words, including negative war trauma-related and positive words, to more than 60 individuals to rate their emotionality. After rating the words, the

20 words (10 positive and 10 negative war trauma-related words) with the highest emotionality ratings were presented to five psychologists to select the most appropriate five positive and five negative trauma-related words based on frequency, length and emotionality. The five positive cues were: spring, laugh, love, flower and fly. The five negative cues were: bust, sleeping bag, bomb, torture and chemical.

Cognitive Emotion Regulation Questionnaire

To measure the specific cognitive emotion regulation strategies participants used in response to the experience of threatening or stressful life events (Garnefski, Kraaij, & Spinhoven, 2002). The CERQ is a 36-item questionnaire, consisting of the following nine conceptually different subscales, each consisting of four items measured on a 5-point Likert scale and each referring to what someone thinks after the experience of a stressful life event: Self-blame, Other-blame, Acceptance, Planning, Positive Refocusing, Rumination, Positive Reappraisal, Putting into Perspective, and Catastrophizing. Research has shown that the subscales have good internal consistencies, with alphas ranging from 0.67 to 0.81 (Garnefski et al., 2001, 2002).

Beck depression inventory-II

The BDI-II was used to measure depressive severity over the previous 2 weeks. The BDI-II is a 21-item self-report questionnaire that rates each question on a scale of 0e3 with total scores ranging from 0 to 63. It has shown high internal consistency (Beck et al., 1996; Dozois, Dobson, & Ahnberg, 1998) and good convergent and discriminant validity (Beck et al., 1996). The Farsi version of BDI-II was used (Moradi et al., 2008).

Beck anxiety inventory

The questionnaire has been prepared to measure the severity of agitation and anxiety in people. It has 21 items and total score is variable between zero and 63. The Beck Anxiety Scale showed moderate correlation with Hamilton Anxiety Rating Scale (HARS) that Was Equivalent to. /25(Beck, A. T., Epstein, N., Brown, G., & Steer, R. A.1988).

3. Results

Participants in this study were between 14-18 years. Teen Population (20 boys and 20 girls) were investigated that their educations were from 6 up to 8. As can be seen from the table 1, the mean of experiment group is lower in comparison to control group, so adolescents with PTSD had weaker performance than normal adolescents in AMT.

Table1

The findings of the comparison between PTSD and normal group in AMT by using T test

Research variables	Group	Levene test		mean	Standard deviation	Degree of freedom	T	Significant level
		F	Significant level					
Autobiographical memory	Normal PTSD	0/22	0/64	2/87 1/30	1/42 1/61	38	3/27	0/002

According to table 2, refugee adolescents with PTSD have problem in some cognitive emotion regulation strategies. They significantly differ in acceptance, rumination and other-blame in comparison to normal adolescents. Table 2 also shows that some CERS are approximately the same in 2 groups. Notably, in refugee adolescents, other-blame as a strategy is significantly different, but self-blame is not, that can be investigated in future research.

Table2
The findings of the comparison between PTSD and normal group in CERS by using T test

Research variables	Group	Levene test		mean	Standard deviation	Degree of freedom	T	Significant level
		F	Significant level					
Self-blame	Normal PTSD	**0/38**	**0/53**	**4/65** **4/20**	**2/10** **2/16**	**38**	**0/66**	**0/51**
Acceptance	Normal PTSD	**0/00**	**0/98**	**6/25** **4/55**	**1/74** **1/70**	**38**	**3/12**	**0/01**
Rumination	Normal PTSD	**0/17**	**0/67**	**5/35** **6/90**	**1/84** **2/29**	**38**	**-2/35**	**0/02**
Positive Refocusing	Normal PTSD	**4/05**	**0/051**	**5/80** **5/70**	**2/01** **2/67**	**38**	**0/13**	**0/89**
Planning	Normal PTSD	**0/06**	**0/80**	**6/50** **6/35**	**2/50** **2/66**	**38**	**0/18**	**0/85**
Positive Reappraisal	Normal PTSD	**0/41**	**0/52**	**6/30** **5/45**	**2/17** **2/43**	**38**	**0/08**	**0/93**
Putting into Perspective	Normal PTSD	**0/79**	**0/37**	**5/95** **5/90**	**1/70** **2/04**	**38**	**0/08**	**0/93**
Catastrophizing	Normal PTSD	**2/05**	**0/16**	**4/45** **5/70**	**2/06** **2/57**	**38**	**-1/69**	**0/09**
Other-blame	Normal PTSD	**6/00**	**0/01**	**4/45** **5/70**	**2/06** **2/57**	**38**	**-2/28**	**0/02**

In relation to the severity of anxiety and depression in this research (see: table 3), experiment group is much higher than control group. This finding is the same as many studies that have been implemented on normal PTSD or refugee PTSD (you can see: Nickerson, A. Bryant, R. A. Silove, D. & Steel, Z. 2011؛ Schaaf, K. P. W et al 2013)

Research variables	Group	Levene test		mean	Standard deviation	Degree of freedom	T	Significant level
		F	Significant level					
Anxiety	Normal PTSD	**1/60**	**0/21**	16/47 22/60	8/13 10/37	**37**	**-2/04**	**0/05**
Depression	Normal PTSD	**1/51**	**0/22**	15/50 21/57	8/40 6/03	**37**	**-2/58**	**0/01**

Table3
The findings of the comparison between PTSD and normal group in anxiety and depression by using T test

4. Discussion

The goal of this study was to investigate the role of emotion regulation in relationship between PTSD and AM. Refugee adolescents with PTSD endorsed the weakness in emotion regulation and AM. The association between PTSD symptoms and three emotion regulation strategies were much stronger than the others. Refugee adolescents with PTSD were significantly different in AM and some emotion regulation strategies such as acceptance, rumination and other-blame. These findings is in line with many studies that have investigated relationship between emotion regulation and PTSD (like Tripp, J. C., & McDevitt-Murphy, M. E.2015 & Weiss, N. H., Tull, M. T., Lavender, J., & Gratz, K. L.2013) and our results are consistent with previous research that has indicated that AM is associated with PTSD (Rubin, D. C., Dennis, M. F., & Beckham, J. C.2011& Sutherland, K., & Bryant, R. A.2007& Moradi, A., Herlihy, J., Yasseri, G., Turner, S., & Dalgleish, T.2008) and also other studies that have showed the relationship between depression and anxiety with PTSD(Janssen, S. M., Hearne, T. L., & Takarangi, M. K.2015 & Roley, M. E., Claycomb, M. A., Contractor, A. A., Dranger, P., Armour, C., & Elhai, J. D.2015) although they had different samples.

The results of present study showed that PTSD group has lower memory specificity and higher degree of depression and anxiety. Evident research indicated that AM is associated with PTSD and depression in normal and refugee population (Graham, B., Herlihy, J., & Brewin, C. R.2014). Another result in this study was that PTSD group with weakness in AM and high level

of depression were significantly different in acceptance, rumination and other-blame and not different in self-blame, catastrophizing, positive reappraisal, positive refocusing, Putting into Perspective and Planning. Many research informed the role of emotion regulation in adolescents' problems. One of them showed that some cognitive emotion regulation strategies were identified to enhance emotional adjustment and the others enhanced maladjustment. Specifically, internalizing problems in adolescents were positively predicted by acceptance, self-blame, catastrophizing and rumination (Garnefski, Kraaij, & van Etten, 2005; Garnefski, Rieffe, Jellesma, Terwogt, & Kraaij, 2007; Legerstee, Garnefski, Jellesma, Verhulst, & Utens, 2010) and negatively predicted by positive refocusing, positive reappraisal and planning (Bjorck, Cuthbertson, Thurman, & Lee, 2001; Legerstee et al., 2010; Garnefski et al., 2007). We found that acceptance, rumination and other-blame were much more in PTSD group, Hinton, D. E., Pich, V., Hofmann, S. G., & Otto, M. W. (2013) in their research demonstrated that acceptance decreased PTSD symptoms and even rumination. Rumination is a cognitive process that has been implicated in the maintenance and development of depression symptoms (NolenHoeksema, 1991& Roley, M. E., Claycomb, M. A., Contractor, A. A., Dranger, P., Armour, C., & Elhai, J. D. 2015). And also other-blame was strong, no study can explain why other-blame is strong in PTSD group. It is too early to conclude that this strategy plays an important role in PTSD or depression or AM.

The findings suggested that, like emotion regulation, AM was associated with PTSD. Since many studies indicated relationship between AM and emotion regulation (Phung, S. Q., & Bryant, R. A.2013 & Nandrino, J. L., Doba, K., Lesne, A., Christophe, V., & Pezard, L.2006), then on the basis of the current research, the conclusion can be added that a relationship between these cognitive emotion regulation strategies (acceptance, rumination and other-blame) and AM also exists in a specific sample of refugee adolescents with PTSD. We know that most of people with PTSD, especially refugees, have experienced many kinds of childhood abuse in their life. According to this, these findings lend support to the theory that childhood abuse (sexual, physical, and emotional) may disrupt the development of adaptive emotion regulation skills (Shipman, Edwards, Brown, Swisher, & Jennings, 2005; Shipman, Zeman, J., Penza, S., & Champion, K, 2000).

The first limitation was the sample size that was small and the second one was the participants that were between 14-18 years. And finally the results cannot extend to other samples. Summary, the current results indicate CERS is associated with AM, depression and PTSD symptoms in refugee adolescents.

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