

*The War 2003 Aftermath: Post Traumatic Growth Among Iraqi Students*

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**Abstract**

This present paper attempts a) to examine the factor structure of the PTGI in a sample of Iraqi university students, b) to explore the factors of PTGI, c) to investigate the existence of posttraumatic growth (PTG) among Iraqi students who are exposed to traumatic events especially after the war in 2003, d) to identify the difference of PTG between genders. A survey has been conducted among 450 students from the colleges of political science, media, science, and veterinary medicine at the University of Baghdad in academic year 2013 to 2014. Participants completed a survey that consisted of the Baghdad Trauma History Screen, and the Posttraumatic Growth Inventory. Results of principal components analysis revealed presence of two factors of scale of PTGI and the existence of PTG among Iraqi students, a statistically significant difference between the two factors of PTG. as well as the difference between genders in terms of PTG is significant. Implications of the results and recommendations for further research are discussed.

Keywords: Traumatic stress, war, Iraq, posttraumatic growth

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## Introduction

Over the past decade, trauma researchers' attention has been shifted from negative to positive influences of traumatic events. A new field of research on posttraumatic growth (PTG) exhibits positive relationship between exposure to traumatic events and positive personal transformations (Grubaugh & Resick, 2007; Knaevelsrud, Liedl, & Maercker, 2010; Roe-Berning, 2009; Tallman, Shaw, Schultz, & Altmaier, 2010).

The possibilities for growth from the struggle with suffering and crisis have received considerable attention since the 1990s. The term of Posttraumatic growth (PTG) refers to the reported subjective experiences of positive psychological changes, such as increased appreciation of life, setting of new life priorities, a sense of increased personal strength, identification of new possibilities, improved closeness of intimate relationships, or positive spiritual change, as a result of the struggle with trauma, which then also has an opportunity for further individual development of significant positive change arising from the struggle with a major life crisis (Calhoun, Cann, Tedeschi, & McMillan, 2000; Calhoun & Tedeschi, 1999; Tedeschi & Calhoun, 1996, 2004; Zoellner & Maercker, 2006).

Studies were conducted about terrorism incidents (Hobfoll et al., 2007; Linley & Joseph, 2004; Papadopoulos, 2006), wars (Forstmeier, Kuwert, Spitzer, Freyberger, & Maercker, 2009; Pietrzak et al., 2010), natural disasters (Cieslak et al., 2009; Yu et al., 2010) and sexual assault (Grubaugh & Resick, 2007; Joseph, 2011) discovered that PTG is evident after traumatic experience exposure outside Iraqi society. Therefore, it is possible that a similar phenomenon might occur in the Iraqi population. An instrument frequently used to assess PTG is the Posttraumatic Growth Inventory (PTGI) (Tedeschi & Calhoun, 1996).

The main purpose of this research was an attempt to examine the factor structure of the original PTGI due to the cultural context might influence on experiencing of PTG (Tedeschi & Calhoun, 2004). Moreover, investigating the existence of PTG among Iraqi students who were exposed to traumatic events after the war 2003 by examining the Iraqi translated version of the PTGI. Also to explore the factors of PTG to know which factor was dominant among Iraqi students, in the end to identify the difference between male and female in terms of PTG because male and female students may react differently toward exposure to war and its aftermath. The findings of this research can led to understand the nature of PTG in Iraq and the growth process.

PTGI is developed by Tedeschi and Calhoun (1996) to measure the posttraumatic growth. Several studies have been conducted using translations of the PTGI into other languages. In the German version of the PTGI, four of these original PTGI factors were replicated (Maercker & Langner, 2001), Bosnian version was composed of three factors (Powell, Rosner, Butollo, Tedeschi, & Calhoun, 2003), Chinese version also revealed a four factors structure (Ho, Chan, & Ho, 2004). Spanish version had a three-factor structure that was similar to the Bosnian version (Weiss & Berger, 2006) and Japanese version had four factors (Taku et al., 2007). However, the factor structures of the non-English versions of the PTGI have shown some differences from that described in the original study reporting the development of the PTGI (Tedeschi & Calhoun, 1996).

Previous findings suggested that the factor structure of the PTGI may differ somewhat from one country or cultural group to another. Tedeschi and Calhoun (1996) identified five factors of growth: new possibilities, relating to others, personal strength, appreciation for life, and spiritual change.

To date, there have been no reports of PTG from Iraq, even though the prevalence of posttraumatic stress disorder (PTSD) and the frequencies of various kinds of traumatic events due to its suffering from several wars over two decades especially like the traumatic events and violence in Iraqi society after the 2003 war. Iraqi society has become ground for many researches related to post-traumatic stress disorders PTSD. While western cultures tend to emphasize the positive side of traumatic experiences more than other cultures do (Calhoun & Tedeschi, 2006), there seems to be a literature gap in understanding the nature of PTG in Iraq.

It is expected that using the PTGI in an Iraqi society might show differences in both overall scores and factor structure of the PTGI. This may be due to the cultural and religious elements that differ considerably from the U.S, as well as the kind of traumatic events and exposure span. It is possible that this difference could affect the occurrence of PTG.

## **Method**

### **Measures**

#### **Baghdad Trauma History Screen (BTHS)**

To identify the presence of traumatic events among the students, an Arabic and English version of the BTHS scale developed by (Jaber, 2012) was selected as the appropriate scale for the Iraqi environment. The scale consisted of a series of traumatic events (e.g., chemical attack, car bombing, and attempt to kill) that were experienced by the Iraqi society as a result of previous wars. The BTHS included 20 traumatic event rows and six response columns for each event, in which the participants were asked to indicate if they were exposed personally and/or in close proximity to traumatic events

#### **Posttraumatic Growth Inventory**

Posttraumatic growth Inventory developed by (Tedeschi & Calhoun, 1996) was used to assess the positive growth reported by individuals who were exposed to the traumatic events. The twenty one items of the original version PTGI has demonstrated high internal consistency ( $\alpha = .90$ ) and high test-retest reliability (0.71), and the reliability of this research was 0.87. The PTGI is a 6-point likert scale ("0 = I did not experience this change as a result of my crisis", "5 = I experienced this change to a very great degree as a result of my crisis").

Although the PTGI scale has been translated into a number of languages such as Chinese, German, Japanese and Spanish, a published Arabic version was unavailable. Therefore, the PTGI was translated by two professional experts who were proficient in both English and Arabic; one expert translated the scale from English into Arabic, and another translated it from Arabic into English. The translation of the scale followed the instrument translation guidelines (Brislin, Lonner,

& Berry, 1986). The outcomes of the translation were pilot versions of the PTGI scale in Arabic.

The Arabic versions of the PTGI scale were pilot tested to ensure that its items were understood to the Arabic participants. The PTGI scale was administered to 20 Iraqi students (10 males and 10 females) at Baghdad University, and the students were asked about the clarity of the items. The scale contained 21 items, and each item had two choices, namely, “this item is clear and understandable” and “this item is not clear and not understandable”. All of the participants reported that all of the items were clear and understandable

### **Procedures and participants**

This research adopted a survey design to collect data from the Iraqi students who had been exposed to traumatic events. Initial data collection was conducted between October and December 2013 on 600 students in Baghdad University in academic year 2013–2014. BTHS and PTGI were administered on 600 university students from four science and humanities colleges in Baghdad. Five hundred seventy five questionnaires were returned. The researcher ruled out 32 incomplete questionnaires because they were left unanswered. BTHS was utilized to identify who among the 540 students had experienced traumatic events. The results showed that 450 students were exposed to traumatic events. Ninety students who did not report any traumatic event were excluded from the sample.

The size of the final research sample that was used for data analysis in this study was 450 students, who had been exposed to traumatic events. The sample consisted of 177 male and 273 female students in Baghdad University in academic year 2012–2013.

### **Analysis of the Data**

Data was analyzed through four steps. First, to explore the factor structure of the PTGI-I, a principal component analysis with Varimax rotation was conducted. Then an exploratory factor analysis was conducted to test the factor structure of the PTGI. The coefficients of Internal and external consistency (Cronbach alpha) for the scales identified in the factor analyses were calculated and the correlations among the subscales of the PTGI were examined. Second to examine the existence of (PTG) among Iraqi students who are exposed to traumatic events using Descriptive statistics, Third to explore the factors of PTGI using Paired sample t-test. Fourth to identify the difference of PTG between genders using Independent sample t-test.

### **Result.**

#### **Exposure to traumatic events**

All the 450 participants exposed to trauma, they had experienced , the most traumatic/stressful events and they felt fear, horror, or helplessness. The events our participants reported were relatively compatible with those described in the original study (Tedeschi & Calhoun, 1996).

#### **Exploratory factor analysis**

The 21 items of the PTG were subjected to principal component analysis using SPSS Version 20. Prior to performing PTG, the suitability of data for factor analysis was assessed. Analysis of the correlation matrix indicated the presence of several coefficients of 0.30 and above. The Kaiser–Meyer–Oklin value was 0.77, exceeding the recommended value of 0.60 as suggested by Hutcheson and Sofroniou (1999) to use a factor model. Furthermore, Barlett’s Test of Sphericity reached statistical significance, which supported the factor ability of the correlation matrix. Table 4.1 shows the rotated component matrix.

**Table 1**

*Rotated Component Matrix<sup>a</sup> for scale of PTGI*

Items	Component	
	Factor1	Factor 2
1. I changed my priorities about what is important in life.	.426	
2. I have a greater appreciation for the value of my own life.	.692	
3. I developed new interests.	.610	
4. I have a greater feeling of self-reliance.	.701	
5. I have a better understanding of spiritual matters.		.497
6. I more clearly see that I can count on people in times of trouble.		.409
7. I established a new path for my life.	.646	
8. I have a greater sense of closeness with others.		.477
9. I am more willing to express my emotions.		.358
10. I know better that I can handle difficulties.	.642	
11. I am able to do better things with my life.	.573	

12. I am better able to accept the way things work out.	.338	
13. I can better appreciate each day.		.529
14. New opportunities are available which wouldn't have been otherwise.		.535
15. I have more compassion for others.		.641
16. I put more effort into my relationships.		.636
17. I am more likely to try to change things which need changing.	.515	
18. I have a stronger religious faith.	.417	
19. I discovered that I'm stronger than I thought I was.	.683	
20. I learned a great deal about how wonderful people are.		.686
21. I better accept needing others.		.662
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% of variance explained	29.398	19.831

As shown in Table 1, principal component analysis revealed the presence of two components with eigenvalues exceeding 1. These factors explained 49.22% of variance. The contributions of each factor were 29.398 and 19.831, respectively.

#### **Internal and external consistency**

To evaluate the internal consistency for the PTGI subscale, reliability for two factors was conducted on 450 participants from Baghdad University. Cronbach alpha was  $\alpha$  .83 for factor 1 and  $\alpha$  = .78 for factor 2. To measure the relationship between the scores of individual items and the total score, Pearson correlation was used. The results indicated that all of the items were significant at the .01 levels and ranged from .355 to .683. Moreover, the correlations between the subscales of PTGI and its total score were all significant at .01.

After a factor analysis on the PTGI scale, the result was that the five factors were reduced to two factors. New names for each factor were suggested according to the mean items of each factor, and then reviewed by four psychologists in Baghdad University to ensure that the appropriate names for these factors. The first factor is

called “strength of ego,” which consists of 11 items "1,2,3,4,7,10,11,12,17,18 and 19", and the second factor is called “positive relationship with others,” which consists of 10 items "5,6,8,9,13,14,15,16,20 and 21".

### **Explore the factors of PTGI**

the average scores of factors for students who were exposed to traumatic events. The result for factor 1, which was  $M = 36.13$ ,  $SD = 9.72$ , is higher than that of factor 2, which was  $M = 28.36$ ,  $SD = 10.53$ . The Correlations between factors of PTG is 18.518 and  $p=.000$ . This result means that there is a statistically significant difference between the two factors of PTG.

### **Existence of (PTG)**

The participants with high and low PTG after being exposed to traumatic events. A total of 114 students, who obtained more than 77.0 from the PTGI scale were considered as having high growth, and 117 students were considered as having low growth because their scores were less than 53.0. The cutoff point of 67.0 was obtained through quartile statistics analysis.

### **Differences between genders in terms of PTG**

The result of difference between male and female students in terms of PTGI-I There were no significant differences between male ( $M=66.74,SD=18.24$ ) and female ( $M=63.03,SD= 18.09$ ) and the independent samples t-test was 2.11. In other words, male samples of this study indicate higher levels of PTG compared to the female ones; however the difference is not significant due to the fact that the p value was 0.03.

### **Discussion:**

This study provides a preliminary exploration of PTG society and it might appear to be the first to employ a standardized measure of PTG to assess the factors of growth in an Iraqi sample. The current findings indicate that the Iraqi version of the PTGI has good internal consistency and a factor structure with some similarity to that reported in the original study (Tedeschi & Calhoun, 1996). The average score of the PTGI showed that 25% of the university students reportedly perceived growth to great degree and 25% to a small or moderate degree.

Findings related to the existence of PTG among Iraqi students who were exposed to traumatic events are in line with many other studies across different geographical locations (Linley & Joseph, 2004; Morris, Rieck, & Newbery, 2005), types of traumatic events, durations of the events (Pietrzak, et al., 2010; Roe-Berning, 2009), and research methods (Chun & Lee, 2008). In other hand, the findings lead to a conclusion that PTG might occur among people who exposed to any traumatic events anywhere.

In order to archive the aim of this research data analysis has been done; significant results for two of the factors (Strength of Ego, Positive Relationship with Others) of PTG were evident. The Correlation between factors 1 and 2 of PTG was found to be

18.51 and  $p = 0.000$ ; it means that there are statistically significant differences between them and in favor of the factor 1 (Strength of Ego).

The research also discovered strong connection of the first factor (Strength of Ego) to the promotion of the person's inner strength. When individuals are able to ponder upon their own lives' meaning and interpretation of events, they can overcome the negatives of traumatic events and try to turn it into positive stimuli toward the good future as well as to facing great distress or adversities in life.

After reviewing the literature related to variable growth researcher at the moment did not find other studies have examined the factors that were found in this study. In other words, the researchers cannot compare this result with the results of other studies because this study has been applied to the community in the East of the different customs and traditions with Western societies, especially for undergraduate students. This study will open the way for researchers in the East Community. And the results of future researches will show support as a result of this research or not.

An independent sample t-test is performed identify the difference between genders, the finding was that a significant difference exists between male and female students in terms of PTG. This finding is not consistent with the results of (Helgeson, Reynolds, & Tomich, 2006; Jang, 2005; Tedeschi & Calhoun, 1995, 1996), whose findings illustrate that females have significantly higher PTG scores than males. Taku et al. (2007) found no significant differences between males and females in terms of PTG. Other studies reported that females scored higher PTG than males (Tallman, et al., 2010; Vishnevsky, Cann, Calhoun, Tedeschi, & Demakis, 2010). The gender-related differences in PTG are still debatable because such differences are not always evident in different cases, settings, and populations. However, most studies that have reported such differences findings that the females have obtained higher PTG scores than the males. Thus, those reports are not in line with the finding of this study, where males are reported to have significantly higher level of PTG Because females and males are treated differently in the Iraqi society, males have greater access to opportunities that enable them to deal with their communities and their daily experiences, which improves their understanding of events, their ability to absorb shocks, and their self-confidence. Linley and Joseph (2004) explained that education level was positively associated with PTG. Different results may be generated when the participants are taken from society members who have no access to quality education.

### **Conclusion:**

Results provide support for the predict posttraumatic growth in Iraqi subjects Finding of this research emphasizes the factors of scale original PTGI will be different in other cultures, positive changes among students aftermath in trauma experience seems to protect Iraqi students from the effects of a negative perception of the impact of traumatic events and help them to adjustment themselves to problematic situations and to live effectively and efficiently. Psychosocial intervention programs should facilitate PTG in order to promote Iraqi students' adjustment.

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