



Posttraumatic stress disorder and posttraumatic growth coexistence and the risk factors in Wenchuan earthquake survivors



Zhibin Wu, Jiuping Xu*, Yan Sui

School of Business, Sichuan University, Chengdu, China

ARTICLE INFO

Article history:

Received 17 July 2015

Received in revised form

22 December 2015

Accepted 17 January 2016

Available online 19 January 2016

Keywords:

Posttraumatic stress disorder

Posttraumatic growth

Resilience

Risk factor

Wenchuan earthquake

ABSTRACT

Various studies have assessed the negative and/or positive changes in the aftermath of traumatic events. Yet few of these have addressed the factors associated with the coexistence of both negative and positive changes after a devastating earthquake. The aim of this study is to assess the relationship between the negative and positive changes and elucidate the risk factors of such changes one year after Wenchuan earthquake. A total of 2080 survivors from 19 counties participated in a self-report questionnaire survey which included the posttraumatic stress disorder (PTSD) Check list-Civilian, the posttraumatic growth PTG Inventory (PTGI). The prevalence of PTSD and moderate PTG was found to be 40.1% (95% CI [37.9% 42.3%]) and 51.1% (95% CI [48.9% 53.3%]). The PTSD and moderate PTG coexistence was 19.6% (95% CI [17.8% 21.4%]). PTSD symptom severity was significantly positively associated with the PTG score. Middle aged groups (31–40 and 41–50 years old, $OR=2.323$, 95% CI [1.059, 5.095] and $OR=2.410$, 95% CI [1.090, 5.329] respectively), those with lower income levels ($OR=8.019$, 95% CI [2.421, 26.558]), those living in temporary house ($OR=1.946$, 95% CI [1.280, 2.956]), and those who had had less social support ($OR=1.109$, 95% CI [1.076, 1.143]) had a significantly higher possibility for the presence of PTSD and moderate PTG coexistence. The results indicated the widespread positive changes in earthquake survivors. Better income levels and living conditions and higher social support were suggested to promote PTG in those with PTSD.

© 2016 Elsevier Ireland Ltd. All rights reserved.

1. Introduction

Research into earthquakes has typically focused on the subsequent negative psychological, behavioral changes and stress reactions (Endo et al., 2007; Feder et al., 2013). Of all the psychological problems resulting from natural disaster events, posttraumatic stress disorder (PTSD) appears to be the most studied and reported consequence (Blanc et al., 2015; Dell'Osso et al., 2011; Ehring, et al., 2011; Galea et al., 2005; Ozdemir et al., 2015; Salcioglu et al., 2007). Recently, a growing body of research has identified that there are positive adaptations after life-threatening events or the experience of extreme adversity (Joseph and Linley, 2005). Positive adaptations such as posttraumatic growth (PTG) and resilience have been shown to reduce the likelihood of trauma-related mental health problems in survivors (Davydov et al., 2010; Hall et al., 2008). Research on positive adaptation to traumatic events may contribute to prevention and intervention efforts in post-traumatic recovery (Stratta et al., 2015).

Generally speaking, PTG refers to the development of positive changes and a positive outlook following a traumatic event and can be observed through five major changes; improved relationship with others, increased personal strength, identification of new possibilities, positive spiritual changes, and increased appreciation of life (Tedeschi and Calhoun, 1996, 2004). PTG is considered to be the result of the struggle to cope with traumatic events and has been observed in various trauma-exposed populations (Park et al., 2008; Powell et al., 2003; Tang, 2006; Tedeschi et al., 1998). For example, 6 months after the Southeast Asian earthquake-tsunami, about 34% of adult survivors reported moderate levels of positive psychological adjustment (Tang, 2006). Various predictors such as individual characteristics, social support and cognitive processing have been identified as necessary for the development of positive changes (Yu et al., 2014).

Resilience refers to the ability to keep going in the face of stress and other adversity (Connor and Davidson, 2003). Resilience has also been defined as the ability to adapt to or bounce back from extremely unfavorable circumstances (Tusaie and Dyer, 2004). Resilience plays a crucial role in posttraumatic positive changes (Zoellner and Maercker, 2006) and has been recognized as a coping strategy which assists survivors recover from traumatic events (Cofini et al., 2015; Leipold and Greve, 2009). However,

* Correspondence to: School of Business, Sichuan University, No. 24, South Section 1, Yihuan Road, Chengdu, Sichuan 610065, China.

E-mail address: xujiuping@scu.edu.cn (J. Xu).

there have been few studies to date which have measured the earthquake survivors' resilience (Li et al., 2012; Stratta et al., 2013, 2015).

Some previous studies have discussed the relationship between some of the measures for PTSD, PTG, and resilience under different backgrounds (Bensimon, 2012; Frazier et al., 2009; Hall et al., 2008; Nishi et al., 2010; Powell et al., 2003; Shakespeare-Finch and Lurie-Beck, 2014; Zoellner and Maercker, 2006). Contradicting results in the literature were found. Resilience, social support and positive coping have been positively correlated with PTG in infertile women (Yu et al., 2014). Resilience has been found to be associated with fewer PTSD symptoms (Connor and Davidson, 2003), and PTSD symptom severity was found to be negatively associated with PTG in refugees (Ssenyonga et al., 2013). Lowe et al. (2013) found that participants with PTSD had significantly higher PTG than those without PTSD after Hurricane Katrina. More than 20% of the adult respondents with current major depression also met the criteria for PTSD in the 2009 earthquake in L'Aquila, Italy (Gigantesco et al., 2013). Another study of survived students for the same earthquake found that resilience directly and negatively affected the PTSD symptoms (Stratta et al., 2015). The survey of earthquake survivors in rural Taiwan showed that those with full PTSD had higher rates of major depression compared to subjects without PTSD or with partial PTSD (Lai et al., 2004). The results of Wenchuan earthquake indicated that PTSD and PTG can coexist in adolescent survivors (Zhou et al., 2015). While PTSD and PTG were positively related to one another, resilience was found to be negatively related to PTSD and positively related to PTG (Bensimon, 2012).

The catastrophic Wenchuan earthquake measuring 8.0 on the Richter scale occurred on 12 May, 2008 in the west of the Sichuan basin, China. According to the Ministry of Civil Affairs, around 70,000 people were killed, 373,000 were injured and 18,000 were listed as missing, precipitating the largest crisis intervention in the history of China. Many studies have focused on the mental health problems, such as PTSD, of the survivors in this area (Fan et al., 2011; Zhou et al., 2015). However, there have been fewer studies that have paid attention to positive changes such as resilience and PTG (Li et al., 2012; Xu and Liao, 2011). The limited available evidence on the relationships among PTSD, PTG and resilience after such a big earthquake in developing countries suggests a need for further investigations. In this study, we also examined the risk factors of the coexistence of PTSD and PTG, which may contribute our understanding of the common predictive factors that PTSD and PTG share. In addition, as social support was associated with higher positive emotions and may promote PTG (Feder et al., 2013; Lai et al., 2004; Yu et al., 2014), we also assess the role of social support in PTSD and PTG coexistence.

Consider the above motivations, there are two aims of this study. Although traumatic events have been shown to lead to severe psychological issues like posttraumatic stress disorder (PTSD), at the same time those individuals may engender growth experiences. However, few published studies have reported on the PTSD and PTG coexistence. Therefore, the first objective of this study is to explore the coexistence of PTSD and PTG. The risk factors for PTSD and PTG have been well-documented separately in the literature (Chen et al., 2007; Cofini et al., 2015; Ehring et al., 2011; Feder et al., 2013; Tang 2006). Nevertheless, the risk factors for the PTSD and PTG coexistence received less attention. Hence the second objective of this study, which is also the main goal of this study, is to address the gap in the risk factors for the PTSD and PTG coexistence after a devastating earthquake event. These investigations are expected to provide evidence for future research on the PTSD and PTG coexistence.

Since 2008, our research team have focused on the study of psychological aspects and mental health among the survivals of

Wenchuan earthquake and gained a series of results (He and Xu, 2013; He et al., 2013; Jin et al., 2014a, 2014b; Li et al., 2012; Wu et al., 2014; Xu and Deng, 2013; Xu and Feng, 2012; Xu and He, 2012; Xu and Liao, 2011; Xu and Song, 2011a, 2011b; Xu and Wang 2012; Xu and Wei, 2013; Xu and Wu, 2011, 2014; Xu et al., 2013; Zhao et al., 2013). All these papers had different starting points and explored different aspects. Despite the fact that Jin et al.'s paper (Jin et al., 2014a, 2014b) have investigated the relationship between PTSD and PTG, they only pay attention to the gender differences and the predictors for PTSD and PTG separately. Different from the preceding papers, this paper is to explore the coexistence of PTSD and PTG as well as the corresponding risk factors. The results of this paper will provide evidence on the survivors who are experiencing both PTSD and PTG following a devastating earthquake. Furthermore, this paper adds new knowledge on the possible treatment to those with the PTSD and PTG coexistence in developing countries.

2. Methods

2.1. Procedure

A two stage stratified random sampling strategy for data collection was adopted one year after the Wenchuan earthquake event. First, the 19 hardest hit counties were selected because of the high-degree exposure to the earthquake. Second, several local communities were chosen with the help from the local civil affairs department and the Bureau of Statistics. Household selection was based on the total number of the houses and temporary accommodation, and one adult was then selected from the chosen house or temporary accommodation. The inclusion criteria were a high degree of exposure to the earthquake and experience of the whole earthquake process.

A stratified random sampling design was used. Theoretically, the sample size was calculated from the following formula for cross sectional surveys (Babbie, 2007; Charan and Biswas, 2013):

$$\text{size} = \frac{Z_{1-\alpha/2}^2 P(1-P)}{d^2} = \frac{1.96 \times 0.5(1-0.5)}{0.05^2} = 384$$

However, considering the objective of the project, we planned to obtain a much larger sample size which covered the 19 counties. The target population was more than 2 million in the 19 counties. Because the population size is very large, it was irrelevant for the sample size calculation (Babbie, 2007). The number of people and the number of participants selected in each county were described in Fig. 1.

From July to September, 2009, 19 counties were investigated by 19 trained groups, and each group was made up of two post-graduate students and a staffer from the civil affairs department. Each team had at least one member who was fluent in the local dialect. They visited households who were either living in their original houses or were in temporary accommodation. After a detailed explanation of the procedures, all participants gave their informed consent to participate in the survey. Group members explained the goals of the study to the subjects and made it clear that anonymity would be ensured. If the residents declined to participate in the survey, the next closet resident was chosen. For those who were found to have a low education level or literacy problems, group members read the content of the questionnaire aloud and explained what each item meant, and, if necessary, also noted down the participant's answers and assisted them throughout the survey process. A total of 2300 individuals participated in the survey with 2080 (the response rate 90.4%, the eligibility rate 97.91%, the refusal rate 3.13%) completing the questionnaires.

Download English Version:

<https://daneshyari.com/en/article/333090>

Download Persian Version:

<https://daneshyari.com/article/333090>

[Daneshyari.com](https://daneshyari.com)