



ADVANCING HEALTH EDUCATION &amp; RESEARCH



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# AVA Research Review

## ADVANCING HEALTH EDUCATION & RESEARCH

**Review Title:** Wenchuan Earthquake Aftermath: Trajectories of Posttraumatic Stress Symptoms Among Adolescent Survivors

**Reviewers:** Michelle S. Livings BS, Jeremiah D. Williams BA, & Betty S. Lai PhD, School of Public Health, Georgia State University

**Article:** Fan, F., Long, K., Zhou, Y., Zheng, Y., & Liu, X. (2015). Longitudinal trajectories of post-traumatic stress disorder symptoms among adolescents after the Wenchuan earthquake in China. *Psychological Medicine*, 45, 2885-2896.

### Introductory Comment

It is well documented that posttraumatic stress (PTS) symptoms may arise following exposure to a traumatic event, such as experiencing a natural disaster. Studies specifically examining PTS symptom trajectories among adolescents after disasters have been largely focused on disasters in the United States.

This paper expands current knowledge about adolescent PTS symptom trajectories and corresponding predictors by assessing symptom trajectories and predictors among a sample of Chinese adolescent earthquake survivors.

### Background

A growing body of literature indicates that people differ in their trajectories of responses to potentially traumatic events. To date, trajectories that have been identified in the literature include resistance (few or no symptoms over the duration of study); recovery (initially greater severity of symptoms followed by a decrease to no symptoms); relapsing/remitting (symptoms exhibited in a cyclical pattern); delayed dysfunction (initially few or no symptoms followed by an increase to greater severity of symptoms); and chronic dysfunction (greater severity of symptoms over the duration of study).

Factors that have predicted membership in these varying trajectories include: degree of traumatic exposure, preexisting individual characteristics (e.g., female gender, minority status), and post-disaster stressors and personal factors (e.g., social support, coping, psychological resources). No studies have examined PTS symptom trajectories among Chinese adolescents exposed to a natural disaster.

### **Aims/hypotheses of article**

This study significantly expanded the literature by examining PTS symptom trajectories among Chinese adolescents who were exposed to the 2008 Wenchuan earthquake. The study aimed to identify PTS symptom trajectories and factors predicting membership in those trajectories. The authors hypothesized that they would identify five distinct PTS symptom trajectories: resistance, recovery, relapsing/remitting, delayed dysfunction, and chronic dysfunction. Additionally, this study examined predictors (risk factors and protective factors) of PTS symptom trajectories.

### **Methods**

The study followed 1,573 adolescents exposed to the 2008 Wenchuan earthquake at 6, 12, 18, and 24 months post-disaster. The sample consisted of participants from a junior high school (i.e., 7th graders,  $n = 216$ , baseline mean age = 12.30,  $SD = 0.53$  years) and a senior high school (i.e., 10th graders,  $n = 1357$ , baseline mean age = 15.44,  $SD = 0.67$  years). The schools were located in Dujiangyan, one of the areas most severely impacted by the Wenchuan earthquake. Participants were from various socioeconomic backgrounds representative of the population in the corresponding school district. Given parental consent, students completed a series of scales, checklists, and questionnaires: A Posttraumatic Stress Disorder Self-Rating Scale (PTSD-SS), Adolescent Self-Rating Life Events Checklist, Social Support Rate Scale, and the Simplified Coping Style Questionnaire.

### **Relevant Findings:**

Patterns of PTS symptom trajectories were determined by grouping participants based on differences in PTS symptoms over time (in comparison to a clinical cutoff on the PTSD-SS). Multivariate logistic regression was used to analyze predictors for trajectory membership.

The findings supported the presence of five distinct PTS symptom trajectories, in line with the authors' hypothesis: resistance (65% of the sample), recovery (20%), relapsing/remitting (3%), delayed dysfunction (4%), and chronic dysfunction (7%). Additionally, various predictors were discussed. Risk factors that predicted membership in a more severe PTS symptom trajectory included: female gender, higher grade / older age in adolescence, loss or injury of family member(s), directly witnessing traumatic events, and experiencing negative life events post-disaster. Protective factors that predicted membership in a less severe PTS symptom trajectory included: being an only child (no siblings), social support, and positive coping style.

### **Conclusions**

PTS symptoms were generally most severe at 12 months post-disaster, showing an "anniversary reaction" one year after the occurrence of the disaster. This study reported five PTS symptom trajectories: resistance, recovery, relapsing/remitting, chronic dysfunction, and delayed dysfunction.

Numerous predictors for PTS symptom trajectory membership were identified, and may be utilized by mental health professionals in order to provide appropriate interventions for adolescents who have witnessed earthquakes.

### **Limitations**

This study was limited to self-reports from students in grades 7 and 10. Although self-report has great utility in assessing youth internalizing symptoms, future studies that include information from multiple respondents and youth in a wider range of grades will be important.

### **Reviewers' Comments**

A dearth of research has examined the effects of natural disasters on populations outside of the United States. This is problematic, given that disasters are more likely to have catastrophic effects when they occur in developing countries such as China. This article presents important information on youth reactions to disasters in a developing nation. Notable strengths of this study include the collection of four timepoints of post-disaster information, the large sample size, and the inclusion of multiple risk factors in the assessment battery.

Information about risk factors presented in this article may be utilized by mental health professionals to aid early identification of youth who may be at risk for persistent distress. In addition, mental health professionals may want to consider focusing on social support and positive coping when working with youth after disasters.