



# The Effect of College Students' Self-Efficacy on Post-Traumatic Growth Based on SPSS Data Analysis: The Mediating Role of Social Support

Lu Tian<sup>1</sup>, Ting Wang<sup>1\*</sup>

<sup>1</sup>Department of Psychology, Jiangxi University of Chinese Medicine, Nanchang, Jiangxi, China.  
1500566368@qq.com, 125323611@qq.com

## Abstract

1185 college students were surveyed using the Self-Efficacy Scale, the Social Support Scale, and the Post-Traumatic Growth Scale. The results show that there is a significant positive correlation between self-efficacy, social support and post-traumatic growth, and the mediating effect of social support is significant, which shows that self-efficacy can directly predict post-traumatic growth, and can also indirectly predict post-traumatic growth through social support; this study changes the previous research on the concept of post-traumatic growth focused on the field of disease, and illustrates the role of post-traumatic growth in adolescent emotional development and cognition from a new perspective. It provides new ideas for the follow-up exploration of the physical and mental health of adolescents in the post-epidemic era.

**Keywords:** COVID-19, Self-efficacy, post-traumatic growth, Social support

## 1 INTRODUCTION

The new crown pneumonia epidemic has infected tens of millions of people around the world, which has seriously affected the normal order of society and has also brought a huge impact on the psychological state of people, especially college students [1]. The latest relevant research in China also shows that college students under the new crown pneumonia epidemic have negative psychological states such as anxiety, fear and depression to varying degrees; therefore, it is crucial to promote college students to maintain good psychological adjustment in the context of the normalization of the epidemic. The term post-traumatic growth (PTG), first published in 1995 (Tedeschi & Calhoun, 1995) [2], is defined as psychological distress and emotional disorders that occur with individuals in the course of their struggle with traumatic events, and also experience positive psychological changes, called post-traumatic growth; post-traumatic growth is often an important sign of an individual's psychological state. In addition, the individual's cognitive style is crucial for the growth and development of post-traumatic psychology [3], and experiencing traumatic events to some extent challenges people's stable understanding of their ability to cope with events, and the self's cognition of their ability to cope

with events is called self-efficacy [4]. Studies have proved that self-efficacy plays a vital role in all the relevant factors that affect individual post-traumatic growth; in addition, self-efficacy also needs to play a role through a number of mediating factors when exerting influence on post-traumatic growth [7], of which social support is an important mediator for individual self-efficacy to affect post-traumatic growth, social support can not only provide individuals with a safe environmental atmosphere [6], so that individuals are aware of the unreceived coping ability, experience more sense of strength, It can also help individuals have a new understanding of the traumatic events they have experienced, discover the meaning behind the trauma, and achieve post-traumatic growth [5].

Previous studies have found that the level of self-efficacy has a positive predictive effect on post-traumatic growth [11], but few studies have added the intermediary variable of social support [8], and this study links the psychological growth of individuals with the level of external social support for analysis [9], providing a new perspective for individuals to carry out psychological reconstruction after trauma and broadening new ways for individuals to improve their self-efficacy [14].

This study aims to provide theoretical and technical support for college students' psychological reconstruction under the epidemic by examining the impact of college students' self-efficacy on post-traumatic growth under the normalization of the epidemic and exploring the mediating role of social support in it [10].

## 2 MATERIALS AND METHODS

### 2.1 The Research Object

A random selection of 1185 students from a university in Jiangxi Province participated in the survey, of which 534 were male (45.1%) and 646 were female (54.5%). A total of 1185 questionnaires were distributed. Five people did not report gender and 28 did not report age, with an age range between 18 and 25 years.

### 2.2 Research Tools

#### 2.2.1 Self-efficacy

The General Self-Efficacy Scale, revised by Schwarzer and Jerusalem (1995), revised by Wang Caikang, Hu Zhongfeng and Liu Yong (2001). The scale consists of 10 questions, scored on 4 points, with higher scores from "0 = completely inconsistent" to "3 = completely consistent", indicating higher self-efficacy. The scale has a high reliability validity in adolescent groups after natural disasters (Yangetal 2010), and in this study, the scale had a Cronbach's  $\alpha$  coefficient of 0.84 [18].

#### 2.2.2 Social Support

The Social Relations Network Questionnaire compiled by Zhou Xiao, Wu Xinchun, An Yuanyuan and Chen Jieling (2014) was revised from Zou Hong (1999). The questionnaire consisted of 20 questions,

divided into five dimensions: emotional support, instrumental support, companionship, affirming value and intimacy. The questionnaire is scored on 5 points, with 0 for "never", 1 for "rare", 2 for "sometimes", 3 for

"many", and 4 for "always". All project scores were calculated to get the total social support score of the participants. The higher an individual's score, the stronger the subjective perception of social support. In this study, the overall Cronbach's  $\alpha$  coefficient was 0.94 [20].

#### 2.2.3 Post-traumatic Growth

A post-traumatic growth questionnaire using Zhou Xiao, An Yuanyuan, Wu Xinchun, Chen Heqiong and Long Chaomin revised from Tedeschi and Calloun (1996). The revised questionnaire consisted of 22 questions, including changes in self-awareness, changes in interpersonal experience, and changes in life values, with the corresponding number of items being 97 and 6, respectively. A score of 6 is used, with 0 for "no change" and 5 for "very large change". The higher the participants' score on the questionnaire, the stronger the PTG, that is, the more they have grown. In this study, the Cronbach's  $\alpha$  coefficient for the questionnaire was 0.91 [12].

### 2.3 Statistical Methods

The study used SPSS25.0 and Mplus 7.0 for data analysis. First, descriptive statistics and correlation analysis are carried out, and then, on the basis of correlation, the moderation of social support in the process of self-efficacy on the influence of PTG is investigated by using the method of structural equation model modeling; Finally, the bias-Corrected Bootstrap program is used to test the significance of the mediation effect [13].

## 3 RESULTS AND DISCUSSION

### 3.1 Results

#### 3.1.1 Descriptive statistics of self-efficacy, social support, and post-traumatic growth and their correlation analysis

A Pearson-related analysis of self-efficacy, social support, and post-traumatic growth is shown in Table 1.

**Table 1:** Correlation table between self-efficacy, social support and post-traumatic growth (N=1185)

PROJECT	M±SD	1	2	3
1.SELF-EFFICACY	13.74±5.29	1.00		
2.SOCIAL SUPPORT	49.92±5.18	0.28**	1.00	
3.POST-TRAUMATIC GROWTH	61.79±20.15	0.23**	0.31**	1.00

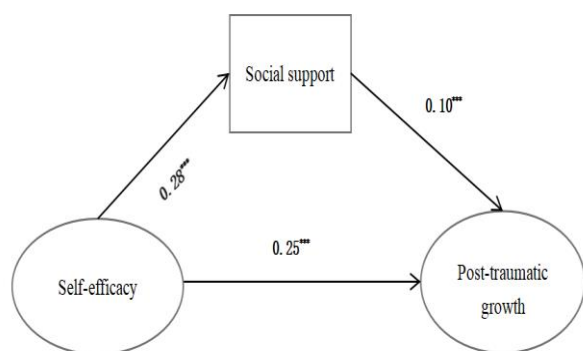
From Table 1, it can be found that there is a significant positive correlation between self-efficacy, social support and post-traumatic growth [(r=0.28,

p<0.05), (r=0.23, p<0.05), (r=0.31, p<0.05)], indicating that the stronger the individual's self-efficacy, the higher

the level of social support and post-traumatic growth experienced by the individual.

### 3.1.2 The mediating role of social support between self-efficacy and post-traumatic growth

In order to verify the mediating role of social support in self-efficacy and post-traumatic growth, the direct effect model and pathway of self-efficacy on post-traumatic growth were analyzed first, and the results showed in Figure 1, and the model fitting index was found to be good:  $\chi^2(37)=316.933$ ,  $CFI=0.957$ ,  $TLI=0.937$ ,  $RMSEA(90\%CI) = 0.080$  (0.72-0.089),  $SRMR=0.034$ . The path of the model was analyzed, and it was found that self-efficacy had a significant positive predictive effect on social support and post-traumatic growth ( $\beta=0.28$ ,  $p<0.001$ ;  $\beta=0.25$ ,  $p<0.001$ ), and social support had a significant positive predictive effect on post-traumatic growth ( $\beta=0.10$ ,  $p<0.001$ ). These results show that self-efficacy not only directly promotes post-traumatic growth, but also plays a significant indirect role in post-traumatic growth through social support.



**Figure 1:** Model of the mediating effect of social support in the relationship between self-efficacy and post-traumatic growth

On the basis of the above, we examined the significance of the mediation effect using the Bias-Corrected Bootstrap procedure (Preacher & Hayes, 2008), and found that the direct effect of self-efficacy on post-traumatic growth was 95% confidence space [ $\beta=0.025$  (0.177-0.319)], and the confidence interval of 95% of the indirect effects of self-efficacy on post-traumatic growth through social support [ $\beta=$ . 0.028 (0.006 to 0.051)], which indicates that self-efficacy can directly predict post-traumatic growth, or indirectly positively predict post-traumatic growth through social support.

## 3.2 Discussion

The main research purpose of this paper is to examine the impact of individual self-efficacy and social support on post-traumatic growth in the context of the normalization of the new crown pneumonia epidemic [14], and to examine the mediating role between self-efficacy and post-traumatic growth with social support as a mediating variable, and it is found that self-efficacy has a significant direct positive predictive effect on post-traumatic growth [15], which validates our hypothesis and is consistent with previous research results on adolescents (Zhou et al., 2017; Zhou Xiao, An Yuanyuan, et al., 2014; Zhou Xiao, Wu Xinchun et al., 2014) [19], self-efficacy reflects an individual's belief in the ability to perform tasks when engaged in tasks. As the individual develops psychologically, when the individual has a strong belief in the ability to self-deal with traumatic events and their negative outcomes, the individual may adopt a problem-focused coping approach to coping with trauma-related cues that can effectively manage uncontrollable post-traumatic distress factors and overcome post-traumatic dilemmas. In Korman's (1976) view, an individual's experience of successfully handling and resolving difficulties can increase an individual's positive judgment of his or her own abilities and worth, thereby helping to enhance an individual's sense of self-efficacy [16]. And when an individual's self-efficacy increases, it helps adolescents successfully and effectively cope with traumatic events and manage their emotions, and this successful experience may increase their self-esteem, thereby helping them to see their self and the world positively, and ultimately achieve post-traumatic growth.

In addition, consistent with our research hypothesis, this study found that self-efficacy can play a significant positive role in predicting post-traumatic growth through social support, and the degree of social support that individuals can experience can improve the level of post-traumatic growth. Zhou Xiao and Wu Xinchun et al. (2014) gave a reasonable explanation for this, believing that social support can provide a supportive environment for post-traumatic individuals and help them to think positively about traumatic events and integrate their meanings, thus promoting the realization of post-traumatic growth. In addition, social support can also promote the development of individual cognitive ability, improve the individual's cognitive ability to solve unknown events, and further improve the individual's sense of self-efficacy, thus promoting the individual to carry out positive cognitive processing of traumatic events, and achieve post-traumatic growth<sup>1</sup>. This study changed previous studies on the concept of post-traumatic growth, which focused on the field of disease, explained the role of post-traumatic growth in emotional

development and cognition of adolescents from a new perspective, and provided new ideas for follow-up research on the physical and mental development and mental health of adolescents in the post-epidemic era [17].

## 4 CONCLUSIONS

In this study, through the study of the relationship between college students' self-efficacy, social support and post-traumatic growth under the background of the normalization of the new crown epidemic, we came to the following conclusions: there is a significant positive correlation between self-efficacy, social support and post-traumatic growth, and self-efficacy can not only directly promote post-traumatic growth, but also promote post-traumatic growth through social support.

## ACKNOWLEDGEMENTS

This research was financially supported by Jiangxi Social Science Foundation Project of China(20JY20) and Jiangxi Provincial planning of educational science general project of China (19YB015).

## REFERENCES

- [1] Alisic, E., van der Schoot, T. A. W., van Ginkel, J. R., & Kleber, R. J. (2008). Looking beyond posttraumatic stress disorder in children: Posttraumatic stress reactions, posttraumatic growth, and quality of life in a general population sample. *The Journal of Clinical Psychiatry*, 69, 1455–1461.
- [2] Calhoun, L. G., Cann, A., & Tedeschi, R. G. (2010). The posttraumatic growth model: social-cultural considerations. In T. Weiss & R. Berger (Eds.), *Posttraumatic growth and culturally competent practice: Lessons learned from around the globe* (pp. 1–14). New York, NY: Wiley.
- [3] CHENG Ke, CHEN Qiuyan. A study on the relationship between post-traumatic growth and social support of middle school students in disaster areas [J]. *Journal of Southwest University for Nationalities (Humanities and Social Sciences Edition)*, 2011,238 (6): 89 - 93.
- [4] Cui Jing, Deng Guanghui, Dong Wei, et al. Four years after the Wenchuan earthquake, adolescents in the affected areas understand the correlation between social support and personality [J]. *Chinese Journal of Health Psychology*,2014,22 (10): 1551 - 1552.
- [5] Joseph S, Linley PA, Harris GJ. Understanding positive change following trauma and adversity: structural clarification [J]. *J Loss Trauma*, 2005, 10 (1): 83-96.
- [6] growth, cognitive processing, psychological distress, and social constraints in a sample of breast cancer patients [J]. *Women Health*, 2016, 56(6): 650-667.
- [7] Luan Beibei, Wang Weili, Zhu Yu. Relationship between post-traumatic growth, coping style and self-efficacy in the main caregivers of cancer patients [J]. *China General Practice*,2016,19(19): 2339 - 2342.
- [8] Lu Ting, Gao Yulin, Zhang Jinjin, et al. Study on the Reliability and Validity of the Chinese Edition of the Postpartum Social Support Scale[J]. *Chinese Journal of Practical Nursing*,2014,30(15):26-28.
- [9] Li Songwei, Wang Wenyu, Qian Mingyi, et al. A survey on the post-traumatic growth of junior high school students in post-earthquake disaster areas [J]. *Journal of Xihua University*,2010,29(5):6 -10.
- [10] Mo Kuo, Tang Tang, Chen Long, et al. The relationship between post-traumatic growth and emotional regulation and self-efficacy in tumor patients [J]. *Chinese Journal of Nursing*, 2013, 48(4): 334 - 336.
- [11] McMillen, J.C., Smith, E.M., Fisher, R.H., 1997. Perceived benefit and mental health after three types of disaster. *J. Consult. Clin. Psychol.* 65, 733–739.
- [12] Mitchell, M.M., Gallaway, M.S., Millikan, A.M., Bell, M.R., 2013. Combat exposure, unit cohesion, and demographic characteristics of soldiers reporting posttraumatic growth. *J. Loss Trauma* 18, 383–395.
- [13] Morgan, J.K., Desmarais, S.L., Mitchell, R.E., Simons-Rudolph, J.M., 2017. Posttraumatic stress, posttraumatic growth, and satisfaction with life in military veterans. *Mil. Psychol.* 29, 434–447.
- [14] Morrill, E.F., Brewer, N.T., O'Neill, S.C., Lillie, S.E., Dees, E.C., Carey, L.A., et al., 2008. The interaction of post-traumatic growth and post-traumatic stress symptoms in predicting depressive symptoms and quality of life. *Psycho Oncol.* 17, 948–953.
- [15] Na, P.J., Norman, S.B., Nichter, B., Hill, M.L., Rosen, M.I., Petrakis, I.L., et al., 2021a. Prevalence, risk and protective factors of alcohol use disorder during the COVID-19 pandemic in U.S. military veterans. *Drug Alcohol Depend.* 225, 108818.
- [16] Rama KR, Josef J, Colman MG, et al. Coping processes relevant to posttraumatic growth: an evidence-based review [J]. *Support Care Cancer*, 2011, 19(5): 583 -589

- [17] Rieck MJ, Shakespeare-Finch JE, Morris BA, et al. A mixed-method analysis of posttrauma outcomes: trauma severity and social support from a psychotherapeutic perspective [J]. *Can J Counsell*, 2005, 39(2): 1534-1538.
- [18] WANG Caikang, HU Zhongfeng, LIU Yong. Research on the Reliability and Validity of the General Self-Efficacy Scale [J]. *Applied Psychology*, 2001, 7(1):37-40.
- [19] WU Yufei, AN Yuanyuan, WU Xinchun, LIN Chongde. (2014). The Effect of Cautious Personality on Adolescent Post-Traumatic Growth: The Mediating Role of Coping Styles. *Chinese Journal of Clinical Psychology*, 22(4), 663-667.
- [20] Yin Shanyan, Wang Xueyan, Zhang Liping. A literature review of the effects of social support on PTSD in children[J]. *Journal of Inner Mongolia Normal University (Educational Science Edition)*, 2010, 23 (6): 38 - 41.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

