The roles of social support, family support, coping strategies, and financial safety in posttraumatic growth among COVID-19 survivors in Kerala

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Abstract
The infection with coronavirus disease 2019 (COVID-19) and the pandemic have had a profound impact on people's physical health and mental well-being. While studies have shown that frontline healthcare workers demonstrated posttraumatic growth (i.e., positive psychological changes resulting from struggle and challenges from the pandemic) little attention has been given to the experiences of individuals who recovered from COVID-19. The present study examined whether the COVID-19 survivors experienced similar changes. Based on the literature, it is hypothesized that social support, family support, coping strategies, and financial safety may be related to posttraumatic growth (PTG) among COVID-19 survivors in Kerala, India. During the second wave of the pandemic in India, the study surveyed 427 Covid-19 survivors online using measures of PTG, family support, social support, coping strategies, financial safety, and demographics. The results showed that (1) active problem-solving and positive reappraisal of emotions helped survivors find meaning in the crisis; (2) support from friends was more important than support from family in helping survivors see the benefits of the adversity; and (3) financial safety was negatively related to PTG. The findings suggest that mental health professionals can facilitate PTG in clients by promoting effective coping skills and enhancing their social support networks.

Keywords Coping strategies · COVID-19 · Family support · Financial Safety · Mental Health · Post-traumatic growth · Social Support

The COVID-19 pandemic was a major challenge that had negative impacts on mental health, financial security, and social relationships (Patel et al., 2022; Fenn et al., 2021; Reger et al., 2020). However, challenges may bring opportunities for positive changes and sustainable growth among individuals and communities. For instance, the pandemic fostered a flexible work culture (Amis & Greenwood, 2020) and positive health behaviors (Ramkissoon, 2020). Some studies (e.g., Northfield and Johnston, 2022; Stallard et al.,

2021) also reported that the public and frontline healthcare workers experienced post-traumatic growth (PTG), which is the development of a positive attitude towards life and oneself arising from the struggle with life crisis (Tedeschi & Calhoun, 1996), during the pandemic.

Sun et al. (2021) observed several positive outcomes among COVID-19 patients, such as: (1) reassessing their life priorities and developing deeper gratitude for living, (2) strengthening their bonds with family and friends, and (3) achieving personal growth and realizing the significance of health. Likewise, the family members of COVID-19 patients also underwent positive changes after the traumatic ordeal. They reported enhanced family cohesion, increased appreciation of life, improved spiritual well-being, and acceptance and exploration of new possibilities and opportunities (Stallard et al., 2021).

Although the COVID-19 pandemic has been associated with PTG, it is essential to further investigate and identify

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factors that can facilitate positive changes. Some studies have suggested that social connection (Matos et al., 2021), psychological coping (Lau et al., 2021), emotional creativity, perceived social support (Zhai et al., 2021), resilience and family connection (Hyun et al., 2021) contribute to experience positive changes during the pandemic. Building on these findings, the current study adopted a quantitative approach to investigate how personal and interpersonal factors—financial safety, coping strategies, social support, and family support—led to PTG among COVID-19 survivors in Kerala, a state in southwest India with a population of 34.6 million, where India's first COVID-19 case was detected. The results can be integrated with the findings from other nations in helping the World Health Organization generate guidelines for survivors of COVID-19 and other pandemics in the future to handle the challenges constructively.

Method

Using the snowball sampling technique, an online survey was sent to approximately 700 COVID-19 survivors, with 453 returned, and 26 discarded leaving 427 usable (54.57% males, $M_{age} = 28.08$, SD = 9.46, range = 16 to 65) (see Table S1). The survey was conducted during the second wave of COVID-19 in Kerala, India (from the mid of April 2021 to July 2021). The survey consisted of the following measurements: the 21-item Posttraumatic Growth Inventory (Tedeschi & Calhoun, 1996; Cronbach's α = 0.946), the 20-item Family Support Scale (Uddin & Bhuiyan, 2019; α = 0.957), 6-item Perceived Social Support Questionnaire-Brief Form (Lin et al., 2019; α = 0.842), 28-item Brief Coping Inventory (Carver, 1997; α = 0.791 for problem-focused coping; α = 0.731 for emotion-focused coping; α = 0.686 for avoidant coping) and a self-developed 2-item Financial Safety Measure (assessing family's financial condition, financial crisis caused by the pandemic; α = 0.869) and Demographic Questionnaire. All measures were translated into Malayalam by a bilingual expert and then back-translated into English by another bilingual expert. The two translators and the first author discussed and resolved any discrepancies.

Results

All analyses were conducted using SPSS 21.0. Table 1 presents the descriptive statistics, correlations, and reliability coefficients of the variables of interest. The normality of the data is assumed because the absolute skewness and kurtosis values were less than 2 (Kim, 2012). Inspection of the PTG level found that 62 participants (14.52%) scored above

Table 1 Descriptive Statistics, Correlation, and Reliability for Variables

	1	1a	1b	1c	1d	1e	2	3	4a	4b	4c	5
1. Post-Traumatic Growth	(0.946)											
1a. Relating to others	0.909***	(0.883)										
1b. New possibilities	0.936***	0.786***	(0.868)									
1c. Personal growth	0.875***	0.710***	0.812***	(0.836)								
1d. Spiritual change	0.626***	0.482***	0.505***	0.438***	(0.866)							
1e. Appreciation of change	0.828***	0.654***	0.794***	0.710***	0.435***	(0.622)						
2. Social support	0.364***	0.486***	0.249***	0.333***	0.118*	0.174***	(0.842)					
3. Family Support	0.312***	0.386***	0.227***	0.280***	0.162**	0.149*	0.551***	(0.957)				
4a. Problem-Focused Coping	0.424***	0.436***	0.352***	0.464***	0.141**	0.299***	0.502***	0.426***	(0.791)			
4b. Emotion-focused Coping	0.436***	0.444***	0.343***	0.371***	0.370***	0.281***	0.400***	0.417***	0.609***	(0.731)		
4c. Avoidance Coping	0.162**	0.130**	0.163**	0.137**	0.145***	0.119*	-0.029	0.064	0.169***	0.478***	(0.686)	
5. Financial Safety	0.044	0.083	0.024	0.071	-0.045	-0.018	0.252***	0.184***	0.131**	0.135**	-0.016	(0.869)
Mean	63.25	22.54	15	13.07	4.59	8.05	23.25	50.46	21.25	33.24	17.61	6.32
SD	22.88	8.413	6.311	5.03	3.407	3.407	4.894	11.09	3.674	5.784	4.379	2.26
Skewness	-0.610	-0.565	-0.550	-0.639	0.129	-0.355	-0.905	-1.523	-0.456	-0.317	0.810	-0.291
Kurtosis	-0.096	-0.278	-0.402	-0.184	-1.242	-0.318	0.908	2.245	0.980	0.991	0.693	-0.246

Note. N = 427. Cronbach alpha coefficients are presented in the diagonal line.

Standard error for skewness = 0.118; Standard error for kurtosis = 0.236.

the average (i.e., 1 SD above the mean), and 71 participants (16.63%) reported below the average (i.e., 1 SD below the mean).

Pearson's correlation analysis showed that social support, family support, and the three types of coping strategies were positively correlated with the overall PTGI score. However, economic safety was not related to the PTGI score. A similar pattern of the results was also observed on the PTGI subscales. Further analysis indicated that emotion-focused coping strategies had the strongest association with new possibilities, personal growth, and appreciation of change. Avoidance coping strategies, however, had the weakest association with the total PTGI score and subscale scores except for spiritual change (see Table 1).

Several hierarchical multiple regression analyses were conducted to examine the role of the five predictors in the total PTGI score and the five subscale scores (i.e., relating to others, new possibilities, personal growth, spiritual change, and appreciation of change). Age, gender, marital status, and financial safety were entered in Step 1, and the target predictors in Step 2. Results (see Table 2) indicated that social support, problem-focused, and emotion-focused coping were positively, while financial safety was negatively associated with the total PTGI score. The subscale analyses showed mixed results. Problem-focused coping was positively associated with all subscale scores. Emotion-focused coping was positively associated with all subscales except personal growth, while avoidant coping was not associated with any of the subscale scores.

On the other hand, social support was found to have a positive relationship with relating to others and personal growth. However, there was no correlation between family support and any of the subscale scores. Lastly, financial safety was negatively related to all of the subscale scores except for relating to others.

Discussion

The study examined the role of social support, family support, coping strategies, and financial safety in PTG among COVID-19 survivors. Both problem-focused and emotion-focused coping strategies are the most promising predictors of the overall PTG and subscale scores, indicating that actively seeking solutions and reappraising emotions toward the traumatic event help derive positive meaning from the crisis. Moreover, social support, but not family support, is beneficial for PTG. Although the two constructs were moderately correlated ($r = .551$), support from close friends is more important than family members in helping COVID-19 survivors identify the advantages of a traumatic event. It is

Table 2 Result of Hierarchical Multiple Regression Analysis

Variable	PTG Step 1	PTG Step 2	Relating Step 1	Relating Step 2	Possibilities Step 1	Possibilities Step 2	Growth Step 1	Growth Step 2	Spiritual Step 1	Spiritual Step 2	Appreciation Step 1	Appreciation Step 2
Age	0.020	0.001	0.059	0.025	−0.016	−0.024	−0.061	−0.073	0.063	0.058	0.044	0.041
Gender	−0.061	−0.012	−0.056	−0.004	−0.010	0.028	−0.051	−0.001	−0.145**	−0.128**	−0.030	0.004
Marital	0.049	0.049	0.015	0.041	0.001	−0.010	0.054	0.047	0.161*	0.144*	0.052	0.036
Fin. safety	−0.083	−0.119**	−0.012	−0.066	−0.108*	−0.130**	−0.061	−0.091*	−0.119*	−0.133**	−0.116*	−0.131**
Social Support		0.178**		0.316***		0.082		0.124*		0.031		0.052
Family Support		0.052		0.080		0.033		0.038		0.047		−0.015
Problem		0.171**		0.115*		0.199**		0.324***		−0.176**		0.191**
Emotion		0.228***		0.203**		0.171*		0.097		0.428***		0.144*
Avoidant		0.020		0.016		0.027		0.027		−0.008		0.012
R^2	0.006	0.255	−0.001	0.318	0.002	0.157	−0.002	0.233	0.079	0.209	0.015	0.111
F	1.68	17.21***	0.89	23.11***	1.21	9.82***	0.83	15.37***	10.18***	13.51***	2.64*	6.88***

Note. $N = 427$. Figures shown are standardized coefficients (i.e., beta values).

PTG = Posttraumatic growth overall score; Relating = Relating to others; Possibilities = New possibilities; Growth = Personal growth; Spiritual = Spiritual change; Appreciation = Appreciation of change; Gender: 1 = male, 0 = female; Martial: 1 = married, 0 = unmarried; Fin. Safety = Financial safety; Problem = Problem-focuses coping; Emotion = Emotion-focused coping; Avoidant = Avoidant coping.

*$p < .05$; **$p < .01$; ***$p < .001$

noteworthy that financial safety negatively affects PTG for Covid-19 survivors.

The importance of coping strategies and social support among COVID-19-affected individuals is reported. Using problem-focused and emotion-focused coping strategies effectively would help to change perspective constructively during the pandemic (Lau et al., 2021; Zhai et al., 2021). The social empathy experienced was a valuable resource for COVID-19 survivors experiencing PTG (Matos et al., 2021), and it helps individuals find meaning during difficult times (Ramkissoon, 2022). The result shows that COVID-19 survivors perceived social support as a positive change in life due to the pandemic (He et al., 2013). The present study also found that family support does not significantly predict PTG. One possible reason is that COVID-19 survivors may look for support from sources other than their family, as their family's well-being may also suffer when a member gets infected. Evans et al. (2020) have reported that the COVID-19 lockdown and infection created an unusual situation in families due to the stressor-like difficulty in balancing work demands with family responsibilities, economic crisis due to loss of business or employment, and concern about children's education. The current study also found that economic safety is negatively related to three dimensions of PTG. This might be because being less vulnerable to COVID-19 altered economic conditions might prevent them from experiencing new challenges in life and PTG.

This study is among the few that explore the PTG of COVID-19 survivors. It provides valuable insights for professionals who aim to help their patients overcome the difficulties caused by the pandemic. It suggests that practitioners should assist survivors in improving their problem-solving skills, regulating their emotional reactions, and strengthening their social bonds with their closest companions.

The present study has three major limitations. First, the findings only reflect the experiences of survivors in Kerala, therefore, the generalizability is rather restricted. Second, the cross-sectional design prevents us from establishing causal links. Third, we did not account for other possible factors of PTG (e.g., personality traits). Future studies are recommended to replicate our findings in different cultural contexts and use a longitudinal design to include personal and environmental factors. It is also encouraged to further explore the mechanisms underlying the relationships observed in this study, especially the role of family and socioeconomic status.

Declarations

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