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Fear vs. hope in India: Finding the silver lining amid the dark clouds of COVID-19

Richa Gupta [a,*], Remia Mahajan [b], Arti Bakhshi [b], Karuna Gupta [b], Dharvinder Singh [b], Baljit Kaur [c]

[a] *Department of Higher Education, Government of J&K, India*
[b] *Department of Psychology, University of Jammu, India*
[c] *IIM Rohtak, India*

A B S T R A C T

COVID-19 has been declared a global pandemic, and the associated high rates of morbidity and mortality have made individuals susceptible to mental health problems that affect their psychological well-being. Although individual strengths can shield the negative impact of adverse conditions, their protective role in the context of COVID-19 has not received much attention. This study examines the relationship between fear of COVID-19 and mental health via rumination through the lens of hope as a personal psychological strength. This study employed a two-wave longitudinal design. Data was collected from 412 Indian participants with a time interval of three months and analyzed using a two-step approach to structural equation modelling. Fear of COVID-19 was found to a have negative effect on mental health through rumination. However, results from moderation analysis support the role of hope as a buffer against the indirect negative impact of fear of COVID-19 on mental health outcomes. As one of the first studies to demonstrate the role of psychological strengths of individuals in coping with the direct and indirect psychological ramifications of COVID-19 over a period of time, it contains important implications for the development of mental health interventions in the face of this global crisis.

1. Introduction

The outbreak of COVID-19, its perceived risks, invisibility, lack of preventive measures, and fatal consequences has contributed to global fear (Arpaci, Karataş, & Baloğlu, 2020). As per the WHO statistics, India is one of the worst affected countries by COVID-19 with the number of reported positive cases showing a new record spike each day. Being the second most populous country of the world, the situation is going to worsen. With the rapid spread of COVID-19, a sense of panic has gripped people in the country with exacerbated fears, as evident across the world (Arpaci et al., 2020). The fear manifests in many forms, such as the fear of contagion, fear of losing loved ones, feelings of stigmatization, infection-related xenophobia, loneliness, boredom, anger, anxiety, and a sense of uncertainty (Arpaci et al., 2020; Taylor, 2019). The persistence of the pandemic further perpetuates feelings of uncertainty with the outbreak being perceived as an existential threat to the human race and resulting in a widespread mental health crisis.

1.1. The current study

Although the mental health implications of this pandemic have been acknowledged by global health agencies like World Health Organization (WHO) and health practitioners, currently not much research has been published on the psychological impact of COVID-19 on the general population (Wang et al., 2020; Wang, Wu, & Lan, 2020) that took over a period of time, owing to the recency of the outbreak. Further, even within the available scant literature, contradictory findings have been reported (see Ahorsu et al., 2020; Harper, Satchell, Fido, & Latzman, 2020), suggesting the presence of underlying factors in the relationship between fear and its consequences. The mechanism through which this pandemic fear exerts a detrimental influence on masses is also an important area of investigation within research directed at ensuring a psychological healthy population. However, little information is available in this context. Also, much of the available literature is one-sided in its approach in that it focuses on the adverse effects of the fear of COVID-19 on individual functioning (Ahorsu et al., 2020; Arpaci et al., 2020)

whereas factors that can make people psychologically immune to such fears have not received much attention.

While the tendency to highlight vulnerabilities and fragilities in the face of a pandemic is natural, it must also be remembered that many people inherently have the potential to survive or even thrive in the face of such adversity. Studies have shown that people with stronger personal and social psychological resources, including hope, are resilient to such disasters and do not suffer from the long-term psychological problems caused by traumatic experiences (Chang, Yu, Chang, & Hirsch, 2016; Lowe, Rhodes, & Waters, 2015). Thus, rather than falling back on platitudes, some people may actively cultivate and connect with hope and faith—reminding themselves about the "good" in this world and about things that are bigger, greater, and more transcendent than COVID-19. Drawing on the role of positive psychology in the current pandemic, Martin Seligman, in his video lecture, highlighted the usefulness of positive factors like hope for anticipating a better future (Seligman, 2020). However, research on such personal psychological strengths is noticeably missing from the COVID-19 literature. Thus, there is a need to address COVID-19 fears (Ahorsu et al., 2020) by exploring the protective factors that can help individuals in these difficult times. Consistent with this, World Health Organization (2020a) has also recommended the identification of opportunities and possibilities that amplify positive and hopeful stories in this situation of uncertainty with long-term consequences.

In line with these recommendations and to address the gaps in the COVID-19 literature, the present study examines the underlying mechanism of the impact exerted by the fear of COVID-19 on the psychological health of individuals via rumination and investigates whether this impact is buffered by an individual's level of hope. As mentioned earlier, though fear is important to initiate and maintain virus-mitigating behavioral changes, this study attempts to determine the role of individual strengths in safeguarding psychological health against the fear of COVID-19.Given that psychological processes take time to unfold (Taris & Kompier, 2014), this study observes how fear impacts mental health via rumination over a period of time in presence of hope. By developing a unified approach to achieving a psychological healthy society in these critical times, the present study represents a crucial attempt at capturing individual strengths that reflect positivity in this gloomy scenario. Specifically, this work highlights the role of hope in overcoming the direct or indirect long term negative impact of fear on mental health outcomes via rumination amid COVID-19.

1.2. Fear of COVID-19, rumination and mental health

A negative relationship between massive outbreaks of viral infections and the mental health of people has been frequently cited in the literature (Huremovic, 2019; Wang, Pan, et al., 2020), suggesting that COVID-19 is likely to have significant mental health consequences. With high perceived vulnerabilities to this syndrome, fear is manifested in the form of ruminative thoughts as well as decreased physical and psychological quality of life (Arpaci et al., 2020). Fear has been shown as a predictor of ruminative thoughts in the literature (Wang, Wu, & Lan, 2020). Research has demonstrated that rumination can be a threat to mental health leading to depressive symptoms and even post-traumatic stress disorder (Hu, Koucky, Brown, Bruce, & Sheline, 2014). Further, the adverse impact of perceived severity of COVID-19, with debilitating mental health outcomes, including psychotic disorders, is well documented in the recent studies (Wang, Pan, et al., 2020; Zhou et al., 2020). Thus, on the basis of literature available, we hypothesized that:

H1. There exists a negative relationship between fear of COVID-19 and mental health.

H2. Rumination mediates the negative relationship between the fear of COVID-19 and mental health.

1.3. Hope as a moderator

Hope is a positive psychological construct that captures an individual's futuristic orientation while anticipating a personally meaningful future fulfillment (Seligman & Csikszentmihalyi, 2000). Hope arises when a concrete positive goal is expected (Stotland, 1969), and it includes the yearning for relief from negative conditions (Lazarus, 1991). As a positive individual resource, it contributes to happiness, health, and perseverance (Peterson, 2000); drives emotions; and predicts the affective well-being of people (Ling, Huebner, Fu, Zeng, & He, 2016; Snyder, Rand, & Sigmon, 2002). Those with higher levels of hope fare better at psychologically adjusting to challenges (Kelberer, Kraines, & Wells, 2018). Drawing on the above information, we may hypothesize that hope safeguards the psychological health of individuals.

The differences in the functioning of fear and hope are well demonstrated in a situation of perceived threat (Jarymowicz & Bar-Tal, 2006). Both fear and hope share a negative and contrasting relationship with each other and have differential effects (Cohen, Halperin, Porat, & Bar-Tal, 2014). While fear can dominate hope in certain situations, individuals can overcome their fear by establishing an orientation of hope, which allows changes in fear-dominated situations (Jarymowicz & Bar-Tal, 2006). Further, hope can play a unique role in protecting an individual from perceptions of vulnerability, uncontrollability, and unpredictability and in preventing the transition to chronic anxiety (Michael, 2000). Hope acts as a protective factor, improving resilience, well-being, life satisfaction, and optimism (Satici, 2016). It also protects individuals against pain and depression as hopeful individuals believe that their current circumstances are temporary and will be replaced by better conditions (Holloway, Bhullar, & Schutte, 2017). Most importantly, hope has been reported to channelize the emotion of fear constructively (Nabi & Myrick, 2019), leading to greater positive affect and future well-being (Ciarrochi, Parker, Kashdan, Heaven, & Barkus, 2015). Research has demonstrated the moderating effect of hope on rumination and poor mental health symptoms (Geiger & Kwon, 2010). Thus, on the basis of reviewed literature on the associations between fear, hope, and mental health, one may expect that hope buffers the negative impact of fear of COVID-19 on mental health outcomes. Thus, the following hypotheses were constructed:

H3. Hope has a moderating effect on the positive relationship between fear of COVID-19 and rumination.

H4. Hope moderates the negative relationship between fear of COVID-19 and mental health.

Thus, drawing on the literature available, this study proposes an integrated model by testing the moderated mediation association between fear of COVID-19 and mental health via the lens of rumination and hope. We hypothesized that the negative relationship between fear of COVID-19 and mental health through rumination is strong under low levels of hope, whereas the relationship is weak under high levels of hope.

H5. Hope moderates the negative association between fear of COVID-19 and mental health outcomes mediated through rumination such that individuals with high levels of hope are less likely to experience the direct and indirect negative effects of fear of COVID-19 on their mental health outcomes.

2. Methodology

2.1. Participants and procedure

Following the social distancing norms and other restrictions imposed in different states of India, data were collected via a web-based survey at two points of time separated by an interval of 45 days in the month of April and June 2020. In phase I data was collected on the scales of fear, hope and rumination. Since psychological processes take time to unfold,

responses were sought from the same participants on the scale of positive mental health in phase II after a time gap of three months. A total of 412 volunteer participants completed surveys for both points of time which accounted for 81% of the total responses obtained. The participants included 243 females and 169 males. The mean age of the sample was 29.34 (SD = 4.19, ranging from 18 to 65 years). None of the participants reported being ever diagnosed with COVID-19.

2.2. Measures

2.2.1. Fear of COVID-19 scale

This is a unidimensional seven-item scale developed by Ahorsu et al. (2020). The participants indicate their level of agreement with the statements using a five-item Likert type scale. A total score is calculated by adding up each item score (ranging from 1 to 5) with higher scores, indicating greater fear of COVID-19. The internal consistency reliability of the scale was found to be satisfactory for the present sample (α = 0.79).

2.2.2. Positive mental health scale (PMS)

This unidimensional scale has been developed by Lukat, Margraf, Lutz, Van der Veld, and Becker (2016). It consists of 9 items to assess positive mental health. The statements are answered on a four-point Likert scale ranging from "Not True" to "True" with high scores reflecting high positive mental health of the participants. The internal reliability of the scale was calculated for the present sample which came out to be 0.82, indicating high reliability.

2.2.3. Ruminative response scale (RRS)

Developed by Treynor et al. (2003), this 10-item scale was used to assess participants' rumination on a four-point Liker-type response alternative. Higher scores on the scale indicate higher levels of rumination. The Chronbach's α in the present sample was highly satisfactory (0.81).

2.2.4. Integrative hope scale (IHS)

This scale has been developed by Schrank, Woppmann, Sibitz, and Lauber (2011)). The scale consists of 23-items with four dimensions i.e. trust and confidence; positive future orientation; social relations and personal value and lack of perspective. The scale also provides for an overall score of hope with negative items rated inversely. All the items are rated on a six –point scale with higher scores on this scale indicating high hopefulness. The internal consistency reliability of this scale was estimated for the present sample and was found to be satisfactory (α > 0.75).

2.2.5. Control variables

Gender and age were used as control variables in the statistical analysis as they may affect the outcome variables, that is, positive mental health in COVID-19 crisis (Liu et al., 2020; Vahia et al., 2020).

2.3. Statistical analyses

Statistical analyses were conducted using IBM SPSS Statistics (Version 20) and IBM SPSS Amos (Version 18). A two-step approach to structural equation modelling has been applied as suggested by Anderson and Gerbing (1988). Confirmatory factor analyses (CFA) were applied in step one to establish the psychometric properties of the measurement scales using AMOS-18. In step two, the structural model was designed for testing the significance of proposed theoretical relationships in terms of conditional effects. Thus, the proposed moderation model was analyzed using PROCESS macro developed for SPSS (Hayes, 2013). Bootstrap methods were implemented for inference about the proposed model.

3. Results

3.1. Descriptive statistics

The means, standard deviations, and intercorrelations for all included study variables are presented in Table 1.

3.2. Confirmatory factor analysis

Model fitness: A series of confirmatory factor analyses (CFA) was performed to assess the distinctiveness of the study constructs. Measurement models were designed to achieve the objectives. The final pooled-CFA model consisting of 49 items was found to be parsimoniously fit ($\chi^2/df = 3.71$, $p < .01$). Although the χ^2 statistics was significant due to large sample size, the values of other fit indices (CFI = 0.92, TLI = 0.91, RMR = 0.04, RMSEA = 0.05) were within the recommended ranges commonly suggested in the literature (Kline, 2011). The CFA results demonstrated that the measurement model under study provides a good fit to the data.

3.3. Testing direct and mediated effects

To test the direct and indirect relationships between fear of COVID-19, rumination, mental health, and hope, a mediation analysis in line with the procedures presented by Hayes (2013) was performed. Bootstrapping was set to 5000 resamples. Fear of COVID-19 was positively associated with rumination ($\beta = 0.26$, $p < .001$), which in turn was negatively related to mental health ($\beta = -0.31$, $p < .001$). In support of H2, a significant unconditional indirect association was established among the 412 respondents ($\beta = -0.19$; 95% BCa CI = 0.37 -0.11), and the findings revealed an indirect association between fear of COVID-19 and mental health through rumination. Thus, controlling for the mediator, the association between fear of COVID-19 and mental health was reduced from $\beta = -0.22$ ($p < .001$), initially supporting H1, to $\beta = -0.03$ ($p > .05$).

3.4. Testing moderation effects

For an assessment of moderation hypotheses (H3 and H4), two multiple regression models, Model 1 and Model 2, were generated (Table 2). Model 1 specified rumination as a dependent variable, while Model 2 specified mental health as a dependent variable.

As shown in Table 2, rumination was positively predicted by fear of COVID-19 and negatively predicted by hope and the interaction between fear of COVID-19 and hope in Model 1. The interaction is graphically displayed in Fig. 1, providing support for hypothesis (H3) and implying that the positive relationship between fear of COVID-19 and rumination is weakened by hope. That is, at high levels of hope, fear of COVID-19 is less likely to cause ruminative thoughts among the general population in this pandemic situation.

As shown in Table 2, positive mental health was negatively predicted by ruminative thoughts about COVID-19 and positively by hope (Model 2). Further, the interaction between rumination and hope positively predicted the mental health of study participants. The interaction, graphically displayed in Fig. 2, provides support for hypothesis (H4) implying that the negative relationship between rumination and mental health amid COVID-19 is moderated by hope.

For testing of H5, the conditional indirect effects of fear on positive mental health via rumination were also examined at different levels of the moderator, that is, hope. The results have been presented in Table 3. An estimation of the values of the moderator for significant conditional effect was calculated using bootstrap confidence intervals with 5000 resamples. The effect sizes for the negative relationship between fear of COVID-19 and mental health were significant for all the levels of the moderator except for 75th and 90th percentile.

The results indicated that fear of COVID-19 has strong negative

Table 1
Mean, S·D and inter correlations among variables under study.

Variables	Mean	S·D	1	2	3	4	5	6
1. Gender	0.59	0.23	1					
2. Age	29.34	4.19	0.26**	1				
3. Fear of COVID-19	2.41	0.95	0.19**	−0.21**	1			
4. Mental Health	3.42	0.66	−0.17**	−0.15*	−0.29**	1		
5.Rumination	2.89	0.72	0.46**	0.24**	0.48**	−0.31**	1	
6. Hope	3.31	0.65	0.07	−0.16**	−0.27**	0.58**	−0.51**	1

*$p < .05$; **$p < .01$; (two-tailed test).
Gender was coded as male = 0, female = 1.

Table 2
Moderation effects of Hope.

Predictor	b	S.E.	95% CL	
			Lower limit	Upper limit
Model 1 (DV = Rumination)				
Fear of COVID-19	0.16**	0.02	0.25	0.14
Hope	−0.43**	0.03	−0.58	−0.39
Fear * Hope	−0.09**	0.02	−0.19	−0.06
Model 2 (DV = Mental Health)				
Rumination	−0.13**	0.01	−0.16	−0.11
Hope	0.51**	0.03	0.39	0.56
Rumination * Hope	0.08**	0.01	0.07	0.11

** $p < .001$.

association with positive mental health via rumination when levels of hope are low. However, these effects become weak and even insignificant with high levels of hope. This implies that with an increase in hope, there is a decrease in indirect negative effects of fear on mental health through rumination and these effects become insignificant at a high level of hope. Thus, hope protects against the direct and indirect negative effects of fear of COVID-19 by moderating its impact on the psychological health of general population in this crisis, thereby, providing support for H5.

4. Discussion

The results reveal that fear of COVID-19 negatively affects the mental health of the general Indian population, though indirectly, via rumination over a period of time. According to the moderation analysis, hope, which indicates a high positive future orientation, trust and confidence, social relations and personal value, and a realistic positive perspective (Schrank et al., 2011), weakens the negative effects of COVID-19 fear on mental health. Hopeful individuals are less likely to experience the direct and indirect negative effects of the fear of COVID-19 and may be better able to maintain their sanity during stressful situations compared to those who are less hopeful. These findings have also been corroborated by previous research, which opined that hopeful individuals are less susceptible to stress and show speedy emotional recovery (Ong, Edwards, & Bergeman, 2006). Hopeful individuals probably make adaptive interpretations of both their surrounding environment and their internal physiological arousal, which in turn prevents the transition from fear to chronic anxiety problems (Michael, 2000). Further, they tend to be optimistic and believe that humanity will overcome the present challenges, and the future will be better (The Globescan Foundation, 2014). Given the need of exploring psychological strengths in the context of COVID-19, the present study, thus, offers valuable insights into the role of hope as a personal resource, which has the capacity to disrupt or buffer the basic negative relationship between fear and mental health amid this global crisis.

Many countries, including India, have intuitively engaged in acts to foster hope during the current pandemic. For example, in response to an appeal by the Indian Prime Minister, Indians turned off their lights on April 5, 2020, for 9 min and illuminated their surroundings with lamps and candles. This action symbolized the idea of generating hope and showing solidarity with the world in the fight against the novel corona virus (*India lights up with hope*, 2020). Similar instances were evidenced from other countries like Italy, Bangladesh, etc. Also, to ease the pain
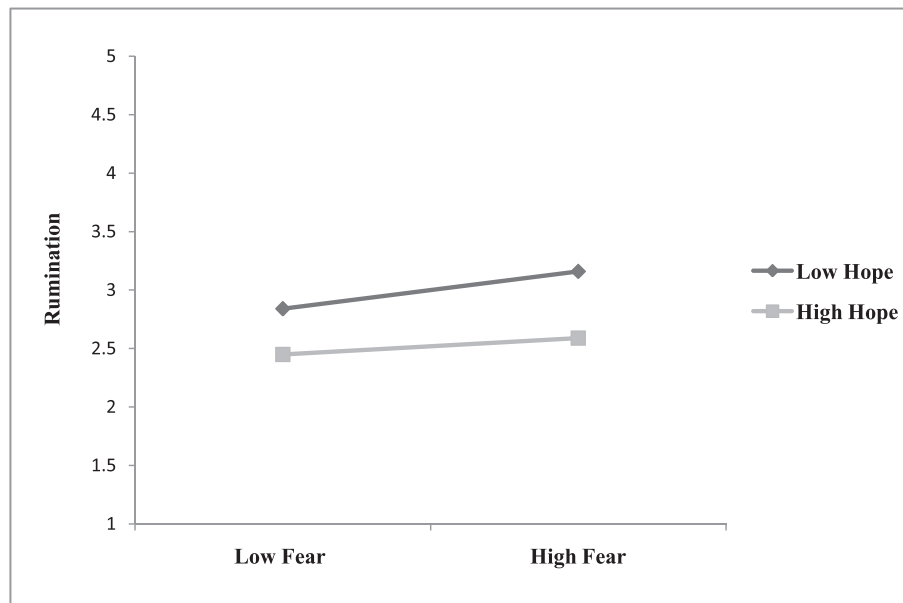

Fig. 1. Moderating effect of hope on the positive relationship between fear and rumination amid COVID-19.
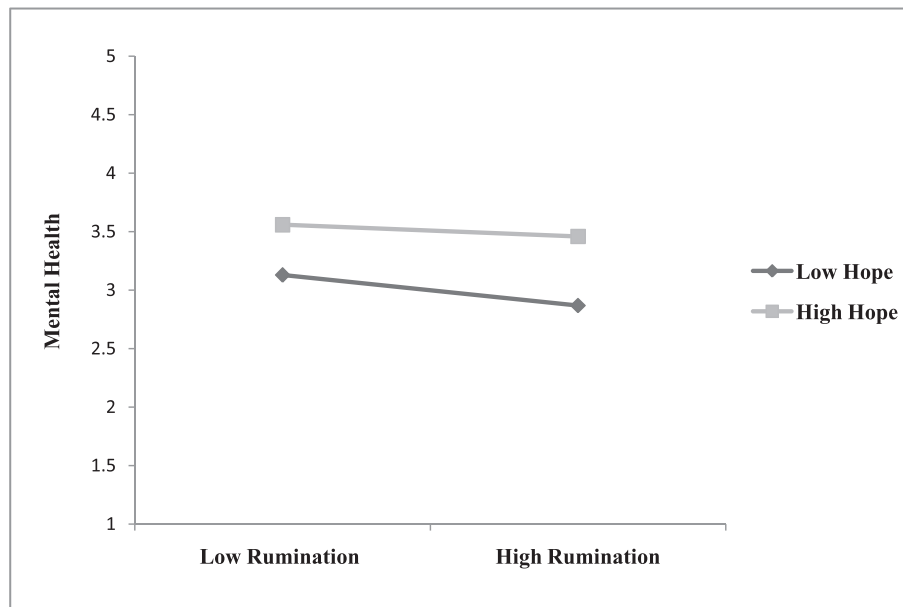
Fig. 2. Moderating effect of hope on the negative relationship between fear of rumination and mental health amid COVID-19.

Table 3
Conditional indirect effects at different levels of moderator.

Values of the moderator	Indirect effect	Bootstrapped SE	95% CL	
			Lower limit	Upper limit
10th Percentile	−0.16**	0.02	−0.21	−0.10
25th Percentile	−0.12**	0.01	−0.15	−0.11
50th Percentile	−0.05*	0.01	−0.09	−0.03
75th Percentile	−0.02	0.01	−0.06	0.01
90th Percentile	−0.01	0.01	−0.03	0.02

* $p < .05$.
** $p < .01$.

and uncertainty faced by the world during the pandemic, the Matterhorn in Switzerland was illuminated, with messages of 'HOPE' flashed across it (*COVID-19: The Matterhorn mountain peak in Switzerland lights up with messages of hope,* 2020). These examples indicate that hope has been recognized as a powerful tool or shield against the fear of COVID-19 across the world, which, in turn, supports the outcomes of this study. The study's findings are also supported by statements of religious leaders, who are helping people cope with the harsh realities of the crisis. For instance, Buddhist teacher Dalai Lama, called for "emotional disarmament" at this time, which entails trying to see things realistically and clearly, without the confusion of fear or rage. He is motivating people to believe in the principle of impermanence, telling them to be hopeful that the virus will pass, and asking them to help in the rebuilding of the global community (Lama, 2020). Thus, amid the global crisis of COVID-19, hope has been considered as the emotional equivalent of a vaccine that confers broad-spectrum psychological immunity, offering people a silver lining in the dark clouds of uncertainty.

4.1. Theoretical and practical implications

The present study makes an important contribution to the COVID-19 literature by highlighting the role of individual strengths, such as hope, in overcoming the negative effects of fear and ruminative thoughts on the mental health of the general population even after a period of time. Further, the findings extend the scope of *positive psychology literature* by proposing and empirically testing hope as a sturdy psychological strength for safeguarding mental health against the fear of COVID-19.

The study also responds to calls by scholars for identifying factors that can protect against the fear of COVID-19 (Ahorsu et al., 2020; Arpaci et al., 2020). The findings also provide empirical support to the *hope literature*, which considers hope as a topic of interest, across centuries and diverse cultures, in the context of mental health at the time of crises (Schrank et al., 2011). Though the indicators of mental resilience may differ by culture (collectivist vs. individualistic), hope remains a universal strength. Thus, the results carry important implications for those gripped by the fear of the pandemic.

In terms of application, the findings of the present study may help government agencies to consider individual psychological strengths while conceiving mental health interventions during the COVID-19 crisis. Public health practitioners could build on the findings to devise interventions to manage and minimize the negative impact of COVID-19, such as hope therapy (Lopez, Floyd, Ulven, & Snyder, 2000) at an individual level or organizing social or collective hope programs at the community level. Our findings align with the recommendations of WHO (as cited in Shultz & Forbes, 2014, p.7–8) for the incorporation of hope as one of the key elements in every *psychological first aid* intervention model to be used globally in humanitarian crises and complex emergencies. Further, World Health Organization (2020b) has also appreciated the role of healthy and happy citizens for a nation's progress as those people have demonstrated themselves to be more productive. Thus, the development of protective psychological factors among the population may also allow concerned governments to reap the benefits of a physically and psychologically healthy populations as people with high levels of psychological strengths, such as hope, engage in more health-enhancing activities and frequently experience positive emotions (Redlich-Amirav, Ansell, Harrison, Norrena, & Armijo-Olivo, 2005; Snyder et al., 2002). Consistent with this, the outcomes of the study may assist healthcare professionals in safeguarding the psychological well-being of the community during the COVID-19 outbreak, by using evidence-informed interventions to enhance positive attributes such as hope and optimism. As hope can be inculcated, knowledge about the benefits of positive thinking can be passed on to future generations, in order to help them survive, grow, and overcome future crises.

4.2. Methodological limitations and future suggestions

The study suffers from certain limitations. Owing to the self-report structure of the questionnaire, the ratings may have been influenced

by social desirability bias. Thus, the study respondents could have intentionally or subconsciously under–rated or over-rated the fear or mental health items respectively in order to portray a positive self-image to others. Nonetheless, attempts were made to overcome such social expectancy biases, to some extent, by not naming the construct being measured on the study questionnaire. Additionally, the study was conducted among a non-clinical sample. Practitioners working with clinical population need to be cautious while generalizing the results of this study. However, despite these limitations, this study provides valuable information about the role of individual strengths in controlling the long-term psychological harm resulting from COVID-19. Replicating this study on different samples across countries, with more representative selection, and the use of quantitative and qualitative research methods should yield interesting results and can facilitate cross-cultural comparisons. By identifying hope as a moderating variable, the present study lays the groundwork for future investigation, understanding, and intervention related to mental health during disasters.

4.3. Conclusion

Identifying personal strengths that can shield individuals from heightened fear amidst the current pandemic is essential for positive mental health outcomes. The present study endorses hope as a shield against the fear of COVID-19 and that hopeful individuals are less likely to experience negative mental health consequences even over a period of time. This study shows that hope can disperse the dark clouds of the fear of COVID-19 and thus ensures positive mental health in face of a pandemic. The findings endorse hope as an antidote that delivers better psychological health and mitigates the spread of a long-term mental health crisis, spurred by the novel corona virus.

Declaration of competing interest

None.

References

Ahorsu, D. K., Lin, C., Imani, V., Saffari, M., Griffiths, M. D., & Pakpour, A. H. (2020). The fear of COVID-19 scale: Development and initial validation. *International Journal of Mental Health and Addiction*, 1–9.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin, 103*(3), 411–423.

Arpaci, I., Karataş, K., & Baloğlu, M. (2020). The development and initial tests for the psychometric properties of the COVID-19 phobia scale (C19P-S). *Personality and Individual Differences, 164*, Article 110108. https://doi.org/10.1016/j. paid.2020.110108.

Chang, E. C., Yu, T., Chang, O. D., & Hirsch, J. K. (2016). Hope and trauma: Examining a diathesis-stress model in predicting depressive and anxious symptoms in college students. *Personality and Individual Differences, 96*, 52–54.

Ciarrochi, J., Parker, P., Kashdan, T. B., Heaven, P. C., & Barkus, E. (2015). Hope and emotional well-being: A six-year study to distinguish antecedents, correlates, and consequences. *The Journal of Positive Psychology, 10*(6), 520–532.

Cohen, S., Halperin, E., Porat, R., & Bar-Tal, D. (2014). The differential effects of hope and fear on information processing in intractable conflict. *Journal of Social and Political Psychology, 2*(1), 11–30.

COVID-19: The Matterhorn mountain peak in Switzerland lights up with messages of hope. (2020, April 16). Indulge: The New Indian Express. https://www.indulgexpress.co m/travel/2020/apr/16/covid-19-the-matterhorn-mountain-peak-in-switzerland-lights-up-with-messages-of-hope-24099.html.

Geiger, K. A., & Kwon, P. (2010). Rumination and depressive symptoms: Evidence for the moderating role of hope. *Personality and Individual Differences, 49*(5), 391–395.

Harper, C. A., Satchell, L. P., Fido, D., & Latzman, R. D. (2020). Functional fear predicts public health compliance in the COVID-19 pandemic. *International Journal of Mental Health and Addiction*, 1–14.

Hayes, Andrew F. (2013). *Methodology in the social sciences.Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. NY: Guilford Press.

Holloway, K., Bhullar, N., & Schutte, N. S. (2017). A latent profile analysis of dispositional hope and defense styles. *Personality and Individual Differences, 114*, 151–154.

Hu, E., Koucky, E. M., Brown, W. J., Bruce, S. E., & Sheline, Y. I. (2014). The role of rumination in elevating perceived stress in posttraumatic stress disorder. *Journal of Interpersonal Violence, 29*(10), 1953–1962.

Huremovic, D. (2019). *Psychiatry of pandemics: A mental health response to infection outbreak*. Springer Nature.

India lights up with hope. (2020,April 06). The tribune. https://www.tribuneindia.com/n ews/nation/india-lights-up-with-hope-66226.

Jarymowicz, M., & Bar-Tal, D. (2006). The dominance of fear over hope in the life of individuals and collectives. *European Journal of Social Psychology, 36*(3), 367–392.

Kelberer, L. J., Kraines, M. A., & Wells, T. T. (2018). Optimism, hope, and attention for emotional stimuli. *Personality and Individual Differences, 124*, 84–90.

Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). New York, NY: The Guilford Press.

Lama, D. (2020, April 14). Prayer is not enough.' the Dalai Lama on why we need to fight coronavirus with compassion. *Time Magazine*. https://time.com/5820613/dalai -lama-coronavirus-compassion/.

Lazarus, R. S. (1991). *Emotion and adaptation*. Oxford University Press.

Ling, Y., Huebner, E. S., Fu, P., Zeng, Y., & He, Y. (2016). A person-oriented analysis of hope in Chinese adolescents. *Personality and Individual Differences, 101*, 446–450.

Liu, S., Yang, L., Zhang, C., Xiang, Y. T., Liu, Z., Hu, S., & Zhang, B. (2020). Online mental health services in China during the COVID-19 outbreak. *The Lancet Psychiatry, 7*(4), e17–e18.

Lopez, S. J., Floyd, R. K., Ulven, J. C., & Snyder, C. R. (2000). Hope therapy: Helping clients build a house of hope. In *Handbook of hope* (pp. 123–150). Academic Press.

Lowe, S. R., Rhodes, J. E., & Waters, M. C. (2015). Understanding resilience and other trajectories of psychological distress: A mixed-methods study of low-income mothers who survived Hurricane Katrina. *Current Psychology, 34*(3), 537–550.

Lukat, J., Margraf, J., Lutz, R., Van der Veld, W. M., & Becker, E. S. (2016). Psychometric properties of the positive mental health scale (PMH-scale). *BMC Psychology, 4*(8), 1–8.

Michael, S. T. (2000). Hope conquers fear: Overcoming anxiety and panic attacks. In *Handbook of hope* (pp. 301–319). Academic Press.

Nabi, R. L., & Myrick, J. G. (2019). Uplifting fear appeals: Considering the role of hope in fear-based persuasive messages. *Health Communication, 34*(4), 463–474.

Ong, A. D., Edwards, L. M., & Bergeman, C. S. (2006). Hope as a source of resilience in later adulthood. *Personality and Individual Differences, 41*, 1263–1273.

Peterson, C. (2000). The future of optimism. *American Psychologist, 55*, 44–55.

Redlich-Amirav, D., Ansell, L. J., Harrison, M., Norrena, K. L., & Armijo-Olivo, S. (2005). Psychometric properties of Hope scales: A systematic review. *International Journal of Clinical Practice, 72*(7).

Satici, S. A. (2016). Psychological vulnerability, resilience, and subjective well-being: The mediating role of hope. *Personality and Individual Differences, 102*, 68–73.

Schrank, B., Woppmann, A., Sibitz, I., & Lauber, C. (2011). Development and validation of an integrative scale to assess hope. *Health Expectations: An International Journal of Public Participation in Health Care and Health Policy, 14*(4), 417–428.

Seligman, M. E. P. (2020, April 1). *60-second lectures in quarantine: Positive psychology in the pandemic* [video file]. *Penn Arts & Sciences*. https://www.sas.upenn.edu/node/ 14652.

Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55*, 5–14.

Shultz, J. M., & Forbes, D. (2014). Psychological first aid: Rapid proliferation and the search for evidence. *Disaster Health, 2*(1), 3–12. https://doi.org/10.4161/ dish.26006.

Snyder, C. R., Rand, K. L., & Sigmon, D. R. (2002). Hope theory: A member of the positive psychology family. In C. R. Snyder, & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 257–276). Oxford University Press.

Stotland, E. (1969). *The psychology of hope*. Jossey-Bass.

Taris, T. W., & Kompier, M. A. (2014). Cause and effect: Optimizing the designs of longitudinal studies in occupational health psychology. *Work and Stress, 28*(1), 1–8.

Taylor, S. (2019). *The psychology of pandemics: Preparing for the next global outbreak ofinfectious disease*. Cambridge Scholars Publishing.

The Globescan Foundation. (2014). The Hope index: A survey of citizen views on the state of our world. https://www.globescanfoundation.org/hope/item/2-the-hope-in dex-a-survey-of-citizen-views-on-the-state-of-our-world.

Treynor, Wendy, Gonzalez, Richard, & Nolen-Hoeksema, Susan (2003). Rumination Reconsidered: A Psychometric Analysis. *Cognitive Therapy and Research, 27*, 247–259. https://doi.org/10.1023/A:1023910315561.

Vahia, I. V., Blazer, D. G., Smith, G. S., Karp, J. F., Steffens, D. C., Forester, B. P., … Reynolds, C. F. (2020). COVID-19, mental health and aging: A need for new knowledge to bridge science and service. *The American Journal of Geriatric Psychiatry, 1-3*.

Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International Journal of Environmental Research and Public Health, 17*(5), 1729.

Wang, W., Wu, X., & Lan, X. (2020). Rumination mediates the relationships of fear and guilt to posttraumatic stress disorder and posttraumatic growth among adolescents after the Ya'an earthquake. *European Journal of Psychotraumatology, 11*(1), Article 1704993.

World Health Organization. (2020a). Mental health and psychosocial considerations during the COVID-19 outbreak. https://www.who.int/publications-detail/WHO-2019-nCoV-MentalHealth-2020.1.

World Health Organization. (2020b). Health and development. https://www.who.int/h dp/en.

Zhou, X., Snoswell, C. L., Harding, L. E., Bambling, M., Edirippulige, S., Bai, X., & Smith, A. C. (2020). The role of telehealth in reducing the mental health burden from COVID-19. *Telemedicine and e-Health, 26*(4), 377–379.