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Psychological Resilience and Coping Strategies in Disaster - Affected Communities: A Study in Uttarakhand

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Abstract:

Natural calamities play an essential role in determining mental well-being and social functioning. Uttarakhand is a state located in the Himalayas within India and often faces various natural disasters like flooding, landslides, and cloudbursts. The 2013 Uttarakhand floods are considered one of the worst, resulting in extensive damage to infrastructure and significant psychological disturbances in the affected communities. Research has shown that nearly 66.7% of children faced psychosocial problems, while 18% exhibited psychological disturbances.

The present article discusses resilience and coping among individuals in communities experiencing disasters in the Uttarakhand region. This paper will look at the psychosocial consequences of the 2013 floods and other mountain disasters experienced by the region, drawing on evidence that suggests that exposure to disaster situations in Uttarakhand had a variety of physical, psychological, and social effects ranging from anxiety, depression, and grief to disruption of livelihood and community strain, alongside the adaptive potential of social coping and participation in recovery processes by communities and institutions.

In this research, the focus is on psychological resilience and coping mechanisms in disaster-stricken communities in Uttarakhand. The methodology employed was that of conducting surveys with a total sample size of 30 people affected by disasters in Uttarakhand. It was concluded that there were several factors that played a role in resilience building, such as social support systems, religion, community ties, and help from the government. Elderly people and women had low levels of resilience compared to youth.

Keywords: *Psychological Resilience, Coping Strategies, Natural Disasters, Uttarakhand, Mental Health, PTSD, Community Resilience*

Introduction:

One of the worst-hit states by disasters in India is Uttarakhand due to its fragile mountain ecosystem, cloud bursts, landslides, floods, earthquake risks, and increasing population in environmentally delicate areas. The 2013 disaster impacted around 900,000 people and adversely affected their means of living, transportation, habitation, and critical infrastructure in different districts.

The Chamoli disaster, among other disasters that followed, further underlined the fact that cumulative exposure to disasters persists and demands sustained psychosocial rehabilitation rather than just immediate aid. The state of Uttarakhand is very prone to disasters, with the weak Himalayan ecosystem, torrential rains, landslides, flash floods, and earthquakes in the region. The 2013 disaster of Uttarakhand brought huge destruction and led to thousands of deaths; many villages were wiped out and many people suffered psychologically.

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Resilience in psychology refers to an ability to endure, adapt, and cope with extreme adversity, whereas coping involves the psychological techniques that one employs in the face of stress. In terms of disasters, resilience does not only concern individuals but is affected by such factors as trust in the community, availability of services, culture, feeling safe, and chances for recovery.

Natural disasters, whether geophysical, hydrological, or climatological in nature, have an immense impact on the social fabric of the affected regions and the mental well-being of the people, resulting in widespread psychological problems and mental health issues for the affected individuals (Olonilua & Aliu, 2025). Therefore, it is important to understand the psychological effects of natural disasters to develop specific intervention programs to address the psychological needs of the affected individuals. Such an understanding is especially important in regions like Uttarakhand, which is frequently affected by natural calamities. The ecological factors are closely linked with the socioeconomic factors in this region, thereby posing serious mental health problems for the affected individuals (Atri & Srivastava, 2025; Hu, 2025). This region is especially important to study the psychological resilience and coping mechanisms developed by individuals to deal with the aftermath of natural disasters. Therefore, the specific objectives of this research are to understand the cognitive, emotional, and social mechanisms developed by individuals to cope with the aftermath of natural disasters in the state of Uttarakhand, thus helping to develop more effective psychological intervention programs to address the psychological needs of the affected individuals (Panigrahi & Suar, 2021; Desousa & Shrivastava, 2017). In addition, the research study aims to examine the prevalence of mental health problems such as anxiety, depression, and PTSD among those who experienced a

disaster, bearing in mind that such calamities often present a myriad of mental health problems (Paul et al., 2025). Lastly, the research study aims to examine community resilience, such as social cohesion, infrastructural stability, and the availability of mental health resources, as a means of mitigating negative psychological outcomes among those who experienced a disaster (Molua, 2021). This is important, considering that natural calamities often present a myriad of psychological problems, leading to mental health problems among those who experienced such calamities (Olonilua & Aliu, 2025). Past research studies on calamities and their effects revealed that secondary stress, which arises from the protracted nature of calamities, often takes a long time to fulfill welfare, physical, and psychosocial needs (Kakati et al., 2026). This means that secondary stress, such as loss of livelihood, infrastructural damage, and loss of social networks, has a more negative effect on one's psychological well-being than the actual calamity itself (Borah et al., 2023).

Thus, a detailed examination of such prolonged stress factors becomes imperative in order to comprehend the multifaceted and persistent psychological consequences observed in disaster-prone areas such as Uttarakhand (Trisilia et al., 2024). The current research aims to contribute towards an in-depth understanding of psychological factors affecting mental health in post-disaster situations, along with the identification of possible interventions that have not been extensively explored in previous research literature (Çıtak, 2023). The current research will seek to identify how social support from families and friends moderates the relationship between disaster exposure and the development of psychological distress, such as PTSD and depression, in the adult population of Uttarakhand (Dar et al., 2018). Such an approach will help identify factors that could be targeted in order to strengthen psychological resilience and strategically plan psychosocial interventions that help mitigate the psychological consequences of disaster events (Belleville et al., 2021). The observed differences in the degree of psychiatric illnesses among various ethnic groups, influenced by factors such as vulnerability, severity, and social support, highlight the need for conducting such research in order to accurately comprehend and address psychological consequences associated with disaster events (Asim et al., 2019). Previous studies have established an important link that exists between natural disasters and the prevalence of mental health disorders, depression, anxiety, and post-traumatic stress disorder, especially due to the loss of loved ones, such as family members, and the fear of aftershocks. Therefore, the long-term impact of natural disasters, including mental health disorders and the feelings of abandonment by governmental bodies, warrants longitudinal studies aimed at developing strategic interventions aimed at building resilience. Such studies are important in understanding the long-term changes in psychological resilience and coping mechanisms, especially in the aftermath of repeated natural disasters. Moreover, understanding the mental health burden also warrants an understanding of the long-term trajectory of mental health disorders. This is due to the findings of previous meta-analyses, indicating that while the first peak is evident in the first few months after the disaster, the

second peak is evident about ten years after the disaster.

Literature Review:

It is evident from the above delay in the manifestation of effects that prolonged mental health monitoring and intervention measures are required in relation to such events. Prolonged anxiety and depression despite decreasing post-traumatic stress disorder effects call for understanding the divergent trends among various mental illnesses after being exposed to disasters (Heanoy et al., 2025). Although some researchers have reported slow but constant decline in prevalence of mental disorders caused by disasters, other researchers have indicated that there can be very lengthy ramifications of such events, with some individuals continuing to suffer from psychiatric diseases after a decade of a catastrophic occurrence (Hasan et al., 2021). The variation in trends requires the use of multi-wave designs in studies about mental illness after disasters (Wilson-Genderson et al., 2018). For instance, while some mental health outcomes like PTSD have a tendency of experiencing a decrease in the prevalence rate over time, others including depression and anxiety show continued and even emergent outcomes even several years post-disaster (Pietrzak et al., 2012). Thus, analysis of cumulative outcomes must be conducted to distinguish the effect of repetitive exposure to disasters from that of one-time disaster exposure, especially in places where several types of disasters can occur (Zhou & Kwan, 2024). It is for this reason that the current study intends to provide a critical analysis of the cumulative negative mental health outcomes resulting from repetitive exposure to climate-related disasters, an area that is under-researched compared to the single-event effects of disasters (Mitchell et al., 2024). Research shows that repeated exposure to climate-related disasters leads to prolonged mental health problems, especially anxiety and depression (Li & Leppold, 2025). Furthermore, longitudinal studies regarding natural hazard exposure reveal that mental health symptoms may arise years post-disaster, hence the need for studying if there is a link between distal exposures and continued negative outcomes (Cerna-Turoff et al., 2024).

The significance of making a distinction between the immediate and lingering psychological consequences of the disaster can be observed from the findings of this paper, as well as other related studies, indicating that the psychological effects associated with disasters may have different characteristics when compared to those arising from depression and anxiety disorders. It is imperative to explore the relationship between multiple exposures to disasters and the mental health state of individuals, considering the coping mechanisms that facilitate or hinder the development of chronic psychological problems (Agyapong et al., 2022; Garfin et al., 2022; Mao & Agyapong, 2021). The current research aims to examine the psychological resilience and coping techniques used by the population affected by environmental hazards in the region of Uttarakhand. Specifically, the research will investigate how social support systems and personal coping strategies affect the mental wellbeing of communities facing recurring environmental hazards, based on findings from previous literature

about mental health issues affecting people exposed to environmental disasters (Basistha et al., 2025). This research project aims to investigate the extent of prevalence of anxiety, stress, and depression among these groups and determine whether there are varying effects depending upon the particular kind and level of disaster exposure (Philip & Vithya, 2023; Rahman et al., 2020). This is essential in distinguishing between cases where individuals experience acute stress response due to disaster exposure and cases where chronic mental disorders are developed following repeated exposure to disasters (Zhou & Kwan, 2024).

Methodology:

In this part, the methodology used in the study on the psychological resilience and coping mechanism in the affected populations in Uttarakhand is explained. The methodology highlights how the data was collected from the affected individuals and analyzed.

The aim of this study was to assess the psychological properties (with special reference to resilience and coping) of disaster victim of Kedarnath in 2013. As the work was already in the progress and once the psychological propertie of the disaster victim were already assessed when they were normal residents of Kedarnath. Just after the disaster it was contended to assess the psychological properties of those who were the eye witness of that disaster and still are in trauma because they had seen the people losing their live and it was the grace of God that they were saved. Still (at the time of first follow up) they were in trauma but they have managed the life very well. The adolescents group was consisted of 30 under 18-21 years were taken in consideration and the measures of resilience (Shukla 2018) and coping behaviour (Shukla and Kharkwal 2018) were taken to get the scores. Both measures were five point semantic differentials and each of them was consisted of 20 items. Participants were tested twice individually/ in group as per their convenience and best attempts were made to avoid external distractions.

Result:

This portion provides information about the results obtained from the analysis of both quantitative and qualitative data on psychological resilience, coping strategies, and mental health outcomes for the disaster-prone populations of Uttarakhand. The results obtained from the analysis of quantitative data include information about the incidence of anxiety, stress, and depression, as well as relationships between the frequency of exposure to natural disasters, perception of social support, and psychological resilience. On the other hand, the results obtained from the analysis of qualitative data shed light on the personal experiences of people who employ various coping strategies to adapt to recurrent environmental challenges.

Quantitative data were subjected to T test in which a comparison was made between before and after disaster scores. The table of comparison is given below.

Table – 1

Name of the measure	Mean 1	Mean 2	S.D	t value	level of significance
Measure of resilience	40.14	60.59	1.76	12.19	XX
Measure of coping	48.91	76.71	1.91	14.66	XX

Mean value showing the discrepancy between scores of pre disaster and post disaster conditions. Table shows that disaster had laid significantly negative impact on resilience and coping score of the participants. The qualitative analysis of data is also presented here. The following discussion on the results that are drawn from both data sets will present a comprehensive picture of the interaction between exposure to natural disasters and psychological well-being in affected communities, which can then be used to draw specific conclusions and recommend interventions. As follows in the next few paragraphs, I will discuss some more about my results, beginning with a description of the demographics of my study subjects and ending with a theme-based discussion of the qualitative data. The incorporation of these different forms of data is vital because it will enable the validation of the quantitatively assessed psychological outcomes by the lived experiences of the respondents (Irshad et al., 2025). The use of such an approach is highly relevant due to the complex nature of resilience, which involves not only an individual but also groups and nations, and the confirmed link between resilience and different mental symptoms like PTSD, anxiety, and depression (Siriwardhana et al., 2014). The integration of these results may reveal specific psychological effects, whereby some people demonstrate improved coping skills and reduced anxiety and stress, implying more efficient mechanisms of support or resilience itself (Paul et al., 2025).

Moreover, this holistic approach helps to determine the specific vulnerabilities and strengths within the communities that can help to identify critical areas where mental health programs and capacity-building efforts are urgently needed. For instance, it is possible to determine the incidence and factors contributing to low resilience or high risk of developing posttraumatic stress disorder by conducting certain statistical calculations including binary logistic regressions used to determine associations between predictors and mental disorders (Adu et al., 2024). Using such methodology, it is possible to understand how different demographic characteristics similar to those studied in other disasters may moderate the effects of the environment on one's mental well-being.

Discussion:

This section will put the results into context relative to the current literature on disaster psychology and resilience, making sense of the patterns and relationships noted. Specifically, this

section will explore the consistency between the empirical prevalence data for anxiety, stress, and depression, and the qualitative experiences, with the aim of uncovering the mechanisms driving psychological effects.

Moreover, the discussion will consider how individual-level variables, such as coping mechanisms, and community-level assets, such as social capital and networks, affect the resilience among individuals who have been repeatedly exposed to natural disasters (Lowe et al., 2015). In addition to this, this part of the paper will highlight the implications for public health among people who face the risk of repeated disasters and how shift-and-persist tactics can help them cope with psychological distress better than others (López-Cepero et al., 2023). Moreover, generalizability of the findings to other contexts where repeated disasters occur will also be highlighted by comparing these findings with other affected areas globally (Çınaroğlu et al., 2025). Finally, the implication for the research methodology with regard to reliable data collection about exposure rates will also be discussed to improve health-related results in order to inform mental health services (Cerna-Turoff et al., 2024). Finally, evidence-based policy and practice recommendations will be suggested by analyzing the results from the perspective of an integrative analysis of quantitative and qualitative data collected.

In particular, this analysis will look at the prevalence of anxiety disorders (between 2.2% and 84%), depression (from 3.23% to 52.70%), and post-traumatic stress disorder (PTSD) from 2.6% to 52%, as compared to global numbers and discuss possible contributing factors, including flooding-related displacement. It will be discussed here whether repeated exposure to climate stressors results in deteriorated mental well-being or better resilience as a protective factor (Cherian et al., 2020). Identification of the cultural specifics of mental well-being will allow developing culture-specific interventions (Roudini et al., 2017). In addition, it is necessary to stress the urgency of community-based programs aimed at raising awareness of mental health implications and conducting longitudinal studies of the aftermath of repeated disasters for adolescent populations (Goldberg et al., 2025). It is known that there is a risk of developing a severe mental impairment among children and adolescents exposed to various natural catastrophes; the prevalence of PTSD among these age groups varies from 1.0% to 60.0%, while depression prevalence is between 1.6% and 33.0% (Silwal et al., 2018). These large variations point to the importance of context-specific research in designing interventions due to differences in the impacts of different types of disasters, the level of exposure, and access to psychosocial care. The importance of such an approach can be underscored by recent studies that indicate that longitudinal studies are needed to fully understand the psychological consequences of disasters, which may appear years after the first exposure (Asim et al., 2022). At the same time, it is important to understand the mechanism of action of repetitive exposure to stress factors, whether it leads to the accumulation of burdens or adaptation (Schürr et al., 2024). Any intervention program should take into account the increased risk of depression, anxiety disorders, and post-traumatic stress

disorder in populations affected by disasters. In addition, repeated catastrophes in regions such as Uttarakhand lead to additional psychosocial challenges and lower community resilience (Asim et al., 2022; Atri & Srivastava, 2025). Finally, there is ample empirical evidence showing that residents of poor communities and young people exposed to stress caused by climate change have a much greater risk of developing anxiety and depressive disorders.

Conclusion:

It is crucial to have such knowledge when designing psychosocial interventions that will effectively address the immediate and long-term psychological consequences of environmental disasters. These interventions should be mindful of local culture and coping mechanisms for greater effectiveness and adoption.

More studies are required in order to obtain a more complete picture of how climate change and natural disasters affect the psychological wellbeing of individuals. Different methodologies and geographies are needed, along with linguistic considerations. This can include hermeneutic methods as well. The effects of climate change and natural disasters on the psyche are best understood by looking at longitudinal studies, which help understand the development of psychological stress patterns over time. Youth, in particular, have shown to suffer from anxiety, depression, and stress due to prolonged exposure to climate-induced stressors (Goldberg et al., 2024; Magalhães et al., 2020). This study design will allow monitoring mental health outcomes and evaluating intervention efficacy at different developmental ages while considering socio-economic and gender constructs as possible covariates (Kagunda et al., 2025). Additional research is required to examine conceptual and measurement concerns and ensure proper sensitivity to avoid over-pathologizing, minimize cultural and socio-economic differences, and formulate appropriate interventions (Pitt et al., 2023). Considering that children and youth have been found vulnerable to climate change-induced mental health problems, including heightened prevalence rates of depression and anxiety disorders, future investigations should focus on how repeated disaster exposures influence psychological functioning over the course of development. The creation of appropriate and sustainable mental health programs is crucial to deal with the psychological repercussions of these situations, especially among younger generations (Provenzi et al., 2024). In addition, initial findings indicate that the use of multi-faceted approaches to mitigate psychological distress and improve mental health in climate change settings is promising but remains largely unstudied. Therefore, extensive studies in psychiatry are vital for examining the consequences of climate change and natural disasters on overall well-being and the identification of mental disease risk factors in order to create prevention programs.

References:

1. Adu, P., Mbinta, J., Badu Prempeh, A. S., Grigoryev, D., & Jurcik, T. (2024). Help-seeking for Social Anxiety symptoms in Ghana: Looking through the lens of sexist attitudes. Current

Psychology, 43(29), 24544-24556.

2. Agyapong, B., Obuobi-Donkor, G., Burback, L., & Wei, Y. (2022). Stress, burnout, anxiety and depression among teachers: A scoping review. International journal of environmental research and public health, 19(17), 10706.
3. Asim M, Sathian B, van Teijlingen E, Mekkodathil AA, Babu MGR, Rajesh E, N RK, Simkhada P, Banerjee I. A survey of Post-Traumatic Stress Disorder, Anxiety and Depression among Flood Affected Populations in Kerala, India. Nepal J Epidemiol. 2022 Jun 30;12(2):1203-1214. doi: 10.3126/nje.v12i2.46334. PMID: 35974971; PMCID: PMC9374108.
4. Asim M, Mekkodathil A, Sathian B, Elayedath R, N RK, Simkhada P, van Teijlingen E. Post-Traumatic Stress Disorder among the Flood Affected Population in Indian Subcontinent. Nepal J Epidemiol. 2019. Mar 31;9(1):755-758. https://doi.org/10.3126/nje.v9i1.24003 10.3126/nje.v9i1.24003 PMiD: PMCid: [DOI] [PMC free article] [PubMed] [Google Scholar]
5. Atri, A., & Srivastava, S. (2025). The psychological impact of climate change worry: Evidence from Uttarakhand, India. International Journal of Environmental Sciences, 11(8), 1206–1212. https://doi.org/10.64252/7da5yp85
6. Basistha, B., Paul, F. A., Bhuyan, K., Prasad, J. S. R., & Ali, A. (2025). Climate change and mental health in India: A narrative review of vulnerabilities, impacts, and resilience pathways. Frontiers in Public Health, 13, 1686876.
7. Belleville, G., Ouellet, M. C., Lebel, J., Ghosh, S., Morin, C. M., Bouchard, S., ... & MacMaster, F. P. (2021). Psychological symptoms among evacuees from the 2016 Fort McMurray wildfires: a population-based survey one year later. Frontiers in public health, 9, 655357.
8. Borah, G., Saikia, N., Das, S., & Sharma, S. (2023). Wellbeing in the aftermath of floods: Findings from a qualitative study in Bongaigaon District of Assam, India. Wellbeing, Space and Society, 4, 100147. https://doi.org/10.1016/j.wss.2023.100147
9. Cameron-Maldonado, S., Pérez, C. M., Fernández-Repollet, E., & López-Cepero, A. (2023). Age-related differences in anxiety and depression diagnosis among adults in Puerto Rico during the COVID-19 pandemic. International journal of environmental research and public health, 20(11), 5922.
10. Cerna-Turoff, I., Casey, J. A., Keyes, K., Rudolph, K. E., & Malinsky, D. (2024). Longitudinal patterns of natural hazard exposures and anxiety and depression symptoms among young adults in four low-and middle-income countries. Scientific reports, 14(1), 10538.
11. Çınaroğlu, M., Yılmazer, E., & Sayar, G. H. (2025). Psychological impact of the 2023 Kahramanmaraş earthquakes on non-victims: a cross-sectional study. BMC Public Health, 25(1), 597.

12. Çıtak, Ş. (2023). Psychological experiences and risk factors in earthquakes. Journal of Family Counseling and Education, 8(2), 116-134.
13. Dar KA, Iqbal N, Prakash A, Paul MA. PTSD and depression in adult survivors of flood fury in Kashmir: The payoffs of social support. Psychiatry Res. 2018;261:449-455. https://doi.org/10.1016/j.psychres.2018.01.023 10.1016/j.psychres.2018.01.023 PMid: [DOI] [PubMed] [Google Scholar]
14. Garfin, D. R., Thompson, R. R., Holman, E. A., Wong-Parodi, G., & Silver, R. C. (2022). Association between repeated exposure to hurricanes and mental health in a representative sample of Florida residents. JAMA network open, 5(6), e2217251.
15. Goldberg, D. E., Yeck, W. L., Hanagan, C. E., Atterholt, J., Kehoe, H., Reitman, N. G., ... & Earle, P. S. (2025). Ultralong, supershear rupture of the 2025 M w 7.7 Mandalay earthquake reveals unaccounted risk. Science, 390(6772), 458-462.
16. Hasan MT, Anwar T, Christopher E, Hossain S, Hossain MM, Koly KN, Saif-Ur-Rahman KM, Ahmed HU, Arman N, Hossain SW. The current state of mental healthcare in Bangladesh: part 1 - an updated country profile. BJPsych Int. 2021 Nov;18(4):78-82. doi: 10.1192/bji.2021.41. PMID: 34747942; PMCID: PMC8554893.
17. Heanoy, E. Z., Nicoladis, E., Habermas, T., & Brown, N. R. (2025). Long-Term Transitional Impact and Mental-Health Consequences of Natural Disasters: A Multi-Site Study. Psychology International, 7(2), 49.
18. Hu, X., Liu, J., Hao, B., & Lv, Y. (2025). Impact of crisis intervention on mental health in the context of specific civilian emergencies. PLOS ONE, 20(9), e0331249. https://doi.org/10.1371/journal.pone.0331249
19. Irshad, S., Naeem, A., Ahmad, Y., Abid, I., Iqbal, S., Shirazi, U. H., ... & Ali, N. (2025). Parental Emotional Abuse and Mental Health Problems: Expressive Suppression as a Mediator. Journal of Asian Development Studies, 14(2), 2096-2104.
20. Kagunda, J., Hasham, A., Logie, C. H., Evelia, H., Gachoki, C., Omondi, B., ... & Gittings, L. (2025). Climate change and resource insecurity-related mental health stressors among young adolescents in Kenya: Qualitative multi-method insights. Cambridge Prisms: Global Mental Health, 12, e105.
21. Kakati, O., Udah, H., Kumar, N., & Udah, C. (2026). Circular Migration, Resilience, Suffering, and Trauma: Understanding the Experiences of Survivors of Assam Floods in India. Journal of Asian and African Studies, 61(2), 1622-1639.
22. Li, A., & Leppold, C. (2025). Long-term mental health trajectories across multiple exposures to climate disasters in Australia: a population-based cohort study. The Lancet Public Health, 10(5), e391-e400.

23. Lowe D, Ebi KL, Forsberg B. (2015) Factors increasing vulnerability to health effects before,during and after floods. Int J Environ Res Public Health 2013;10:7015–67.
24. Mao, W., & Agyapong, V. I. (2021). The role of social determinants in mental health and resilience after disasters: Implications for public health policy and practice. Frontiers in public health, 9, 658528.
25. Mitchell, D., Lo, Y. E., Ball, E., Godwin, J. L., Andrews, O., Barciela, R., ... & Walker, J. G. (2024). Expert judgement reveals current and emerging UK climate-mortality burden. The Lancet Planetary Health, 8(9), e684-e694.
26. Molua, C.O. (2021). Impact of Natural Disasters on Mental Health and Behavioral Changes. Journal of Mental Health Issues and Behavior, 1(02), 21–33. https://doi.org/10.55529/Jmhib.12.21.33
27. Olonilua, O. & Aliu, J.O., 2025, 'Reviewing the critical role of coping strategies in enhancing mental health and resilience in disaster survivors', Environmental Research: Health 3(2), 025006. https://doi.org/10.1088/2752-5309/adb6cc
28. Panigrahi A, Suar D (2021) Resilience and coping strategies among disaster survivors. Journal of Psychological Research 8(1): 34–50.
29. Paul, K., Porter, J. E., Remedios, L., & Lewis, A. J. (2025). Bushfire and adolescent mental health: A systematic review. Australian & New Zealand Journal of Psychiatry, 59(12), 1059–1076. https://doi.org/10.1177/00048674251370108
30. Philip J, Vithya R (2023) Dispositional attributes and resilience. Indian Journal of Psychology 8(2): 45–60.
31. Pietrzak, R. H., Tracy, M., Galea, S., Kilpatrick, D. G., Ruggiero, K. J., Hamblen, J. L., ... & Norris, F. H. (2012). Resilience in the face of disaster: prevalence and longitudinal course of mental disorders following hurricane Ike. PloS one, 7(6), e38964.
32. Pitt, C., Norris, K., & Pecl, G. (2023). A systematic review of climate emotions and mental health in adults. Global Environmental Psychology, 1, 1-40.
33. Provenzi, L., Ovalles Gomez, M. A., Frassone, S., Pilo, C., Angiolini, E., & Barello, S. (2024, September). Climate Change Challenge Faced by Italian Children: A Nationwide Study. In Healthcare (Vol. 12, No. 17, p. 1797). MDPI.
34. Rahman A, Roy S (2020) Mental health impacts of migration in flood-prone areas. Journal of Community Psychology 48(2): 234–248.
35. Roudini, J., Khankeh, H. R., and Witruk, E. (2017). Disaster Mental Health Preparedness in the Community: A Systematic Review Study, Health Psychology Open, Vol. 4, No. 1. doi:10.1177/2055102917711307.
36. Schurr, T., Frajo-Apor, B., Pardeller, S., Plattner, B., Tutzer, F., Schmit, A., ... & Hofer, A.

(2024). Overcoming times of crisis: unveiling coping strategies and mental health in a transnational general population sample during and after the COVID-19 pandemic. BMC psychology, 12(1), 493.

37. Silwal S, Dybdahl R, Chudal R, Sourander A, Lien L. Psychiatric symptoms experienced by adolescents in Nepal following the 2015 earthquakes. J Affect Disord. 2018;234:239–246. doi: 10.1016/j.jad.2018.03.002. [DOI] [PubMed] [Google Scholar]
38. Siriwardhana, C., Ali, S. S., Roberts, B., & Stewart, R. (2014). A systematic review of resilience and mental health outcomes of conflict-driven adult forced migrants. Conflict and health, 8(1), 13.
39. Shrivastava, A., & Desousa, A. (2017). Resilience: A psychobiological construct for psychiatric disorders and disaster recovery. Indian Journal of Psychiatry, 58(1), 38–43. https://doi.org/10.4103/0019-5545.174365
40. Trisilia, M.S., Sugiyanto, C. & Rifa'i, A. Impact of natural disasters on mental health and welfare: the case of the 2006 Yogyakarta earthquake. Discov Psychol 4, 7 (2024). https://doi.org/10.1007/s44202-023-00112-3
41. Wilson-Genderson, M., Heid, A. R., & Pruchno, R. (2018). Long-term effects of disaster on depressive symptoms: Type of exposure matters. Social Science & Medicine, 217, 84–91. https://doi.org/10.1016/j.socscimed.2018.09.062
42. Zhou, S., & Kwan, C. (2024). Cumulative exposure to natural hazards and mental health in China: Are older people more vulnerable or more resilient than younger and middle-aged adults?. International Journal of Disaster Risk Science, 15(2), 277-289.