

Perspective



# Social determinants and mental health resilience after the pandemic: A biosocial perspective

Sara Pourrazavi<sup>1\*</sup>, Somayeh Azimi<sup>2</sup>

<sup>1</sup>Research Center of Psychiatry and Behavioral Science, Tabriz University of Medical Sciences, Tabriz, Iran

<sup>2</sup>Department of Health Education & Promotion, Tabriz University of Medical Sciences, Tabriz, Iran

\*Corresponding Author: Sara Pourrazavi, Email: [pourrazavisara@yahoo.com](mailto:pourrazavisara@yahoo.com)

## Abstract

The COVID-19 pandemic revealed profound vulnerabilities in public health systems and underscored the importance of mental health resilience among diverse populations. This perspective article examines how social determinants interact with biological and environmental factors to influence mental health resilience in a post-pandemic world. Applying a biosocial lens, we argue that recovery requires integrated strategies that address both immediate and long-term needs. Key protective factors include socioeconomic stability, healthcare access (such as telehealth), social support, mental health literacy, and cultural and religious practices. Policies targeting social inequities, expanding healthcare access, and strengthening community networks are essential for fostering resilience. Future research should explore the interplay between biological predispositions and social contexts to develop effective, targeted interventions for building mental health resilience across diverse populations.

**Keywords:** Resilience, Psychological, Mental health, Pandemics

Received: November 11, 2024, Revised: November 22, 2024, Accepted: December 4, 2024, ePublished: March 17, 2025

## Introduction

The COVID-19 pandemic has caused collateral damage, including significant mental health challenges. It has altered how people perceive the world and relate to one another.<sup>1</sup> Consequently, there has been a global shift focus toward recovery, physical health and mental well-being.<sup>2</sup> In this context, there are valuable lessons to be learned about coping mechanisms, resilience, and adaptation. According to the literature, social determinants significantly influence mental health outcomes.<sup>3</sup> Understanding the biosocial approach is crucial to identifying protective factors that foster resilience in various socio-economic contexts.<sup>4</sup>

Resilience is a dynamic process of adapting to challenging life conditions, ensuring stable mental health and recovery after prolonged adversity or stressful event. In other words, resilience can be defined as the ability to “bounce back” from difficult situations. It is also considered protective against mental disorders.<sup>5,6</sup>

## Social determinants of mental health

Mental health exists along a spectrum, but maintaining balance is for individuals and society. The COVID-19 lockdowns significantly impacted mental health worldwide.<sup>7</sup>

Social determinants, such as income, employment stability, housing, and healthcare access, play crucial roles in mental health outcomes.<sup>3</sup> Individuals with lower socio-economic status (SES) faced higher risks of mental

health struggles during the pandemic,<sup>8</sup> highlighting the need for equity-focused interventions. Support networks and community resources were critical in maintaining psychological well-being during periods of isolation and financial strain.<sup>9</sup>

## Biological and environmental contributions

The interaction between biological, psychological, and social factors in post-pandemic recovery highlights the importance of a holistic biosocial model.<sup>10</sup> Studies reveal that chronic stress exposure impacts neurobiological resilience, often exacerbated by social vulnerabilities.<sup>11</sup> Access to green spaces and safe environments has been shown to alleviate anxiety and depressive symptoms, underscoring the need for inclusive urban planning.<sup>12,13</sup>

## Socioeconomic status and employment

SES influences nearly every aspect of health and resilience.<sup>14</sup> Higher SES is linked to better mental health outcomes due to increased access to resources like quality healthcare, stable housing, and social support networks.<sup>15</sup> During the post-pandemic recovery, lower SES groups have faced disproportionate hardships, including job loss and economic uncertainty, which undermine mental health resilience. Economic policies aimed at job security, financial support, and equitable healthcare access could significantly strengthen resilience in these populations.<sup>16</sup>



The positive relationship between SES and resilience can be explained through three main channels. First, individuals with higher SES experienced less fear and anxiety due to stable access to essential supplies. Second, they enjoyed greater employment and income stability, reducing their risk of depression and anxiety. Finally, higher SES communities often provide more robust social support.<sup>16</sup>

### Access to healthcare

Access to healthcare—including mental health services—was a decisive factor in resilience during the pandemic. In many countries, those with limited healthcare access faced greater mental health challenges, exacerbating disparities.<sup>17</sup> Public health strategies must prioritize expanding access to mental health care, particularly for underserved communities.<sup>18,19</sup> Telehealth, which expanded during the pandemic, has become a valuable tool for providing remote mental health services and should be further developed in the post-pandemic era.<sup>20</sup>

### Social support and community cohesion

Social support from family, friends, and community networks plays a vital role in buffering stress and fostering resilience. During the pandemic, social isolation and disrupted community ties increased mental health issues, emphasizing the need to social cohesion.<sup>21</sup> Community-based interventions that promote connectedness can provide essential support for mental health resilience, especially in hardest-hit communities.<sup>22,23</sup>

### Education and mental health literacy

Education enhances resilience by improving coping strategies and mental health literacy, enabling individuals to recognize and manage stress.<sup>24</sup> Schools and universities faced significant disruption during the pandemic, highlighting the need into educational curricula to better prepare individuals for future challenges.

### Cultural and religious practices

Faith communities often serve as pillars of support, offering spiritual solace and fostering community engagement. During the pandemic, many religious organizations adapted to virtual services to maintain connections and provide mental health support.

Research highlights the significant role of religious in fostering resilience during crises. For example, in South Africa, spirituality and religion provide comfort and coping mechanisms for individuals facing the outbreak's challenges.<sup>25</sup> Similarly, Muslim communities in South Sulawesi, Indonesia, demonstrate psychological resilience through religious practices such as creating a religious atmosphere, Tilawati practice, and role modeling, which enhance commitment, spirituality, and positive behavior.<sup>26</sup> A conceptual model proposes that resilience is

influenced by religiosity, social support, and spirituality, which may serve as protective factors against declining mental health during the pandemic.<sup>27</sup>

Research suggests that culture and norms play a significant role in fostering resilience, particularly in the context of crises like the COVID-19 pandemic. Culture is fundamental for maintaining a healthy social climate in pandemic and has introduced as a tool for promoting mental health at the micro level and social capital resilience at the aggregate level.<sup>28</sup> Cultural practices, beliefs, and values contribute to individuals' ability to cope with adversity.<sup>25,29</sup> Specific cultural elements, such as belief in God's sovereignty, communal support, and acceptance of difficult conditions, have been identified as factors enhancing resilience in various ethnic groups.<sup>29</sup> Resilience is understood as a complex process influenced by neurobiological profiles, developmental experiences, and cultural contexts.<sup>30</sup> Furthermore, regional culture, particularly in family business-dominated areas, can contribute to resilience in the face of structural crises.<sup>31</sup>

### A biosocial approach to mental health resilience

A biosocial approach recognizes that mental health resilience is shaped by social environments and biological predispositions. Certain individuals may possess genetic or neurobiological traits that contribute to resilience, but these traits interact with social factors in complex ways.<sup>32</sup> Social ties regulate emotions, cognitions, and behaviors, preventing extreme responses associated with dysfunction.<sup>33</sup> Understanding these interactions can inform targeted interventions, such as stress-reduction programs that leveraging social support structures, thereby enhancing resilience in biologically predisposed populations.<sup>34</sup>

### Policy implications and future directions

#### *Holistic Public Health Frameworks*

To build mental health resilience post-pandemic, policymakers should adopt holistic approaches addressing both social determinants and biological factors. Initiatives like universal basic income, expanded healthcare access, and community-based mental health programs can provide essential support for resilience, particularly in vulnerable populations.

#### *Strengthening social cohesion and support networks*

Community-based programs that foster social connectedness and provide mental health resources can mitigate the effects of social isolation. Investment in social infrastructure, such as public spaces and community centers can enhance mental health resilience by providing stable networks for support.

#### *Integrating biosocial research into mental health policy*

Advancing resilience research through a biosocial

lens could lead to novel insights into how individual predispositions interact with social environments. Policymakers should support interdisciplinary research that explores these dynamics, paving the way for targeted, effective interventions.

### Conclusion

The pandemic underscored the critical role of social determinants in mental health resilience. A biosocial approach, recognizing the interplay between social and biological factors, offers a comprehensive framework for fostering resilience across diverse populations. Policies addressing socioeconomic inequities, enhancing healthcare access, strengthening social networks, and incorporate biosocial research can empower individuals to navigate future crises with resilience. Future research should focus on longitudinal studies to tracking mental health outcomes tied to social determinants to refine interventions that support holistic recovery.

### Authors' Contribution

**Conceptualization:** Sara Pourrazavi, Somayeh Azimi.

**Project administration:** Sara Pourrazavi.

**Supervision:** Sara Pourrazavi.

**Writing-original draft:** Somayeh Azimi.

**Writing-review & editing:** Sara Pourrazavi.

### Competing Interests

The authors have no conflicts of interest to declare.

### Ethical Approval

Not applicable.

### Funding

No grant was received for this study.

### References

- Rapado-Castro M, Arango C. Building up resilience in an uncertain world: mental health challenges in the aftermath of the first modern pandemic. *Eur Arch Psychiatry Clin Neurosci*. 2021;271(6):1001-3. doi: 10.1007/s00406-021-01313-4.
- Vadivel R, Shoib S, El Halabi S, El Hayek S, Essam L, Gashi Bytyçi D, et al. Mental health in the post-COVID-19 era: challenges and the way forward. *Gen Psychiatr*. 2021;34(1):e100424. doi: 10.1136/gpsych-2020-100424.
- Prokosch C, Fertig AR, Ojebuoboh AR, Trofholz AC, Baird M, Young M, et al. Exploring associations between social determinants of health and mental health outcomes in families from socioeconomically and racially and ethnically diverse households. *Prev Med*. 2022;161:107150. doi: 10.1016/j.ypmed.2022.107150.
- Harris KM, McDade TW. The biosocial approach to human development, behavior, and health across the life course. *RSF*. 2018;4(4):2-26. doi: 10.7758/rsf.2018.4.4.01.
- Verdolini N, Amoretti S, Montejó L, García-Rizo C, Hogg B, Mezquida G, et al. Resilience and mental health during the COVID-19 pandemic. *J Affect Disord*. 2021;283:156-64. doi: 10.1016/j.jad.2021.01.055.
- Ayed N, Toner S, Priebe S. Conceptualizing resilience in adult mental health literature: a systematic review and narrative synthesis. *Psychol Psychother*. 2019;92(3):299-341. doi: 10.1111/papt.12185.
- Kupcova I, Danisovic L, Klein M, Harsanyi S. Effects of the COVID-19 pandemic on mental health, anxiety, and depression. *BMC Psychol*. 2023;11(1):108. doi: 10.1186/s40359-023-01130-5.
- Iob E, Frank P, Steptoe A, Fancourt D. Levels of severity of depressive symptoms among at-risk groups in the UK during the COVID-19 pandemic. *JAMA Netw Open*. 2020;3(10):e2026064. doi: 10.1001/jamanetworkopen.2020.26064.
- Åslund C, Larm P, Starrin B, Nilsson KW. The buffering effect of tangible social support on financial stress: influence on psychological well-being and psychosomatic symptoms in a large sample of the adult general population. *Int J Equity Health*. 2014;13(1):85. doi: 10.1186/s12939-014-0085-3.
- Stuart K, Faghy MA, Bidmead E, Browning R, Roberts C, Grimwood S, et al. A biopsychosocial framework for recovery from COVID-19. *Int J Sociol Soc Policy*. 2020;40(9-10):1021-39. doi: 10.1108/ijssp-07-2020-0301.
- Wood SK, Bhatnagar S. Resilience to the effects of social stress: evidence from clinical and preclinical studies on the role of coping strategies. *Neurobiol Stress*. 2015;1:164-73. doi: 10.1016/j.ynstr.2014.11.002.
- Nutsford D, Pearson AL, Kingham S. An ecological study investigating the association between access to urban green space and mental health. *Public Health*. 2013;127(11):1005-11. doi: 10.1016/j.puhe.2013.08.016.
- Gascon M, Sánchez-Benavides G, Dadvand P, Martínez D, Gramunt N, Gotsens X, et al. Long-term exposure to residential green and blue spaces and anxiety and depression in adults: a cross-sectional study. *Environ Res*. 2018;162:231-9. doi: 10.1016/j.envres.2018.01.012.
- Schwartz CE, Zhang J, Stucky BD, Michael W, Rapkin BD. Is the link between socioeconomic status and resilience mediated by reserve-building activities: mediation analysis of web-based cross-sectional data from chronic medical illness patient panels. *BMJ Open*. 2019;9(5):e025602. doi: 10.1136/bmjopen-2018-025602.
- German J. The Relationship Between Socioeconomic Status and Mood Disorders [dissertation]. Wayne State University; 2019. Available from: <https://digitalcommons.wayne.edu/honorstheses/65>.
- Wu X, Li X, Lu Y, Hout M. Two tales of one city: Unequal vulnerability and resilience to COVID-19 by socioeconomic status in Wuhan, China. *Res Soc Stratif Mobil*. 2021;72:100584. doi: 10.1016/j.rssm.2021.100584.
- 17Summers-Gabr NM. Rural-urban mental health disparities in the United States during COVID-19. *Psychol Trauma*. 2020;12(S1):S222-4. doi: 10.1037/tra0000871.
- McCray CI, Rosenberg L. A path forward: mental health and the US pandemic response. *J Behav Health Serv Res*. 2021;48(2):161-70. doi: 10.1007/s11414-020-09747-9.
- Ryan B, Kako M, Brooks B, Rahman M, Rahman S, Hardin M, et al. Systematically identifying and evaluating strategies for strengthening community resilience. *Prehosp Disaster Med*. 2023;38(S1):S72. doi: 10.1017/s1049023x23002133.
- Costa M, Reis G, Pavlo A, Bellamy C, Ponte K, Davidson L. Tele-mental health utilization among people with mental illness to access care during the COVID-19 pandemic. *Community Ment Health J*. 2021;57(4):720-6. doi: 10.1007/s10597-021-00789-7.
- Magorokosho NK, Heraclides A, Papaleontiou-Louca E, Prodromou M. Evaluation of resilience and mental health in the "post-pandemic era" among university students: protocol for a mixed-methods study. *Int J Environ Res Public Health*. 2024;21(7):825. doi: 10.3390/ijerph21070825.
- Friis-Healy EA, Farber EW, Cook SC, Cullum KA, Gillespie

- CF, Marshall-Lee ED, et al. Promoting resilience in persons with serious mental health conditions during the coronavirus pandemic. *Psychol Serv.* 2022;19(Suppl 1):13-22. doi: [10.1037/ser0000594](https://doi.org/10.1037/ser0000594).
23. Kim J. The role of social cohesion in addressing the impact of COVID-19 on mental health within marginalized communities. *Local Development & Society.* 2020;1(2):205-16. doi: [10.1080/26883597.2020.1829985](https://doi.org/10.1080/26883597.2020.1829985).
24. Fenwick-Smith A, Dahlberg EE, Thompson SC. Systematic review of resilience-enhancing, universal, primary school-based mental health promotion programs. *BMC Psychol.* 2018;6(1):30. doi: [10.1186/s40359-018-0242-3](https://doi.org/10.1186/s40359-018-0242-3).
25. Mashaphu S, Talatala M, Seape S, Eriksson L, Chiliza B. Mental health, culture and resilience—approaching the COVID-19 pandemic from a South African perspective. *Front Psychiatry.* 2021;12:611108. doi: [10.3389/fpsy.2021.611108](https://doi.org/10.3389/fpsy.2021.611108).
26. Saleh AA, Marissangan H, Abdullah S, Hamid H, Jayanti S. Religious practices and psychological resilience: insights from South Sulawesi's Muslim communities during the pandemic. *Int J Relig.* 2024;5(10):4804-18. doi: [10.61707/pdgedk27](https://doi.org/10.61707/pdgedk27).
27. Oktavia WK, Muhopilah P. Model konseptual resiliensi di masa pandemi COVID-19: pengaruh religiusitas, dukungan sosial dan spiritualitas. *Psikologika J Pemikiran Penelit Psikol.* 2021;26(1):1-18. doi: [10.20885/psikologika.vol26.iss1.art1](https://doi.org/10.20885/psikologika.vol26.iss1.art1).
28. Tubadji A. Culture and mental health resilience in times of COVID-19. *J Popul Econ.* 2021;34(4):1219-59. doi: [10.1007/s00148-021-00840-7](https://doi.org/10.1007/s00148-021-00840-7).
29. Suleeman J. Cultural norms and practices in resilience of Indonesians' natural disaster survivors. In: *International Conference on Psychological Studies (ICPSYCHE 2020)*. Atlantis Press; 2021. p. 331-6. doi: [10.2991/assehr.k.210423.048](https://doi.org/10.2991/assehr.k.210423.048).
30. Kaye-Kauderer H, Feingold JH, Feder A, Southwick S, Charney D. Resilience in the age of COVID-19. *BJPsych Adv.* 2021;27(3):166-78. doi: [10.1192/bja.2021.5](https://doi.org/10.1192/bja.2021.5).
31. Ljungkvist T, Boers B. Structural crisis? Regional culture and resilience in family business-dominated regions in Sweden. *Journal of Enterprising Communities: People and Places in the Global Economy.* 2016;10(4):425-46. doi: [10.1108/jec-05-2015-0030](https://doi.org/10.1108/jec-05-2015-0030).
32. Feder A, Nestler EJ, Charney DS. Psychobiology and molecular genetics of resilience. *Nat Rev Neurosci.* 2009;10(6):446-57. doi: [10.1038/nrn2649](https://doi.org/10.1038/nrn2649).
33. Sippel LM, Pietrzak RH, Charney DS, Mayes LC, Southwick SM. How does social support enhance resilience in the trauma-exposed individual? *Ecol Soc.* 2015;20(4):10. doi: [10.5751/es-07832-200410](https://doi.org/10.5751/es-07832-200410).
34. Engert V, Blasberg JU, Köhne S, Strauss B, Rosendahl J. Resilience and personality as predictors of the biological stress load during the first wave of the COVID-19 pandemic in Germany. *Transl Psychiatry.* 2021;11(1):443. doi: [10.1038/s41398-021-01569-3](https://doi.org/10.1038/s41398-021-01569-3).