



Perspective

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

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## 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.

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## 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

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