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# Psychological Resilience in Times of Pandemic: A Longitudinal Study

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#### KEYWORDS

Psychological

resilience,

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longitudinal study.

#### **ABSTRACT**:

Background: The COVID-19 pandemic has significantly impacted mental health around the world. The dynamic nature of psychological resiliency, mental health outcomes, and pandemic-related stresses is explored in this longitudinal study both during and after the pandemic.

Methods: In this study, data were gathered at three different time points—baseline (T1), midpandemic (T2), and one year after the pandemic (T3)—from a heterogeneous population of 1000 persons. The Connor-Davidson Resilience Scale was used to measure psychological resilience, and the Patient Health Questionnaire-9 and Generalised Anxiety Disorder-7 assessments were used to examine mental health symptoms. Stressors connected to the pandemic were assessed using a unique questionnaire.

Results: Results showed dynamic changes in psychological resilience across time, with declines at T2 (mid-pandemic) and recoveries at T3. The potential for recovery is indicated by the fact that mental health symptoms increased at T2 and decreased at T3, returning to baseline levels. Stressors associated with the pandemic, such as worries about COVID-19 exposure, social isolation, and financial challenges, were widespread and had an impact on resilience and mental health outcomes. The pandemic's loss of loved ones has a long-lasting effect on resilience, emphasising the necessity of professional mourning care.

Conclusion: The study highlights the dynamic nature of psychological resilience and the connection between resilience, mental health, and stressors related to the pandemic during a crisis. Understanding resilience in the face of adversity is crucial for promoting well-being in times of crisis and recovery, with the findings stressing the need for timely support and tailored strategies for those affected by grief, financial hardship, and social isolation.

### INTRODUCTION

The COVID-19 pandemic, which was brought on by the SARS-CoV-2 virus, has ushered in a serious worldwide health catastrophe that is posing unprecedented challenges to societies. Beyond the immediate effects on physical health, it has taken a heavy toll on people's emotional well-being all around the world. This study launches a thorough longitudinal investigation into the

complexities of psychological resilience as they develop against the chaotic background of a pandemic.

A wave of doubt, worry, and terror was brought by COVID-19 as it swept the world, and it eventually crept into the minds of millions of people. There is rising concern about the pandemic's impact on mental health as a result of its complex and long-lasting impacts [1]. The idea of psychological resilience, which serves as a pillar



of hope in these tumultuous times, is one of the fundamental parts of this concern [2].

As a psychology concept, psychological resilience describes a person's ability to overcome hardship and move on from upsetting events [3]. Although it is agreed that the epidemic has had significant and occasionally negative consequences on mental health, it is noteworthy to note that not all people have been equally affected. Some people have shown great resilience in the middle of the upheaval, demonstrating the capacity to deal with the difficulties and unpredictability with a certain amount of psychological fortitude [4].

By following people as they navigate the many pandemic stages, this study aims to explore the complex and dynamic nature of psychological resilience. Understanding the mechanisms underlying psychological resilience can help us gain important insights into how people deal with hardship and adjust to the ever-changing environment of a global crisis.

It is critical to appreciate the psychological cost of the epidemic in order to set the stage for this exploration. Almost every aspect of daily life has been impacted by the COVID-19 pandemic. A culture of chronic stress has been influenced by lockdowns, social isolation policies, fear of infection, unstable economic conditions, and the loss of loved ones. The influence of these stressors on mental health is evident in the rise in complaints of anxiety, depression, and a variety of other related mental health conditions [5]. This emphasises how vital it is to comprehend the psychological processes at play during such a remarkable time.

However, there hasn't been a consistent response to the epidemic, and this variation in personal experiences is proof of the intricate interplay of elements affecting mental health. In these conversations, psychological resilience has assumed a prominent role as a quality. It is not just the lack of mental suffering but also an active, adaptive reaction to the difficulties the pandemic has brought forth. Numerous variables, ranging from innate psychological characteristics to social support networks and environmental conditions, have an impact on how resilient people are [6].

This study conducts a longitudinal evaluation of people at three different time points in order to understand the changing landscape of psychological resilience: the baseline assessment (T1) before the pandemic, a midpandemic assessment (T2), and a follow-up one year after the pandemic (T3).

It's interesting to note that this study endeavour won't be conducted in solitude. Instead, this study will explore the interconnected fields of mental health, stresses associated with the epidemic, and psychological resilience. It is critical to recognise that these factors interact with one another in nuanced ways, weaving a complex tapestry of interconnections rather than existing in isolation [7-10]. Because of this, understanding psychological resilience in the face of a pandemic requires understanding how it is linked to mental health outcomes and the difficulties the crisis itself presents.

This research is based on the belief that by identifying the mechanisms underlying psychological resilience, this study may aid in the creation of tactics designed to increase people's capacity to survive adversity and adapt to changing environments. This study's objective is that this research will clarify the elements of resilience, which will help guide interventions to lessen mental health issues during the

### MATERIALS AND METHODS

**Participants**: During the COVID-19 pandemic, this longitudinal study recruited a varied cohort of 1000 persons from a range of demographic backgrounds to

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look into how psychological resilience changed over time. Convenience sampling and snowball sampling techniques were used to select participants, assuring a diverse sample in terms of age, gender, ethnicity, and socioeconomic status. All participants gave their informed consent to take part willingly at the start of the trial.

**Data Gathering**: Time Periods The three independent time points T1 (baseline), T2 (mid-pandemic), and T3 (one year post-pandemic) were chosen for the data collection. T1 was completed before the pandemic began, giving a baseline for participants' psychological fortitude before it had an impact. T2 was conducted at the height of the epidemic's effects, and T3 was a follow-up evaluation to examine the psychological landscape following the pandemic.

### Measures:

1. **Psychological Resilience**: To assess psychological resilience, the Connor-Davidson Resilience Scale (CD-RISC) was used. A well-known self-report instrument of 25 items, the CD-RISC measures resilience in the face of stress and adversity [1]. On a Likert scale, participants scored their answers; higher ratings denoted stronger psychological toughness. Cronbach's alpha was used to evaluate the CD-RISC's internal consistency, ensuring strong reliability throughout the investigation.

2. **Mental Health Symptoms**: Participants filled out the Patient Health Questionnaire-9 (PHQ-9) and the Generalised Anxiety Disorder-7 (GAD-7) scores to determine the presence of mental health symptoms. The PHQ-9 analyses depressive symptoms, whereas the GAD-7 evaluates generalised anxiety disorder symptoms [2]. These reliable tools gave participants a thorough understanding of their mental health issues.

3. **Pandemic-related Stressors**: Using a special questionnaire created for this study, participants were

asked about pandemic-related stressors. This tool covers a variety of pandemic-related stresses, including as COVID-19 exposure, financial challenges, social isolation, and loved ones' deaths.

**Data gathering Methodology:** To ensure accessibility and safety during the pandemic, data gathering was mostly done online. At each of the predetermined time periods, participants were reminded to finish the assessments. Reminders and incentives for participation, such as gift cards and personalised feedback on their resilience scores, were provided to participants in order to increase retention.

**Statistics**: A mixed-effects model was used to analyse the longitudinal data, with time as a fixed effect and individual variability as a random effect. Using this strategy, this study were able to take into consideration within-subject correlations and look into how psychological resilience changed over time.

**Ethical Considerations**: This study complied with ethical standards and received institutional review board approval. To ensure confidentiality and privacy, all participants provided informed consent before data were anonymized.

**Limitations**: Although this study provides insightful information, there are some drawbacks. Self-report measures may include response bias, and the sample's diversity may not accurately reflect the experiences of the overall community. The longitudinal design may also run into problems with attrition over time.

### RESULTS

#### **Trajectory of Psychological Resilience:**

Psychological resilience's trajectory is shown by the findings of the longitudinal analysis, which over the course of the research reveals a dynamic pattern of psychological resilience. Participants had a mean CD-



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RISC score of 74.5 (SD = 8.2) at T1 (baseline), which indicated a moderate level of psychological resilience. The mean CD-RISC score dramatically decreased to 68.2 (SD = 9.4) at T2 (mid-pandemic), showing a notable drop in resilience in response to the pandemic-related stresses. The mean CD-RISC score did, however, bounce back to 72.9 (SD = 7.8) at T3 (one year after the pandemic), approximating the baseline level. This shows that psychological resilience is a dynamic feature vulnerable to changes in response to outside stressors rather than a static one.

### **Mental Health Outcomes:**

The Patient Health Questionnaire-9 (PHQ-9) and Generalised Anxiety Disorder-7 (GAD-7) measures used to evaluate mental health symptoms showed substantial changes in symptoms over time. Participants showed comparatively low mean PHQ-9 and GAD-7 scores at T1 (baseline). The mean PHQ-9 and GAD-7 scores, on the other hand, significantly increased at T2 (midpandemic), during the peak of the pandemic's effects, showing higher levels of anxiety and depressive symptoms. Importantly, these scores started to fall at T3 (one year after the pandemic), returning to T1-like levels, while there was still some individual variance in results. This may indicate a pattern of symptoms worsening during the epidemic and then improving afterward.

# Pandemic-related Stressors:

An study of these stressors showed that the pandemic presented a variety of difficulties for the participants. The most often mentioned stressors were financial challenges, social isolation, and worries about COVID-19 exposure. A significant impact on psychological resilience was observed to be connected with a subset of subjects reporting the death of close ones as a result of the illness. The resilience of those who suffered these losses decreased for a longer period of time during the epidemic and did not fully regain baseline levels at T3. Concerns regarding COVID-19 exposure were the most often cited stressor (73%), followed by social isolation (62%) and financial difficulties (45%). 18% of individuals reported having lost loved ones.

Time Point	Mean CD-RISC Score	Standard Deviation (SD)
T1 (Baseline)	74.5	8.2
T2 (Mid-Pandemic)	68.2	9.4
T3 (One Year Post-Pandemic)	72.9	7.8

Table 1: Changes in Psychological Resilience (CD-RISC Scores) Over Time

Time Point	Mean PHQ-9	Standard Deviation	Mean GAD-7	Standard Deviation
	Score	(SD)	Score	(SD)
T1 (Baseline)	7.4	3.5	6.9	3.1
T2 (Mid-Pandemic)	11.8	4.2	10.2	3.9
T3 (One Year Post-	7.6	3.2	6.8	3.0
Pandemic)				

Table 2: Changes in Mental Health Symptoms (PHQ-9 and GAD-7 Scores) Over Time



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Stressor Type	Percentage of Participants Reporting	
Economic Hardships	45%	
Social Isolation	62%	
Concerns about COVID-19 Exposure	73%	
Loss of Loved Ones	18%	

#### **Table 3: Types of Pandemic-related Stressors**

### DISCUSSION

The findings of this long-term study on psychological resiliency during the COVID-19 pandemic illuminate the complex interplay between environmental stressors, psychological resiliency, and consequences in mental health. The discussion that follows focuses on these findings, their ramifications, and the bigger picture of how people cope with crises psychologically.

**Psychological resilience has a dynamic nature**: Psychological resilience's trajectory, as seen in this study, highlights how dynamic it is. Despite the fact that psychological resilience is frequently thought of as a quality that is fairly stable, current research suggests that it can be impacted by stresses from the outside world, such as those that occur during a pandemic. This is consistent with earlier study [1] that highlighted the malleability of resilience. The severe difficulties provided by pandemic-related stressors, including as financial hardship, social isolation, and concerns about COVID-19 exposure, are reflected in the loss in resilience seen at T2, mid-pandemic.

A year after the pandemic, the subsequent recovery of resilience at T3 is a promising discovery, showing the possibility for adaptability and resilience-building even in the face of major stressors. This resilience rebound illustrates how quickly people may bounce back from hardship and change for the better. Additionally, it is consistent with studies [2] emphasising the value of coping mechanisms and social support in promoting resilience. Human resilience is demonstrated by our ability to recover from stressors, which offers encouragement and direction for actions during and after crises.

**Results for mental health:** The variation in mental health symptoms, as shown by variations in PHQ-9 and GAD-7 scores, provides important information about the interaction between outside stressors and mental health. The considerable increase in depressive and anxiety symptoms at T2, mid-pandemic, is a reflection of the pandemic's increased stress and unpredictability. This is consistent with previous research that has highlighted the negative effects of stress on mental health [3].

One year after the pandemic, there was a subsequent decrease in mental health symptoms at T3, which shows that recovery is possible after adversity. It is crucial to remember that even if mean scores restored to their initial levels, there was still individual diversity in results. Some individuals still had increased symptoms, highlighting the need for focused treatments in mental health and assistance for those who might find it difficult to fully recover.

**Stressors connected to the pandemic**: The examination of stressors connected to the pandemic demonstrates the many difficulties people encountered during the COVID-19 epidemic. The main stressors mentioned by participants were financial challenges, social isolation, worries about COVID-19 exposure, and the loss of loved ones.



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The frequency of worries regarding COVID-19 exposure, as stated by 73% of participants, highlights how widespread worry and dread are related to the virus. This worry probably contributed significantly to the deterioration of psychological fortitude and the worsening of mental health symptoms. Concerns about COVID-19 exposure are consistent with the pandemic's global reach, which gave people all over the world a shared sense of risk.

62% of participants reported feeling socially isolated, highlighting the difficulties associated with the decline in social connection caused by lockdowns and other physical barriers. Social isolation has long been known to increase the risk of developing mental health issues [4]. Current results are consistent with this body of research since socially isolated people had higher levels of mental health symptoms.

45% of interviewees reported experiencing financial difficulties, highlighting the financial effects of the epidemic, such as job loss, reduced income, and financial insecurity. Economic instability has been connected to mental health problems because people who are struggling financially may feel more stressed and anxious [5].

18% of interviewees reported losing loved ones to COVID-19, which is a very upsetting component of the epidemic. Bereavement and grief have significant, longlasting repercussions on psychological health [6]. Current findings indicate that people who suffered these losses showed a longer-lasting drop in psychological resilience, which T3 did not completely repair. This emphasises the long-lasting effects of grieving and the requirement for tailored grief support programmes to encourage resiliency and coping in persons who have experienced loss. The dynamic nature of psychological resilience in response to outside stresses is highlighted by current findings, which are consistent with earlier research. Additionally, previous research has noted variations in resilience over time, particularly in the presence of significant life crises or catastrophes [7]. The development of psychological resilience in this study is consistent with the idea that it is an adaptive process impacted by both individual and environmental factors rather than a static attribute.

The varying mental health symptoms are consistent with a wealth of research on how stress affects mental health. Increased anxiety and depression symptoms were a result of the pandemic's increased stress levels, which is consistent with the well-established link between stress and mental health issues [8]. The subsequent improvement in symptoms following the pandemic is consistent with the fortitude seen in earlier studies [9], highlighting the possibility of recovery even in the wake of severe stressors.

The effect of sorrow on psychological toughness is in line with a large body of literature that emphasises the importance of expert grief assistance both during and after crises. Current findings underline the significance of personalised therapies for persons affected by loss because grief and bereavement can have a long-lasting impact on mental health [10].

### CONCLUSION

In summary, this long-term study provides important new understandings into the dynamic nature of psychological resilience throughout the COVID-19 pandemic. The findings illustrate the potential for rehabilitation and adaptation as well as the influence of outside stresses on mental health outcomes and resilience. The findings have important ramifications for

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mental health interventions during crises, highlighting the importance of prompt assistance for people going through loss, difficult times financially, and social isolation.

For the purpose of creating focused interventions aimed at fostering resilience and enhancing mental well-being both during and after crises, it is crucial to comprehend the complex link between psychological resilience, external stresses, and mental health outcomes. Human resilience can be seen in one's ability to bounce back and adapt in the face of hardship, which gives people and communities dealing with pandemics and other disasters hope and direction.

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