

**Comparative Study**

## **Impact of Covid-19 on Delhi School Teacher's Physical-Mental Health: A Comparative Study**

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### **ABSTRACT**

This study examines the differential impact of Covid-19 on the mental and physical health of teachers in Delhi schools. Utilising a sample of 100 participants, including Covid-negative and Covid-positive teachers, various health indicators were assessed. Results show significant differences in depression, anxiety, stress, and somatic symptoms between the two groups. While perceived infectability displayed no significant difference, other factors such as germ aversion and physical health concerns varied significantly. The study underscores the need for tailored support strategies for school teacher's post-pandemic. These findings provide crucial insights into the unique challenges faced by teachers and inform efforts to promote their well-being.

**Keywords:** Covid-19, School Teachers, Mental Health, Physical Health

Our lives have been linked together by the COVID-19 epidemic, which has left a trail of change, loss, and resiliency. It fundamentally tested our fear of the unknown, upsetting daily schedules and breaking meaningful relationships. The COVID-19 pandemic has had a profound impact on numerous sectors worldwide, notably in education. This study endeavours to explore the specific ways in which the pandemic has affected the physical and mental health of school teachers in Delhi.

The research looks into the health challenges teachers faced, like respiratory problems, musculoskeletal issues and fatigue. It also delves into mental health issues such as burnout and anxiety, aiming to see how these differ across different groups of teachers.

In this contrast study, we explore the tale of COVID-negative and COVID-positive teachers, delving into their mental and physical health journeys. Through the lens of stress, depression, chronic illness, teaching experience, and more, we uncover the pandemic's profound impact on school teacher's well-being.

*Mental health* implies how well an individual feels emotionally and mentally. It's about handling stress, relationships, and decision-making. Good mental health means having a

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healthy balance of thoughts, feelings, and actions, helping people deal with life's ups and downs while staying emotionally strong and resilient.

*Physical health* refers to the overall well-being of the body, encompassing aspects such as fitness, nutrition, and disease prevention. It involves maintaining a healthy lifestyle, including regular exercise, balanced nutrition, and adequate rest, to support optimal bodily functions and prevent illness or injury.

The significance of good mental health, characterized by emotional resilience and effective stress management, is essential for maintaining physical well-being (Green, R. 2023, May 19 "The Connection Between Mental Health and Physical Health"). On the contrary, poor mental health, marked by chronic stress or burnout, can lead to physical ailments such as weakened immune function, fatigue, and musculoskeletal issues. Therefore, prioritizing mental health through strategies like stress reduction and fostering supportive relationships can positively impact teacher's physical health and overall quality of life. Similarly, maintaining good physical health through regular exercise, balanced nutrition, and sufficient rest can enhance mental resilience and coping abilities, creating a harmonious relationship between mental and physical well-being among teachers.

With the sudden switch to remote teaching, teacher's daily routines were thrown off, adding to their stress (Panadero, E., et al. 2022, March 28 "Teacher's Well-Being, Emotions, and Motivation During Emergency Remote Teaching Due to COVID-19"). The study compares how these challenges vary among COVID-negative and COVID-positive school teachers.

Before COVID-19, teachers in Delhi already dealt with heavy workloads and stress. The pandemic aggravated these issues, especially with the sudden shift to online teaching.

Using a mix of surveys and interviews, the study gathers data on teacher's experiences. This helps to paint a comprehensive picture of how the pandemic has affected them physically and mentally.

The goal is not just to understand the challenges teachers face but also to shed light on these issues through a psychological lens, the study hopes to bring about positive changes in education system for teachers.

### **THEORETICAL FRAMEWORK**

The theoretical framework of this study, that examines the impact of COVID-19 on Delhi school teachers' mental and physical health, it integrates the Transactional Theory of Stress and Coping (Lazarus and Folkman, 1984 "Stress, Appraisal, and Coping") as the study seeks to distinguish between COVID-negative and COVID-positive individuals, analysing stress, depression, anxiety, and somatic symptoms alongside workload, teaching experience, and teaching modality adaptation. Furthermore, the study explores musculoskeletal, respiratory issues, and chronic illnesses among school teachers in Delhi. Considering the Transactional Model's insights, the research aims to understand how stressors interact with personal traits and coping strategies, affecting teachers' well-being differently based on COVID-19 status. This study implies to contribute to a deeper understanding of the after-effect of pandemic's on overall health outcomes for school teachers in Indian context, on the contrary, aligning with study findings of Regina Hechanova et al., (March 2022) "Age, COVID-19, and Mental Health in the Philippines: A Multidimensional Perspective" that

COVID-19 stressors predict mental health outcomes, particularly affecting with higher depression, anxiety, and stress symptoms in younger individuals.

## **REVIEW OF LITERATURE**

**Wakui, N., et al. (2022).** "Psychological and Physical Changes Caused by COVID-19 Pandemic in Elementary and Junior High School Teachers: A Cross-Sectional Study."

The study investigated that the COVID-19 pandemic had significant psychological and physical effects on elementary and junior high school teachers in Tokyo, including increased anxiety, depression, insomnia, and reduced work efficiency.

**Chowdhury, K, et al. (2021)** "Impact of COVID-19 Pandemic on the Mental Health of Secondary School Teachers." The study highlights that most secondary school teachers experienced average mental health during the COVID-19 pandemic. It also showed that there was no significant difference in mental health based on gender, location of school, marital status, academic qualification, or teaching experience.

**Verma, S. et al. (2021).** "Anxiety and mental health of Higher Secondary School Teachers." The study highlights that both government and private school teachers experience high anxiety levels, negatively impacting their mental health. This suggests the need for support systems and interventions to address the mental well-being of teachers in both types of schools.

**Lizana, P. A., et al. (2021).** "Impact of the COVID-19 Pandemic on Teacher Quality of Life: A Longitudinal Study from before and during the Health Crisis." The research revealed that the COVID-19 pandemic significantly impacted the quality of life of Chilean teachers, particularly affecting women and younger teachers. It highlighted the need for strategies to reduce the physical and psychological impacts of the pandemic on teacher's well-being.

**Haneef, M. (2019)** "Mental Health among High School Teachers." The study light on that there were no significant differences in the mental health of high school teachers based on whether they worked in government or private schools, or on whether they lived in rural or urban areas.

### ***Objectives of the study***

- To examine whether there is a significant difference in the physical and mental health outcomes between COVID-negative and COVID-positive school teachers in Delhi.
- To evaluate whether COVID-negative and COVID-positive school teachers in Delhi exhibit significant differences in their physical and mental health outcomes subsequent to Covid-19.

### **Hypothesis**

- ***Null hypothesis:*** There is no significant difference in the physical and mental health outcomes between COVID-negative and COVID-positive school teachers in Delhi.
- ***Alternative hypothesis:*** There is a significant difference in the physical and mental health outcomes between COVID-negative and COVID-positive school teachers in Delhi.

### *Tools used in the study*

#### **Depression, Anxiety and Stress Scale (DASS-21) Questionnaire**

The DASS-21 is a brief self-report questionnaire utilised to measure the severity of depression, anxiety, and stress symptoms, serving as a commonly employed tool in mental health assessment.

**Reliability-** Internal Consistency Reliability: Cronbach's alpha value of 0.959. The individual subscale values, with Cronbach's alpha coefficients of 0.87 for anxiety, 0.92 for depression, and 0.89 for stress.

**Validity-** Convergent Validity: by Park et al. (2020) "Validation of the 21-item Depression, Anxiety, and Stress Scales (DASS-21) in individuals with autism spectrum disorder."

#### **The General Health Questionnaire-28 (GHQ-28)**

The GHQ-28 is a commonly utilized instrument for identifying mental health concerns, serving as a screening tool to evaluate different components of psychological distress.

**Reliability** – Test-Retest Reliability: Robinson and Price (1982) coefficient of 0.90.

**Validity-** Concurrent validity with correlation coefficients ranging from 0.86 to 0.94 (Robinson and Price, 1982).

#### **Perceived Vulnerability to Disease Scale (PVD)**

The Perceived Vulnerability to Disease (PVD) Scale is a psychometric instrument designed to measure individual differences in perceived susceptibility to infectious diseases. It assesses concerns about potential health threats and the adoption of preventative behaviours in response to perceived disease risk.

**Reliability-** Internal Consistency Reliability: Cronbach's alpha, Germ Aversion (GA) with a Cronbach's alpha of 0.67 and Perceived Infectability (PI) with 0.71.

**Validity-** The Perceived Vulnerability to Disease (PVD) Scale exhibits acceptable goodness-of-fit indices, along with adequate convergent and discriminant validity, and demonstrates good internal consistencies.

### *Sample*

In my research study, the sample consists of 100 school teachers in Delhi who have been affected by the COVID-19 pandemic. Specifically, I aim to explore the physical and mental health challenges experienced by these teachers, including respiratory problems, musculoskeletal issues, fatigue, burnout, and anxiety. Additionally, I plan to compare the experiences of COVID-negative and COVID-positive teachers to understand how the pandemic has impacted them differently. With a sample size of 100 participants, where  $n=50$  COVID-negative teachers and  $N=100$  including both COVID-negative and COVID-positive teachers, I will use a mix of surveys and interviews to gather data on the experiences of these teachers, aiming to provide a comprehensive understanding of the effects of the pandemic on their well-being.

### *Research design*

I have chosen a Mixed-Methods design to explore the impact of the COVID-19 pandemic on Delhi school teacher's well-being. This approach combines qualitative interviews and quantitative surveys to provide a comprehensive understanding of teacher's experiences, enriching the analysis with both numerical data and qualitative insights.

**Data analysis:** I have opted for a T-test to assess disparities in physical and mental health outcomes between COVID-negative and COVID-positive in Delhi school teachers, enabling a thorough research into the pandemic's effects on teacher well-being.

**RESULT**

**Table-1.1 Independent sample T test of Depression scores of school teachers.**

Covid Status	n	Mean	SD	t stat	df	p
Covid-Negative	50	6.64	35.99	1.52	49	0.06
Covid-Positive	50	9.04	71.71			

The result shows there is a significant difference in the depression score among Covid-negative and Covid-positive teachers in Delhi school. Thus, the second part of the hypothesis is accepted.

**Table-1.2 Independent sample T test of Anxiety scores of school teachers.**

Covid Status	n	Mean	SD	t stat	df	p
Covid-Negative	50	7.64	54.15	1.44	49	0.07
Covid-Positive	50	9.8	56.04			

The result shows there is a significant difference in the Anxiety score among Covid-negative and Covid-positive teachers in Delhi school. Thus, the second part of the hypothesis is accepted.

**Table-1.3 Independent sample T test of Stress scores of school teachers.**

Covid Status	n	Mean	SD	t stat	df	p
Covid-Negative	50	11.28	71.79	0.78	49	0.21
Covid-Positive	50	12.6	67.30			

The result shows there is a significant difference in the Stress score among Covid-negative and Covid-positive teachers in Delhi school. Thus, the second part of the hypothesis is accepted.

**Table-2.1 Independent sample T test of Somatic Symptoms scores of school teachers.**

Covid Status	n	Mean	SD	t stat	df	p
Covid-Negative	50	4.54	15.19	2.25	49	0.01
Covid-Positive	50	6.36	25.86			

The result shows there is a significant difference in the Somatic symptoms score among Covid-negative and Covid-positive teachers in Delhi school. Thus, the second part of the hypothesis is accepted.

**Table-2.2 Independent sample T test of Anxiety/Insomnia scores of school teachers.**

Covid Status	n	Mean	SD	t stat	df	p
Covid-Negative	50	5	18.53	2.23	49	0.01
Covid-Positive	50	7.26	36.84			

The result shows there is a significant difference in the Anxiety/Insomnia score among Covid-negative and Covid-positive teachers in Delhi school. Thus, the second part of the hypothesis is accepted.

**Table-2.3 Independent sample T test of Social Dysfunction scores of school teachers.**

Covid Status	n	Mean	SD	t stat	df	p
Covid-Negative	50	5.28	10.94	2.39	49	0.01
Covid-Positive	50	7	15.79			

The result shows there is a significant difference in the Social dysfunction score among Covid-negative and Covid-positive teachers in Delhi school. Thus, the second part of the hypothesis is accepted.

**Table-2.4 Independent sample T test of Severe Depression scores of school teachers.**

Covid Status	n	Mean	SD	t stat	df	p
Covid-Negative	50	2.46	8.98	1.64	49	0.05
Covid-Positive	50	3.9	28.33			

The result shows there is a significant difference in the Severe depression score among Covid-negative and Covid-positive teachers in Delhi school. Thus, the second part of the hypothesis is accepted.

**Table-3.1 Independent sample T test of Perceived infectability scores of school teachers.**

Covid Status	n	Mean	SD	t stat	df	p
Covid-Negative	50	27.98	41.12	0.15	49	0.44
Covid-Positive	50	27.74	71.13			

The result shows there is a non-significant difference in the Perceived infectability score among Covid-negative and Covid-positive teachers in Delhi school. Thus, the first part of the hypothesis is accepted.

**Table-3.2 Independent sample T test of Germ Aversion scores of school teachers.**

Covid Status	n	Mean	SD	t stat	df	p
Covid-Negative	50	38.96	57.75	0.85	49	0.19
Covid-Positive	50	37.7	44.37			

The result shows there is a significant difference in the Germ aversion score among Covid-negative and Covid-positive teachers in Delhi school. Thus, the second part of the hypothesis is accepted.

**Table-4 Independent sample T test of Physical/ Biological Health concern.**

Covid Status	n	Mean	SD	t stat	df	p
Covid-Negative	50	0.58	1.10	2.18	49	0.01
Covid-Positive	50	1.08	1.50			

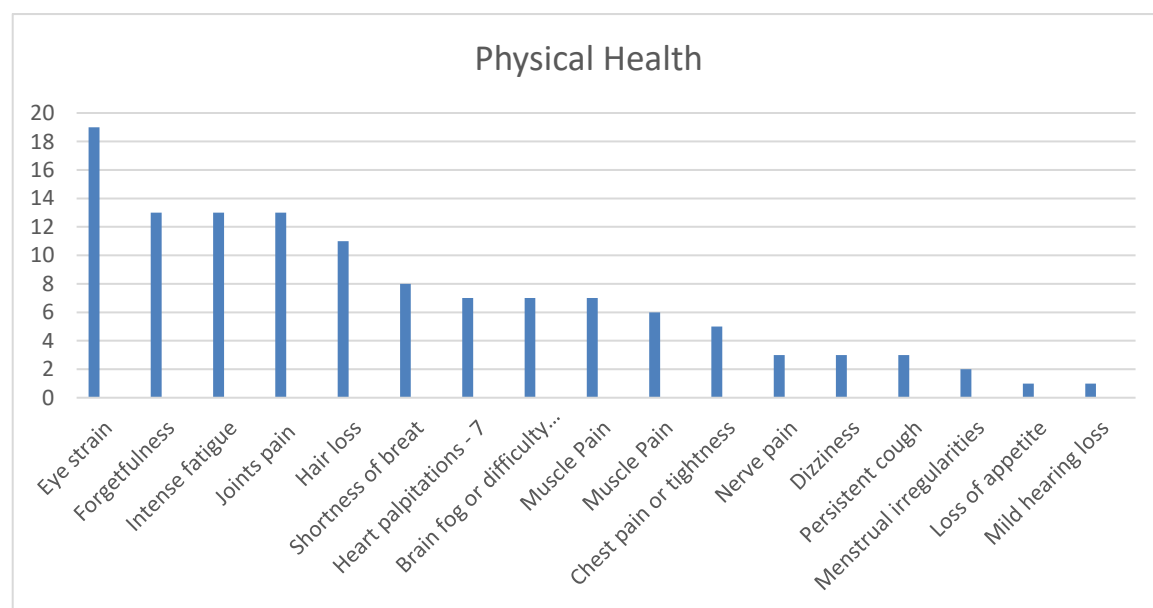
The result shows there is a significant difference in the Physical/ Biological Health concern which was diagnosed by doctor, score among Covid-negative and Covid-positive teachers in Delhi school. Thus, the second part of the hypothesis is accepted.

**Table-5 Independent sample T test of Years of teaching experience.**

Covid Status	n	Mean	SD	t stat	df	p
Covid-Negative	50	3.48	3.19	2.56	49	0.00
Covid-Positive	50	4.34	2.18			

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The result shows there is a significant difference in the Years of teaching experience score among Covid-negative and Covid-positive teachers in Delhi school. Thus, the second part of the hypothesis is accepted.



This result suggests that eye strain, forgetfulness, and intense fatigue are prevalent symptoms, underscoring their substantial impact on individual's health and daily functioning.

## DISCUSSION

The findings of the study reveal significant disparities in various mental health parameters between Covid-negative and Covid-positive teachers in Delhi schools. Notably, there is a discernible variance in depression, anxiety, stress levels, somatic symptoms, anxiety-induced insomnia, social dysfunction, and severe depression scores. These results validate the hypothesis that the mental health impacts of Covid-19 differ significantly between teachers who have tested negative and positive for the virus.

Interestingly, while there is a notable difference in depression, anxiety, and stress levels between the two groups, the perceived infectability score shows no significant variation. This suggests that the perception of susceptibility to contracting the virus does not necessarily differ based on Covid-19 status among teachers.

Moreover, the study highlights a significant difference in germ aversion and physical/biological health concerns diagnosed by a doctor between Covid-negative and Covid-positive teachers. This underscores the psychological impact of Covid-19 infection on individuals' attitudes towards hygiene and health maintenance practices.

Additionally, the analysis of years of teaching experience demonstrates a notable difference between the two groups, indicating potential implications of the pandemic on the well-being of school teacher's with varying levels of professional tenure.

Furthermore, the bar graph representation of physical health symptoms elucidates the diverse array of ailments experienced by teachers, ranging from eye strain and forgetfulness

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to joint pain and heart palpitations. These findings underscore the multifaceted impact of the pandemic on physical health, encompassing both common and less frequently reported symptoms.

In light of these results, it is imperative to acknowledge the profound impact of the Covid-19 pandemic on the mental and physical well-being of teachers. The observed disparities underscore the need for targeted interventions and support mechanisms to address the diverse array of challenges faced by school teachers in navigating the pandemic landscape.

Overall, this study highlights Covid-19's diverse effects on teachers' mental and physical well-being. It emphasises the importance of understanding and addressing the challenges school teachers face in the aftermath of the pandemic.

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