

Research Paper

## The mediating effect of optimism and resilience on prevalence of anxiety and depressive symptoms among Indian young adults during the COVID-19 pandemic

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### ABSTRACT

The aim of this study is to investigate the mediating effect of optimism and resilience on prevalence of anxiety and depressive symptoms among Indian young adults during the COVID-19 Pandemic. A sample of 100 young adults was taken from different cities around the country for this cross-sectional study, using GAD-7 (Generalized Anxiety Disorder-7), PHQ-9 (Patient Health Questionnaire-9), BRS (Brief Resilience Scale) and LOT-R (Life Orientation Test-Revised). Results were analyzed using Pearson Correlation, Student's T test and multiple linear regression analysis. Research findings indicate that young adults that have more optimism and resilience show less symptoms of anxiety and depression. This places emphasis on the need for mental health services during this pandemic, as well as incorporating strategies to build resilience.

**Keywords:** *Coronavirus, Anxiety, Depression, Optimism, Resilience*

Coronavirus disease 2019 (Covid-19) has escalated into a global pandemic, as characterized by the Director-General of WHO on March 11, 2020. This disease arose from severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and has had an enormous adverse impact on a global level.

India saw its first case on 30<sup>th</sup> January 2020 in Kerala, with cases rising quickly leading to 657 confirmed cases in India on the day of 24<sup>th</sup> March 2020, when the Prime Minister of India declared a nationwide lockdown in the country for 21 days starting 25<sup>th</sup> March 2020.

The COVID-19 epidemic has caused serious threats to people's physical health and lives. With daily routine, work as well as social life disrupted, citizens are more prone to a wide variety of psychological problems, such as depression and anxiety, especially in times of a lockdown. A study conducted in China was the first nationwide large-scale survey of symptoms of psychological distress among citizens during COVID-19 concluded that young adults tend to acquire a large amount of information from social media that can, without any difficulty, trigger stress. (Qui, 2020)

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Received: April 17, 2020; Revision Received: June 2, 2020; Accepted: June 25, 2020

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Resilience has found to be a mediator of coping-internalizing disorders (anxiety; depression) (Ng, 2012). A low level of optimism was shown to put people at risk for higher levels of depression and anxiety. (Zenger, 2010)

### *Objectives*

1. To study the relationship between optimism and resilience.
2. To study the effect of optimism and resilience on anxiety.
3. To study the effect of optimism and resilience on depression.
4. To measure the difference in the level of anxiety and depression among subjects aged between 25-35 as compared subjects aged between 18-24 years.
5. To study the difference in levels of anxiety and depression between male and female students.

### *Hypotheses*

1. There is a significant relationship between optimism and resilience.
2. The level of anxiety is significantly lower in subjects having a higher level of optimism and resilience.
3. The level of depression is significantly lower in subjects having a higher level of optimism and resilience.
4. The level of anxiety and depression is significantly lower in subjects aged between 25-35 as compared to subjects aged between 18-24 years.
5. There is a significant difference in levels of anxiety and depression between male and female subjects.

## **METHODOLOGY**

### *Sample*

This cross-sectional study used a sample of 100, with an age range of 18-35 years. The sample consisted of Females (1) (n=50) and Males (2) (n=50). Individual participants were dispersed geographically and data was collected through questionnaires online. The subjects, both males and females, irrespective of socio-economic status, marital status, occupation, and educational status were included in the study with the age ranging from 18-35 years. The study was conducted in April, 2020.

### *Instruments*

Four measures were used in this study,

1. **GAD-7 for anxiety:** The Generalized Anxiety Disorder (GAD-7) is a self-report anxiety measure used to assess the presence of anxiety symptoms over the last two weeks. It was developed by Spitzer, et al (2006). The GAD-7 included 7 questions that enquire about the degree to which the patient is bothered by the symptoms, ranging from “0” (not at all) to “3” (nearly every day). It is widely used in research and clinical settings due to its high reliability. (Cronbach's alpha = 0.89)
2. **PHQ-9 for depression:** The Patient Health Questionnaire -9 (PHQ-9) is a measure of depression developed by Spitzer, et al (1999). The PHQ-9 consisted of 9 questions that score each criteria of the DSM-IV as “3” (nearly every day) to “0” (not at all). Total score of the questionnaire ranges from 0-27. The PHQ-9 showed good internal reliability (Cronbach's alpha 0.81).
3. **LOT-R for optimism:** The Life Orientation Test – Revised (LOT-R) is a measure of optimism developed by Scheier & Carver (1994) The LOT-R included 10 items. Out of these, nine items are associated with dispositional optimism and four are filler

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items. Three items are phrased in a positive way (e.g. “In uncertain times, I usually expect the best”) and three are phrased negatively (e.g. “if something can go wrong for me, it will”). Filler items are four, (e.g. “I like to be with my friends”). Respondents were asked to answer each item by indicating the extent of their agreement on a 5 point Likert scale.

- 4. BRS for resilience:** The Brief Resilience Scale (BRS) is a measure of resilience developed by Smith, et al (2008). The BRS contained six items, with respondents asked to answer by selecting the option that represents how much they agree with the statement, using: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.” Internal consistency was good, with Cronbach’s alpha ranging from .80–.91.

**RESULTS**

**Hypothesis 1:**

*Table No. 1 Correlations between Optimism and Resilience*

	<b>Optimism</b>	<b>Resilience</b>
Optimism	1.0	
Resilience	0.6857	1.0

The above table shows the Correlation Analysis between Optimism and Resilience, with a result of 0.6857, it becomes evident that there is a high positive correlation between these two variables, proving that there is a significant relationship between optimism and resilience.

**Hypothesis 2:**

*Table No. 2 Multiple Regression Linear Analysis of Optimism and Resilience on Anxiety*

<b>Independent Variable</b>	<b>Estimate</b>	<b>t-statistic</b>	<b>p-value</b>	<b>Significant</b>
Optimism	-0.58	-3.79	0.000	Yes at 1%
Resilience	-0.30	-2.81	0.006	Yes at 1%

**Number of observations = 100**

By using multiple linear regression analysis, it is possible to quantify the impact of Optimism and Resilience on the level of Anxiety. From the above table, it becomes conclusive that a 1 unit increase in Optimism causes Anxiety to reduce by 0.58 units and a 1 unit increase in Resilience causes Anxiety to reduce by 0.30 units. Both these estimates are significant at the 1% level, which proves that the level of anxiety is significantly lower in subjects having a higher level of optimism and resilience.

**Hypothesis 3:**

*Table No. 3 Multiple Regression Linear Analysis of Optimism and Resilience on Depression*

<b>Independent Variable</b>	<b>Estimate</b>	<b>t-statistic</b>	<b>p-value</b>	<b>Significant</b>
Optimism	-0.67	-3.57	0.001	Yes at 1%
Resilience	-0.41	-3.09	0.003	Yes at 1%

**Number of observations = 100**

The use of multiple linear regression analysis also analyzes the effect of Optimism and Resilience on the level of Depression. From the above table, it is possible to infer that a 1

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unit increase in Optimism results in a drop in Depression by 0.67 units and 1 unit increase in Resilience cases Depression to fall by 0.41 units. Both these estimates are significant at the 1% level, which proves that the level of depression is significantly lower in subjects having a higher level of optimism and resilience.

### Hypothesis 4:

*Table No. 4 T value of the difference in Anxiety and Depression among subjects aged between 25-35 and 18-24 years*

	N	t-statistic	p-value	Hypothesis Accepted
<b>Anxiety</b>	100	-3.63	0.0006	Yes
<b>Depression</b>	100	-3.29	0.0007	Yes

The table above highlights that the level of anxiety is significantly lower in people aged between 25-35 compared to 18-24. This result is significant at the 1% level. Moreover, the level of depression is also significantly higher in people aged 18-24 in relation to people aged 25-35, which proves that the level of anxiety and depression is significantly lower in subjects aged between 25-35 as compared to subjects aged between 18-24 years.

### Hypothesis 5:

*Table No. 5 T value of the difference in Anxiety and Depression among females and males*

	N	t-statistic	p-value	Hypothesis Accepted
<b>Anxiety</b>	100	0.59	0.5573	No
<b>Depression</b>	100	0.74	0.4625	No

The above table shows that there is no significant difference in the level of Anxiety and Depression between Males and Females. Hence, the hypothesis is rejected and there is no significant difference in levels of anxiety and depression between male and female subjects.

## DISCUSSION

Empirical data of the present study reveals that during the COVID-19 pandemic, Resilience and Optimism have a mediating effect on Depression and Anxiety among Indian young adults.

1. There is a significant relationship between optimism and resilience.
2. The level of anxiety is significantly lower in subjects having a higher level of optimism and resilience.
3. The level of depression is significantly lower in subjects having a higher level of optimism and resilience.
4. The level of anxiety and depression is significantly lower in subjects aged between 25-35 as compared to subjects aged between 18-24 years.
5. There no significant difference in levels of anxiety and depression between male and female subjects.
6. There is a need for mental health awareness as well as adequate efforts to provide mental health services to young adults during this pandemic, as well as incorporation of strategies to build resilience.

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**Acknowledgements**

The author appreciates all those who participated in the study and helped to facilitate the research process.

**Conflict of Interest**

The author declared no conflict of interest.

**How to cite this article:** P Walia (2020). The mediating effect of optimism and resilience on prevalence of anxiety and depressive symptoms among Indian young adults during the COVID-19 pandemic. *International Journal of Indian Psychology*, 8(2), 301-305. DIP:18.01.036/20200802, DOI:10.25215/0802.036