

Research Paper

## Gender Differences in Anxiety and Defence Mechanisms During Pandemic-Induced Isolation: A Quantitative Study in the Indian Context

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### ABSTRACT

This study investigates gender-based differences in general and pandemic-specific anxiety, and the reliance on various defence mechanisms during pandemic-induced isolation among 200 Indian adults aged 18–45. Data were collected using the State-Trait Anxiety Inventory (STAI), Coronavirus Anxiety Scale (CAS), and Defence Style Questionnaire-40 (DSQ-40). Results indicated that women experienced significantly higher levels of COVID-19-related anxiety than men. However, general anxiety did not significantly correlate with COVID-specific anxiety. Participants also showed a significantly stronger reliance on immature defences compared to mature defences, suggesting emotional regression in response to isolation-related stress. Findings underline the need for gender-sensitive interventions and promotion of adaptive coping strategies in times of public health crises.

**Keywords:** *Covid-19 Anxiety, Gender Differences, Defence Mechanisms, Indian Adults, Isolation Stress*

The COVID-19 pandemic triggered widespread psychological distress due to prolonged isolation, uncertainty, and disruptions to daily life. In India, these effects were compounded by systemic challenges such as stigma around mental health and limited access to psychological services. Previous research has shown elevated anxiety levels across the population, with a disproportionate impact on women due to social expectations, caregiving roles, and emotional labour.

Gender differences in emotional experiences and coping responses are well-documented. Women generally report higher anxiety levels, often use emotion-focused coping, and are more likely to seek social support. Men, in contrast, may adopt avoidance strategies or suppress emotional expression, potentially affecting their psychological outcomes.

The type of defence mechanisms individuals rely on during stress significantly impacts mental health. Mature defences (e.g., humour, sublimation) are associated with better psychological outcomes, while immature defences (e.g., projection, denial) can worsen

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Received: May 25, 2025; Revision Received: August 06, 2025; Accepted: August 10, 2025

## Gender Differences in Anxiety and Defence Mechanisms During Pandemic-Induced Isolation: A Quantitative Study in the Indian Context

distress. This study examines gender differences in anxiety and defence styles among individuals exposed to pandemic-induced isolation in the Indian context.

### REVIEW OF LITERATURE

**Gupta and Verma (2021)** studied the impact of COVID-19 on the mental health of IT professionals in India, with a focus on gender differences. The study found that females experienced more anxiety and stress than males, likely due to the dual burden of work and home responsibilities. The shift to remote work also exacerbated feelings of isolation and stress among female workers.

**Desai and Mehta (2021)** studied anxiety levels among school teachers in India during the COVID-19 pandemic. They found that female teachers reported higher anxiety levels due to the added stress of adapting to online teaching, balancing household responsibilities, and concerns about the safety of their families.

**Khan and Singh (2021)** studied anxiety and depression among migrant workers in India during the pandemic. Their research highlighted the higher anxiety levels among female migrant workers, who faced added difficulties related to job insecurity, economic instability, and limited access to healthcare and social support.

**Bhatia and Sharma (2022)** investigated the coping mechanisms and anxiety levels among Indian adolescents during the COVID-19 pandemic. Their findings showed that female adolescents were more likely to resort to emotion-focused coping strategies, such as rumination and avoidance, which led to higher levels of anxiety compared to males. Males, on the other hand, tended to employ more problem-solving strategies, resulting in lower anxiety levels. The study suggested that the gendered differences in coping mechanisms contributed to the higher anxiety levels in females, indicating a need for targeted mental health interventions for female adolescents.

**Singh and Kapoor (2022)** conducted a study on the role of emotional regulation in managing anxiety among college students in India. Their research showed that females exhibited poorer emotional regulation abilities than males, which in turn contributed to significantly higher levels of anxiety and stress. The study also explored how emotional dysregulation affected academic performance and mental health during online classes. The authors concluded that developing emotional regulation strategies in female students could help reduce their anxiety levels and improve overall mental health outcomes.

**Sharma and Gupta (2021)** explored the experiences of elderly women during the COVID-19 lockdown, focusing on their levels of anxiety and depression. The study revealed that elderly females faced significant mental health challenges due to social isolation, fear of illness, and physical limitations. The lack of social interactions, coupled with fears about their health, contributed to higher anxiety and depression rates in this population. The study emphasised the importance of social support and mental health interventions for elderly women, who were particularly vulnerable during the pandemic.

### METHODOLOGY

#### *Participants*

The study involved 200 participants (86 females and 116 males) aged 18–45, recruited through purposive sampling via online platforms. Inclusion criteria required participants to

## Gender Differences in Anxiety and Defence Mechanisms During Pandemic-Induced Isolation: A Quantitative Study in the Indian Context

have experienced isolation personally or through a close contact during the pandemic. Informed consent was obtained, and all ethical guidelines for psychological research were followed.

### Measures

- **State-Trait Anxiety Inventory (STAI).** Developed by Spielberger et al. (1983), the STAI consists of 40 items across two subscales: state anxiety and trait anxiety. Each item is rated on a 4-point Likert scale.
  - Reliability: Cronbach's alpha ranges from 0.86 to 0.94 (state) and 0.84 to 0.92 (trait).
  - Validity: Supported by factor analysis and strong correlations with other anxiety measures.
  
- **Coronavirus Anxiety Scale (CAS).** Developed by Lee (2020), CAS is a 5-item screener for COVID-19-specific anxiety. Items are scored on a 5-point scale.
  - Reliability: Cronbach's alpha = 0.822 in Indian validation (Sahu & Bhatia, 2021).
  - Validity: Confirmatory factor analysis supports its unidimensional structure.
  
- **Defence Style Questionnaire-40 (DSQ-40).** Created by Andrews et al. (1993), this 40-item tool evaluates mature, neurotic, and immature defence mechanisms.
  - Reliability: Acceptable internal consistency; widely used in Indian research.
  - Validity: Demonstrates strong construct validity and correlations with personality traits.

### Procedure

Participants completed demographic details and the three scales via a Google Form. Responses were coded and analysed using Jamovi. Statistical analyses included independent samples t-tests and Pearson's correlations to examine gender differences and associations among variables.

## RESULTS

Table 1. Descriptive Statistics of State and Trait Anxiety Scores by Gender - Female participants scored significantly higher on CAS compared to males.

-  $t(198) = -3.82$ ,  $p = .001$ , Cohen's  $d = -0.544$

*Table 1 - Descriptive Statistics of State and Trait Anxiety Scores by Gender*

#### Independent Samples T-Test

		Statistic	df	p	Mean difference	SE difference	Effect Size
cas	Student's t	-3.82 <sup>a</sup>	198	1.000	-2.40	0.629	Cohen's d -0.544

Note.  $H_a: \mu_0 > \mu_1$

<sup>a</sup> Levene's test is significant ( $p < .05$ ), suggesting a violation of the assumption of equal variances

#### Group Descriptives

	Group	N	Mean	Median	SD	SE
cas	0	113	6.80	7.00	4.78	0.450
	1	87	9.20	10.0	3.86	0.414

**Gender Differences in Anxiety and Defence Mechanisms During Pandemic-Induced Isolation: A Quantitative Study in the Indian Context**

Table 2. Correlation Between General Anxiety (STAI) and COVID-19-Specific Anxiety (CAS)  
 - No significant correlation between general anxiety and COVID-specific anxiety for either gender.

**Table 2 - Independent Samples t-Test Comparing State and Trait Anxiety Scores Between Genders**

**Female data**

Correlation Matrix

		CAS	STAI
CAS	Pearson's r	—	
	df	—	
	p-value	—	
	N	—	
STAI	Pearson's r	-0.009	—
	df	83	—
	p-value	0.532	—
	N	85	—

Note.  $H_a$  is a positive correlation

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ , one-tailed

**Male data**

Correlation Matrix

		CAS	STAI
CAS	Pearson's r	—	
	df	—	
	p-value	—	
	N	—	
STAI	Pearson's r	0.130	—
	df	113	—
	p-value	0.084	—
	N	115	—

Note.  $H_a$  is a positive correlation

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ , one-tailed

Table 3. Comparison of Mature and Immature Defence Mechanism Scores

- Participants scored significantly higher on immature defence styles.  
 -  $t(199) = 68.3$ ,  $p < .001$ , Cohen's  $d = 4.83$

**Table 3 - Correlation Between State-Trait Anxiety and Defense Mechanism Styles**

Paired Samples T-Test

			statistic	df	p	Mean difference	SE difference	Cohen's d	Effect Size
immature defense mechanism	Mature defense mechanism	Student's t	68.3	199	<.001	88.8	1.30	6.83	4.83

Note.  $H_a \mu_{\text{Measure 1}} - \mu_{\text{Measure 2}} > 0$

## Gender Differences in Anxiety and Defence Mechanisms During Pandemic-Induced Isolation: A Quantitative Study in the Indian Context

Descriptives	N	Mean	Median	SD	SE
immature defense mechanism	200	132.6	132.0	18.91	1.337
Mature defense mechanism	200	43.7	44.0	7.81	0.552

### DISCUSSION

The findings confirm that women experienced higher levels of COVID-19-specific anxiety than men, consistent with previous literature. This may be attributed to greater caregiving burdens and emotional labour. The lack of correlation between general and COVID-specific anxiety suggests that pandemic stress involves distinct psychological dimensions.

A significant reliance on immature defences during isolation implies psychological regression in response to sustained stress and uncertainty. This aligns with psychodynamic theories suggesting that high stress compromises adaptive coping.

The results emphasize the need for gender-sensitive mental health strategies and community-based emotional regulation training. They also highlight the importance of encouraging mature defence styles to enhance psychological resilience during crises.

### CONCLUSION

This study underscores key gender differences in anxiety levels and defence mechanisms during pandemic-induced isolation. The higher anxiety levels and greater use of immature defences among women suggest a need for targeted psychological interventions. Future research should include more diverse socio-economic backgrounds, longitudinal designs, and mixed-method approaches to deepen understanding of mental health under crisis conditions.

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**Gender Differences in Anxiety and Defence Mechanisms During Pandemic-Induced Isolation: A Quantitative Study in the Indian Context**

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***Acknowledgment***

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

***Conflict of Interest***

The author(s) declared no conflict of interest.

***How to cite this article:*** Vashisht, P. & Hasan, Z. (2025). Gender Differences in Anxiety and Defence Mechanisms During Pandemic-Induced Isolation: A Quantitative Study in the Indian Context. *International Journal of Indian Psychology*, 13(3), 1779-1784. DIP:18.01.163.2025 1303, DOI:10.25215/1303.163