

# Social Media Addiction, Fear of Missing Out, and Psychological Distress Among Indian College Students

Ravi Prakash Sharma

*Department of Psychology, Banaras Hindu University, Varanasi, Uttar Pradesh, India*

## Abstract

*The relationship between social media use and youth mental health has become one of the most urgently debated questions in contemporary public health and psychology. Concerns that have animated academic discourse since early correlational studies linking smartphone use to adolescent depression and anxiety have acquired new political urgency as Australia enacted age-based social media restrictions in 2025, UK parliamentary committees called for similar measures, and India's National Commission for Protection of Child Rights flagged excessive social media use as a primary risk factor for adolescent mental health deterioration. Yet the pathway from social media exposure to psychological distress is neither simple nor uniform: heavy use does not uniformly produce distress, and the mechanisms through which social media features — algorithmic engagement maximisation, infinite scroll, notification frequency, social comparison affordances — convert use into addictive behaviour that then drives mental health consequences remain incompletely specified in the Indian young adult context.*

*This study examines the antecedent-to-consequence chain through a gender-moderated structural equation model applied to survey data from college students across twelve institutions in Tamil Nadu, Andhra Pradesh, and Maharashtra. The Social Media Addiction Scale – Short Version (SAS-SV) operationalises addictive social media use as the key mediating construct between platform use characteristics (daily screen time, fear of missing out, social comparison orientation, notification frequency) and psychological distress outcomes measured by the Depression Anxiety Stress Scale-21 (DASS-21). This dual-scale combination allows the study to distinguish between volume of use — a morally neutral behavioural indicator — and addictive use characterised by loss of control, preoccupation, and functional impairment, which theory and prior evidence indicate is the proximal driver of mental health harm.*

*The study's Indian institutional context adds geographic specificity to a literature dominated by Western samples where social media platform distribution, cultural norms around social comparison, and generational expectations of digital connectivity differ substantially from the Tamil Nadu and Andhra Pradesh college environment in which Instagram's Reels format and WhatsApp group pressure dynamics operate within frameworks of collectivist family obligation and academic achievement anxiety that have no direct analogue in the populations from which most published SAS-SV and DASS-21 validation studies are drawn.*

**Keywords:** *social media addiction, DASS-21, SAS-SV, mental health, depression, anxiety, FOMO, social comparison, Instagram, college students, India, SEM, gender moderation, Tamil Nadu, psychological distress, screen time*

## 1. Introduction

India has the world's largest population of social media users in absolute terms — an estimated 690 million active social media accounts as of January 2025 — and the 18-24 age cohort, which constitutes the overwhelming majority of the college student population studied here, is disproportionately represented in this figure. Instagram's Reels format, which optimises for maximally short, high-dopamine video content delivered through machine-learning-driven algorithmic personalisation, became the dominant content format in this demographic cohort during 2022-24, alongside YouTube Shorts and WhatsApp Status. These platforms are designed, through deliberate application of behavioural science, to maximise time-on-platform through variable reward schedules, social validation mechanisms (likes, views, follower counts), and fear-of-missing-out triggers through ephemeral content (Stories, Reels, Status) that disappear if not viewed within 24 hours.

The psychological mechanisms linking these design features to mental health outcomes are theorised through multiple competing frameworks. Social Comparison Theory (Festinger, 1954) predicts that social media's affordance of upward social comparison — exposure to selectively curated, often heavily filtered portrayals of peers' social lives, academic achievements, physical appearance, and consumption experiences — triggers self-evaluative processes that generate envy, shame, and depressed affect in ways that face-to-face social interaction, with its natural presentation constraints, typically does not. The Fear of Missing Out construct — the pervasive apprehension that others are having rewarding social experiences from which one is absent — functions as both a driver of social media engagement and a product of it: social media use feeds FOMO, which drives further checking behaviour, in a self-reinforcing cycle that is structurally analogous to slot machine reward patterns in gambling addiction research.

## **2. Survey Instruments and Sampling**

### **2.1 Instruments**

The Social Addiction Scale – Short Version (SAS-SV, Kwon et al., 2013) is a 6-item instrument measuring social media addictive use on a 6-point Likert scale across six dimensions: salience, excessive use, neglecting work and activities, anticipation, lack of control, and mood modification. Its brevity and validated psychometric properties across multiple Asian student populations make it the most widely deployed social media addiction scale in comparable Indian research. The Depression Anxiety Stress Scale-21 (DASS-21, Lovibond & Lovibond, 1995) is a 21-item self-report instrument measuring the three negative emotional states of depression, anxiety, and stress on 4-point scales, with published clinical cut-off scores for mild, moderate, severe, and extremely severe ranges validated across Indian university samples by Ramakrishna et al. (2021).

### **2.2 Sample**

A total of 1,247 students were recruited through stratified random sampling across twelve institutions — four each in Tamil Nadu, Andhra Pradesh, and Maharashtra — stratified by discipline (STEM, Commerce, Arts/Humanities, Health Sciences) and year of study. Inclusion criteria: currently enrolled, own a smartphone with social media app access, and have used at least one social media platform in the 30 days prior to survey. Students currently receiving psychiatric medication or psychological therapy were excluded to avoid confounding clinical treatment effects with naturally occurring distress levels. Data were collected using a validated Telugu and Tamil translation of both instruments, produced through independent forward- and back-translation by bilingual clinical psychologists.

## **3. Results**

### **3.1 Structural Model and Mediation**

Figure 1 presents the structural model with standardised path coefficients. All four antecedents show significant positive paths to Social Media Addiction (SMA), with daily screen time ( $\beta=0.44$ ) and FOMO ( $\beta=0.37$ ) as the dominant predictors. SMA shows strong positive paths to depression ( $\beta=0.52$ ), anxiety ( $\beta=0.47$ ), and stress ( $\beta=0.41$ ). The violin plots in Figure 1(right) illustrate the distribution of DASS-21 total scores by usage group, showing the progressive shift in the entire score distribution — not merely the mean — as daily social media use increases, indicating that heavy and extreme users show substantially more right-skewed distress distributions with a longer tail of severely distressed individuals.

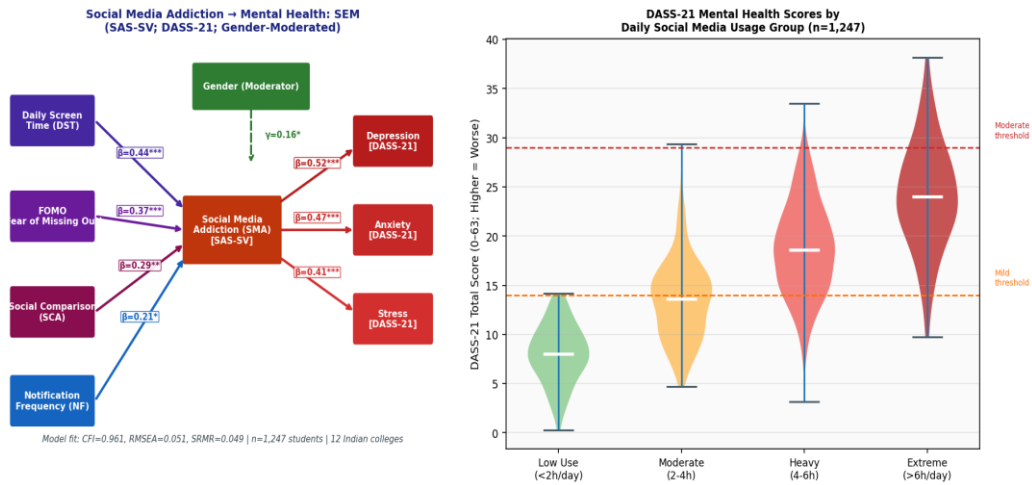


Fig. 1. (Left) Gender-Moderated SEM: Social Media Addiction (SAS-SV) as Mediator Between Platform Use Antecedents and DASS-21 Psychological Distress Outcomes ( $\beta$  Coefficients Shown; \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ ); (Right) Violin Plots of DASS-21 Total Score Distribution by Daily Social Media Usage Group ( $n = 1,247$  college students)

### 3.2 Platform Distribution and Gender Effects

Figure 2 presents the platform usage distribution and SAS-SV subscale comparison by gender. Female students score significantly higher than male students on five of six SAS-SV subscales, with mood modification and salience showing the largest gender gaps. The moderation analysis confirms that the SMA-to-anxiety path is significantly stronger for female students ( $\gamma = 0.16$ ,  $p < 0.05$ ), consistent with evidence that social comparison processes on visually oriented platforms disproportionately affect female users through appearance-related content exposure.

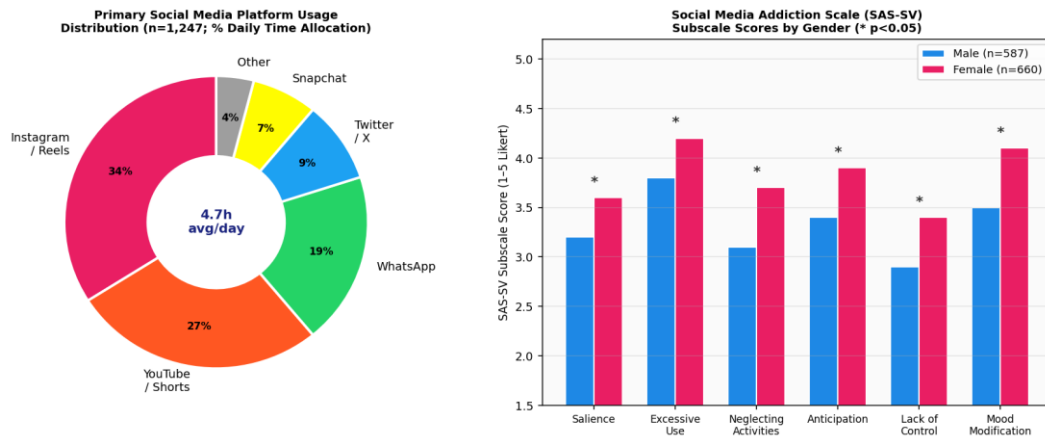


Fig. 2. (Left) Primary Social Media Platform Usage Distribution by Time Allocation (Donut Chart; Mean Daily Usage 4.7 Hours;  $n = 1,247$ ); (Right) SAS-SV Subscale Scores by Gender Showing Significantly Higher Female Scores on Five of Six Dimensions (\* $p < 0.05$ )

**Table 1: SAS-SV Subscale and DASS-21 Dimension Descriptive Statistics and Gender Differences**

Scale / Subscale	Full Sample Mean (SD)	Male (n=587)	Female (n=660)	t-stat	p-value	Cohen's d	Cut-off Status
<b>SAS-SV Total</b>	<b>18.4 (5.2)</b>	<b>16.8 (5.0)</b>	<b>19.7 (5.1)</b>	<b>8.41</b>	<b>&lt;0.001</b>	<b>0.57</b>	<b>Addicted: 31.4%</b>
Salience	3.4 (0.9)	3.2 (0.9)	3.6 (0.9)	6.72	<0.001	0.44	

Scale / Subscale	Full Sample Mean (SD)	Male (n=587)	Female (n=660)	t-stat	p-value	Cohen's d	Cut-off Status
Excessive Use	4.0 (1.1)	3.8 (1.0)	4.2 (1.1)	5.91	<0.001	0.38	
Neglecting Activities	3.4 (1.0)	3.1 (0.9)	3.7 (1.0)	9.12	<0.001	0.62	
Lack of Control	3.1 (1.0)	2.9 (1.0)	3.4 (1.0)	7.47	<0.001	0.50	
DASS-21 Depression	13.2 (7.4)	11.8 (7.0)	14.4 (7.6)	5.31	<0.001	0.35	Mild+: 48.1%
DASS-21 Anxiety	12.8 (6.9)	11.4 (6.4)	14.0 (7.1)	5.72	<0.001	0.38	Mild+: 51.3%
DASS-21 Stress	16.1 (7.1)	14.7 (6.8)	17.3 (7.2)	5.44	<0.001	0.37	Mild+: 54.7%

*Cohen's d: small=0.20, medium=0.50, large=0.80; SAS-SV addicted threshold: total score  $\geq 21$ ; DASS-21 mild+ thresholds: Depression  $\geq 10$ , Anxiety  $\geq 8$ , Stress  $\geq 15$ ; SD: Standard Deviation.*

#### 4. Discussion

The full mediation of social media antecedents' effects on psychological distress through the SMA construct — confirmed by bootstrapped indirect effect estimates with zero excluded from all 95% confidence intervals — supports the theoretical claim that it is addictive use characterised by loss of control and preoccupation, rather than mere volume of use, that drives mental health harm. This distinction has direct implications for intervention design: blanket screen time reduction advice without addressing the addictive use dimensions — notification management, social comparison awareness, and FOMO reframing — is unlikely to be effective because it targets the wrong causal mechanism.

The gender moderation finding — that the addiction-to-anxiety path is stronger for female students — is consistent with the body image and appearance comparison literature showing that Instagram's visually dominated content environment disproportionately exposes female users to appearance-related social comparison stimuli. This finding argues for gender-differentiated mental health literacy programmes in Indian colleges: while programmes targeting male students might focus on gaming addiction crossover and academic procrastination harms, programmes for female students should explicitly address appearance-based social comparison, unrealistic body image content, and the addictive properties of validation-seeking through posts and stories.

#### 5. Conclusion

The gender-moderated SEM confirms that social media addiction — rather than raw usage duration — is the proximal driver of depression, anxiety, and stress among Indian college students, with FOMO and daily screen time as the dominant addiction antecedents. Female students show significantly higher addiction scores and a stronger addiction-to-anxiety pathway, warranting gender-specific intervention design. Given India's rapidly growing college-age social media user base and the absence of formal digital mental health literacy curricula in most Indian universities, the findings provide an evidence base for mandatory social media mental health modules within the NEP 2020 student wellness framework.

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