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A STUDY OF THE ASSOCIATION BETWEEN SOCIAL MEDIA USE AND SELF-REPORTED STUDY PRODUCTIVITY AMONG INDIAN COLLEGE STUDENTS

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Abstract

Social media is woven into the micro-breaks of the study and work day, yet evidence on how usage, digital distraction, sleep disruption and productivity are related, and on whether awareness of the problem leads to self-regulation, remains limited for Indian samples. This cross-sectional, descriptive-correlational study examined these associations among 77 respondents (68 college students and 9 working professionals, analysed as one sample), recruited by convenience sampling through a 25-item Google Forms questionnaire in September–October 2025. Use was heavy (64.9% spent two or more hours a day) and 77.9% said it affects their ability to finish tasks on time. Higher usage was associated with more digital distraction ($\rho = .43$, 95% CI [.22, .60], $p < .001$) and with fewer productive hours ($\rho = -.24$, 95% CI [−.44, −.01], $p = .040$), though the latter would not survive correction for the three hypothesis tests. Distraction was not significantly associated with self-rated productivity ($\rho = -.17$, $p = .152$), usage was not significantly associated with sleep disruption ($\rho = .21$, $p = .069$), and the bootstrapped indirect effect of usage on productivity through distraction included zero. Overall usage was unrelated to self-rated productivity ($\rho = -.04$, $p = .72$), whereas perceived control over habits was associated with it ($\rho = .43$, 95% CI [.22, .61], $p < .001$). Most respondents (85.7%) had tried to cut back, yet recognising the effect on task completion was often not matched by focus-app use: 34 respondents were aware but used no app, against 7 who used one without being aware (exact McNemar $p < .001$; discordant-pair odds ratio 4.9; Cohen's $g = .33$). The findings are associations in a small, self-selected sample and do not establish causal effects.

Keywords:

Social Media Usage; Digital Distraction; Self-Reported Productivity; Sleep Disruption; Awareness–Behaviour Gap; Indian College Students

1. Introduction

In an Indian classroom or office today, a phone often sits face-up on the desk, and a few seconds of scrolling can fill the gap between one task and the next. Social media is no longer only an evening leisure activity; it has embedded itself in the micro-breaks of the working and studying day.

Research on this usage falls into two strands. In academic settings, a survey of 825 Chinese college students found that social media addiction, fear of missing out (FOMO) and lack of self-control each predicted academic procrastination, with a significant chain-mediation pathway through self-control and FOMO (Tang & He, 2025). A study of 100 education students in Lima found that platform and purpose matter: academic WhatsApp use was associated with lower procrastination, while recreational Instagram and Facebook use was associated with higher procrastination (Romero Astocondor et al., 2025). In workplaces, technology distraction has been linked to self-regulation and work engagement (Orhan et al., 2021), and FOMO-driven personal social media use during work hours has been linked to work-performance decrement and procrastination (Tandon et al., 2021). Work on media multitasking adds that simultaneous media use can feel productive even when objective performance deteriorates, and can be read either as a strategy or

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as a self-regulatory failure (Popławska et al., 2021). A survey of Indian employees working from home during COVID-19 noted that few studies had examined how social media use affects professional life (Ahmad et al., 2022).

1.1 Research gap. These studies mostly examine either students or employees, and most measure usage and an outcome without a separately measured distraction variable in between. To our knowledge, few also measure awareness of the problem alongside actual regulatory behaviour, which leaves open whether people who recognise the problem act on it.

1.2 Problem statement. To what extent is social media use during work and study hours associated with digital distraction, and how is that distraction associated with self-perceived productivity, despite respondents' apparent awareness of its effects on their focus, sleep and output?

1.3 General objective: To examine the associations between social media usage patterns, digital distraction, sleep disruption and self-reported productivity among Indian college students (the convenience sample also includes a small number of working professionals, analysed together with the students).

1.4 Specific objectives:

- To describe the patterns and extent of social media usage, including screen time, session length and checking frequency during work or study.
- To describe the level of digital distraction and self-regulation difficulty experienced in relation to social media use.
- To examine the association between social media usage and self-rated productivity, and between usage and hours dedicated to productive work or study.
- To test whether digital distraction statistically mediates the association between social media usage and productivity (bootstrapped indirect effect).
- To examine the association between social media use and sleep disruption.
- To test the gap between awareness of social media's effects and the regulatory behaviour (such as using focus apps) that follows.

1.5 Hypotheses:

- **H1:** Digital distraction is negatively associated with self-reported productivity.
- **H2:** Social media usage is negatively associated with hours dedicated to productive work or study.
- **H3:** Social media usage is positively associated with self-reported sleep disruption.
- **H4:** Among respondents, recognising that social media affects task completion is more often unaccompanied by focus-app use than focus-app use is unaccompanied by that recognition (a paired, discordant-pair test of the awareness–behaviour gap).

1.6 Significance. For students, the study looks at distraction and self-regulation as possible mechanisms rather than screen time alone, which may help explain why simple usage limits often fail. For employers, it adds India-based evidence on personal social media use and output. For institutions, it can inform wellness and digital-literacy programmes, and for platform designers and policymakers it informs discussion on notification design and screen-time defaults. Because the design is correlational, these implications are suggestions for testing, not demonstrated effects.

2. Methodology

2.1 Design

The study adopts a quantitative, cross-sectional, descriptive-correlational design with a deductive approach. The questionnaire and hypotheses were built before data collection, informed by research on self-regulation, FOMO and media multitasking. A quantitative design suits testing pre-specified hypotheses; a qualitative design was considered but not adopted as the primary method.

2.2 Sampling, setting, period and ethics

Respondents were recruited by non-probability convenience and self-selected sampling: the questionnaire was distributed online as a Google Forms link to college students and working professionals in Chennai, India. Responses were collected from 25 September to 7 October 2025. Participation was voluntary. The form recorded an email address with each response (73 of 77 respondents provided one,

with no duplicates; four left it blank); addresses were not used in the analysis and are not reported, so responses were confidential rather than fully anonymous. The data were collected and used only for research purposes. The respondents were mainly college students aged 15–20 (63 of 77 respondents; 62 of them students). All 77 responses received were retained; no exclusion rule was applied.

2.3 Sample-size justification

No a priori power calculation was made; the sample size reflects the responses obtained from the convenience sample. A sensitivity analysis shows that with n = 77, a two-sided test at $\alpha = .05$ and 80% power can detect a correlation of about $|\rho| \geq .31$ (Fisher-z approximation). Smaller associations, including those suggested by the wide confidence intervals reported below, cannot be ruled out.

2.4 Instrument and variables

Data were collected at a single point in time with a 25-item structured Google Forms questionnaire. All items (Q1–Q25) are closed-ended, using categorical options and five-point scales (Q14, Q23). The instrument was developed by the authors and is not a previously validated scale. Key terms are operationalised in Table 1. Ordered answers were coded numerically (for example, Never = 0 to Always = 4; No = 0, Maybe or Rarely = 1, Yes = 2; Q11: No = 0, Moderately = 1, Yes = 2, Significantly = 3). Multi-item indices are the mean of z-scored items. Perceived control over habits (Q23) is analysed separately from productivity, and the focus-app item (Q20) is assigned only to Domain 5 (regulatory behaviour), not to distraction. Self-rated productivity (Q14) and productive hours (Q15) are single items analysed separately, because they did not form a reliable scale (standardised $\alpha = .35$).

Table No 1: Operational definitions and item membership

Term	Operational definition	Items
Social media usage	Index of daily screen time, social media time, checking frequency, notifications and session length during work/study; platforms (Q6) and purposes (Q7) are described but not scored	Q4, Q5, Q8, Q9, Q10
Digital distraction	Index of delayed tasks, use as a break, restlessness without access, feeling distracted and procrastinating (focus-app use excluded)	Q11, Q13, Q16, Q18, Q21
Self-rated productivity	Self-rated productivity on a typical day (1–5); single item	Q14
Productive hours	Daily hours dedicated to productive work or study; single item	Q15
Perceived control over habits	Self-rated control over social media habits (1–5); analysed separately from productivity	Q23 (single item)
Sleep disruption	Self-reported loss of sleep duration or quality due to social media use	Q22 (single item)
Awareness–behaviour gap	Recognising negative effects (Q11: any answer other than No) versus corrective action (focus-app use, Q20); other items describe attempts and beliefs	Q11, Q20; Q12, Q17, Q19, Q25 descriptive

Note: *Q24 (more productive on low-use days) is reported descriptively and is not part of any index.*

Source: *Author's compilation.*

2.5 Statistical analysis

Descriptive statistics are frequencies, percentages, means and standard deviations. Because most variables are ordinal, associations (H1–H3) are tested with Spearman's ρ, reported with n, two-sided p and a 95% confidence interval from the Fisher-z transformation with the Bonett–Wright standard error (Bonett & Wright, 2000); $|\rho|$ of about .10, .30 and .50 is read as small, medium and large (Cohen, 1988). Usage and distraction are the z-score indices in Table 1. H1 is tested against self-rated productivity (Q14), with productive hours (Q15) as a secondary outcome. Mediation (Objective 4) is tested with a percentile bootstrap of the indirect effect (5,000 resamples; Preacher & Hayes, 2008), with usage as predictor, distraction as mediator and self-rated productivity as outcome; mediation is supported only if the 95% interval of a×b excludes zero, and it is read as a statistical pattern, not as evidence of causal order. H4 is defined as the paired difference between two binary indicators

measured on the same respondents (recognises the effect on task completion; uses focus apps) and tested with the exact McNemar test (McNemar, 1947); the effect size is the discordant-pair odds ratio with an exact 95% interval and Cohen's g (Cohen, 1988). Internal consistency of the two multi-item indices is reported as standardised Cronbach's α (Cronbach, 1951); single-item measures have no α. All hypothesis tests are two-sided at α = .05, and because H1–H3 are three tests, a Holm-adjusted threshold is also noted. Analyses were repeated without the nine working professionals as a sensitivity check; no student–professional comparison is made because the professional group is too small. Results beyond H1–H4 are exploratory.

3. Results

3.1 Respondent profile

Table No 2: Respondent profile

Characteristic	N	%
Male	45	58.4
Female	32	41.6
Age 15–20 years	63	81.8
Age 20–30 years	11	14.3
Age 30–40 years	3	3.9
College students	68	88.3
Working professionals	9	11.7

Note: *Percentages are of N = 77. Of the 63 respondents in the 15–20 band, 62 were students; these are college students in the 15–20 age group.*

Source: *Author's calculation based on survey data (N = 77).*

3.2 Reliability

Table No 3: Internal consistency of multi-item indices

Index / measure	Items (k)	Standardised α
Social media usage (Q4, Q5, Q8, Q9, Q10)	5	.59
Digital distraction (Q11, Q13, Q16, Q18, Q21)	5	.65
Self-rated productivity (Q14); productive hours (Q15)	1 each	not applicable
Sleep disruption (Q22); perceived control (Q23)	1 each	not applicable

Note: *Both indices fall below the conventional .70, so results using them are interpreted cautiously. The awareness–behaviour items measure different things and are not combined into an index.*

Source: *Author's calculation based on survey data (N = 77).*

3.3 Usage, distraction, productivity and sleep

Social media use was heavy and habitual (Table 4). Nearly two-thirds spent two or more hours a day on it, 45.5% checked it often or always while working or studying, and Instagram and YouTube were the main platforms, mostly used for entertainment. More than three-quarters said it affects their ability to finish tasks on time, and 71.4% used it as a break. Self-rated productivity was average (M = 3.08, SD = 0.97), 42.9% reported fewer than two productive hours a day, and half reported lost sleep because of social media.

Table No 4: Descriptive results

Indicator	n	%
Usage		
Spend two or more hours a day	50	64.9
Check often or always while working/studying	35	45.5
Use Instagram	62	80.5

Indicator	n	%
Use YouTube	54	70.1
Use mainly for entertainment	71	92.2
Keep notifications on	34	44.2
Sessions longer than 30 minutes	22	28.6
Distraction		
Say it affects finishing tasks on time	60	77.9
Feel distracted afterwards	43	55.8
Procrastinate because of it	43	55.8
Use it as a break during work/study	55	71.4
Productivity and sleep		
Fewer than two productive hours a day	33	42.9
More productive on low-use days	41	53.2
Report lost sleep because of social media	39	50.6
Regulation and beliefs		
Have tried to cut back	66	85.7
Of those, failed to cut back	32	48.5 (of 66)
Use focus apps	33	42.9
Say it improves knowledge and creativity	46	59.7
Would consider a detox	37	48.1

Note: *Self-rated productivity: M = 3.08, SD = 0.97 on a five-point scale. Counts are the percentages reported earlier converted to respondents.*

Source: *Author's calculation based on survey data (N = 77).*

3.4 Associations (H1–H3) and mediation

Table No 5: Spearman correlations

Association	ρ	95% CI	p	Students only ρ (p)	Decision
H1: Distraction and self-rated productivity	−.17	[−.38, .06]	.152	−.17 (.158)	Not supported
H2: Usage and productive hours	−.24	[−.44, −.01]	.040	−.34 (.004)	Supported, not after correction
H3: Usage and sleep disruption	.21	[−.02, .42]	.069	.25 (.038)	Not supported
Secondary: Distraction and productive hours	−.18	[−.39, .05]	.121	−.13 (.296)	—
Exploratory: Usage and distraction	.43	[.22, .60]	< .001	—	—
Exploratory: Usage and self-rated productivity	−.04	[−.26, .18]	.717	−.14 (.271)	—
Exploratory: Perceived control and self-rated productivity	.43	[.22, .61]	< .001	.35 (.004)	—

Note: *Intervals use the Fisher-z (Bonett–Wright) approximation. With three tests for H1–H3, the Holm threshold for the smallest p value is .017, so H2 (p = .040) is not significant after adjustment. The students-only column is a sensitivity analysis.*

Source: *Author's calculation based on survey data (N = 77).*

Higher usage went with more digital distraction (ρ = .43), but distraction was not significantly associated with self-rated productivity (H1) or with productive hours. Usage showed a small negative association with productive hours (H2, ρ = −.24; lower bound close to zero) and a small positive, non-significant association with sleep disruption (H3). Overall usage was not associated with self-rated productivity (ρ = −.04), and the interval is compatible with small associations in either direction. Perceived control over habits showed a medium positive association with self-rated productivity (ρ = .43). Among students only, H2 and H3 were stronger (ρ = −.34 and .25) and individually

significant, but this subgroup check was not planned and the pattern is fragile.

Table No 6: Mediation of the usage–productivity association by distraction (5,000 bootstrap resamples)

Path	Estimate	95% bootstrap CI
a: Usage → Distraction	.400	[.193, .626]
b: Distraction → Self-rated productivity (controlling usage)	−.266	[−.649, .153]
c′: Direct effect of usage	.155	[−.341, .637]
a × b: Indirect effect	−.106	[−.294, .060]

Note: *Estimates are unstandardised regression coefficients on the z-score usage and distraction indices and the standardised Q14 score. The indirect-effect interval includes zero, so no mediation is supported; the students-only indirect effect was also not significant (−.105, 95% CI [−.343, .072]).*

Source: *Author's calculation based on survey data (N = 77).*

3.5 Awareness–behaviour gap (H4)

Sixty respondents (77.9%, 95% CI [67.5, 85.7]) recognised that social media affects their task completion, while 33 (42.9%, 95% CI [32.4, 54.0]) used focus apps. Of the 60 aware respondents, 34 (56.7%, 95% CI [44.1, 68.4]) used none. The 2 × 2 cross-classification is in Table 7.

Table No 7: Recognising the effect on tasks versus focus-app use

	Uses focus app	Uses no focus app	Total
Aware of effect on tasks	26	34	60
Not aware	7	10	17
Total	33	44	77

Note: *Counts of respondents. Aware = any answer other than "No" to Q11; app use = Q20.*

Source: *Author's calculation based on survey data (N = 77).*

The discordant pairs were unbalanced: 34 respondents were aware but used no app, whereas 7 used an app without being aware (exact McNemar $p < .001$; $\chi^2(1) = 16.49$ with continuity correction). The odds ratio for the discordant pairs was 4.9 (95% CI [2.1, 13.0]) and Cohen's g was .33, a large effect by Cohen's convention. H4 is therefore supported for focus-app use. The gap is narrower for other behaviours: 85.7% had tried to cut back, but 48.5% of those attempts failed, and 59.7% still credited social media with benefits to knowledge and creativity.

4. Discussion

4.1 Usage, control and productivity

Time on social media was not associated with self-rated productivity, whereas perceived control over habits was. This is consistent with work that puts self-regulation at the centre of the problem: in a large Chinese student sample, lack of self-control was itself related to procrastination and carried part of the effect of social media addiction (Tang & He, 2025), and technology distraction at work has been linked to self-regulation and engagement (Orhan et al., 2021). It differs from studies that found addiction-level use to be associated with procrastination (Tang & He, 2025), but those studies measured addictive or purpose-specific use rather than overall time. Romero Astocondor et al. (2025) found that the direction of the association depended on the platform and its academic or recreational use, which an overall-usage measure like ours would average out. Self-reported productivity may also track how productive people feel rather than how they perform (Popławska et al., 2021), and 71.4% of respondents used social media as a break, which can be a deliberate strategy rather than a failure.

4.2 Distraction and sleep

Usage was associated with distraction, which supports the first link of the proposed pathway, but distraction was not significantly associated with productivity and the indirect effect included zero, so the data do not support distraction as the mechanism. This differs from what work on technology distraction and FOMO at work would suggest (Orhan et al., 2021; Tandon et al., 2021), though

those studies used employee samples and fuller scales, and with n = 77 the study could reliably detect only associations of about $|\rho| \geq .31$; the observed $\rho = -.17$ is smaller. Usage was modestly related to fewer productive hours ($\rho = -.24$), in the direction reported for addiction-level and recreational use (Tang & He, 2025; Romero Astocondor et al., 2025), but the result is borderline, uncorrected for multiple tests, and its interval nearly reaches zero. Half of respondents (50.6%) reported lost sleep, yet usage was not significantly associated with sleep disruption ($\rho = .21$, $p = .069$); the single-item measure and small sample limit this test.

4.3 Awareness and action

Recognising the problem did not translate into tool-based regulation for many respondents, and almost half of those who tried to cut back did not succeed. This fits the view in the self-control literature that regulation draws on limited resources, so knowing about an effect is not enough to change behaviour (Tang & He, 2025). Because the test uses one behaviour, focus-app use, the result should not be read as showing that respondents do nothing: most had tried to cut back. A fuller test would add measures of sustained behaviour change.

4.4 Limitations

- Self-reported data may involve recall and social desirability bias; distraction and productivity are not measured objectively (for example with app-usage logs or task timers).
- The cross-sectional design shows association, not causal direction, and the mediation analysis cannot establish causal order.
- The sample is small (N = 77), self-selected and student-heavy (68 of 77), with 63 of 77 in the 15–20 age band, so generalisability is limited. The nine professionals are too few for a group comparison, and the study is powered only for associations of about $|\rho| \geq .31$.
- The questionnaire is not a validated scale; sleep disruption, perceived control and the productivity outcomes are single items; and the usage and distraction indices have modest reliability ($\alpha = .59$ and .65).
- Overall usage rather than platform-specific use is measured, whereas earlier work finds platform and purpose matter (Romero Astocondor et al., 2025).
- Several tests were run in a small sample, so results beyond the four hypotheses are exploratory.

4.5 Implications

If the pattern holds in larger samples, interventions for students may work better by building self-regulation and perceived control than by restricting use alone. These are hypotheses for testing with larger, more balanced samples, objective measures of use and platform-specific analysis.

5. Conclusion

Among these respondents, social media use was heavy, habitual and widely recognised as a drag on finishing tasks and on sleep. More use went with more distraction and, modestly, with fewer productive hours, but distraction did not statistically mediate any association with productivity, and overall time on the platforms was not associated with self-rated productivity; perceived control over habits was. Recognising the problem was often not matched by focus-app use (H4), although most respondents had tried to cut back and many still credited social media with real benefits.

Because the sample is small, student-heavy and self-selected, and the design is cross-sectional, these findings describe associations, not causes. Future work should use larger, more balanced samples, validated multi-item scales, objective measures such as app-usage logs, and platform-specific analysis.

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