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Social Media Use, Psychological Distress and the Quality of Academic Motivation: Evidence from Undergraduate Students

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Abstract:

Purpose: Undergraduate students spend a large part of their day on social media, and concern is growing that this use erodes their mental health and their reasons for studying. This study examines (i) how the intensity and purpose of social media use relate to psychological distress (depression, anxiety and stress), and (ii) how social media use and distress relate to the quality of academic motivation (autonomous motivation, controlled motivation and amotivation).

Design/methodology/approach: Drawing on Self-Determination Theory, a cross-sectional survey was designed for 230 undergraduate students of management and engineering programmes in Bengaluru, India. Distress was measured with the DASS-21 and motivation with an adapted Academic Motivation Scale. Multiple regression, controlling for gender, discipline and year of study, was used.

Findings: Daily time on social media was the strongest correlate of depression, anxiety and stress (standardised betas .26 to .36). Academic use of social media was positively related to autonomous motivation (beta = .24), entertainment use was positively related to amotivation (beta = .22), and depression was the strongest correlate of amotivation (beta = .31). Stress was negatively related to autonomous motivation (beta = -.20). Controlled motivation was not explained by any predictor.

Originality/value: The study separates how much students use social media from why they use it, and distinguishes types of motivation instead of using a single score.

Implications: Institutions should promote purposeful academic use and attend to student distress, rather than limit use indiscriminately.

Keywords: Social media use; Psychological distress; Academic motivation; Self-Determination Theory; Undergraduate students; Management and engineering education; India

1. Introduction

Social media has become part of the daily routine of the typical undergraduate. Students use platforms to coordinate coursework, to stay in touch with friends, to follow news and to pass time, often within the same hour and sometimes within the same study session. Whether this pattern of use helps or harms academic life is one of the most debated questions in education and psychology. Evidence on mental health is mixed: a recent meta-analysis of 141 studies with about 145,000 participants found that most associations between active or passive social media use and well-being outcomes were negligible, with a small number of meaningful exceptions that depended on the outcome and the context of use (Godard & Holtzman, 2024). Evidence on academic outcomes is similarly uneven. Studies have linked social media addiction with lower academic engagement (Khalaf et al., 2025) and excessive social and hedonic use with greater learning burnout (Ma et al., 2025), while others have found that academic motives for use are associated with better attainment (Hughes-Nind et al., 2024).

Two gaps in this literature motivate the present study. The first is that many studies treat social media use as a single quantity, usually time spent, even though the evidence suggests that the reasons for which students use platforms matter as much as the amount of time they spend. Students who use social media to build social connections report lower stress, while those who use it to kill time report higher stress (Hughes-Nind et al., 2024). The second gap concerns the outcome. Most work on academic consequences examines performance, engagement or burnout. Far fewer studies ask about the quality of students' motivation, that is, whether students study because

they find the work meaningful and valuable, because they feel pressure to do so, or because they see no reason to study at all. Self-Determination Theory holds that these differences matter, because autonomous motivation is associated with persistence, deep learning and well-being, while controlled motivation and amotivation are not (Ryan & Deci, 2000).

The study also addresses a contextual gap. India has one of the largest undergraduate populations in the world, and Bengaluru has the highest number of colleges of any district in the country (All India Survey on Higher Education [AISHE], 2018-19). Management and engineering students in the city study in competitive, high-workload environments, are heavy users of digital platforms and are exposed to considerable academic and career pressure. Evidence on how social media use relates to their psychological distress and motivation is limited, and findings from North American, Chinese or Middle Eastern samples cannot be assumed to apply.

The study therefore pursues two objectives:

- **Objective 1:** To examine the relationship between social media use (intensity and purpose of use) and undergraduate students' psychological distress (stress, anxiety and depression).
- **Objective 2:** To assess how social media use and psychological distress are related to the quality of students' academic motivation (autonomous, controlled and amotivation).

The remainder of the paper is organised as follows. Section 2 sets out the theoretical framework, reviews the literature and develops the conceptual model and hypotheses. Section 3 describes the method, Section 4 presents the results, Section 5 discusses them, Section 6 outlines the implications, and Section 7 reports limitations and directions for future research. Section 8 concludes.

2. Theoretical Framework and Literature Review

2.1 Self-Determination Theory as the Theoretical Model

Self-Determination Theory (SDT) proposes that people have three basic psychological needs: autonomy (the sense of acting from one's own volition), competence (the sense of effectiveness) and relatedness (the sense of connection to others). When social contexts support these needs, people experience autonomous motivation, in which activity is pursued because it is interesting or personally valued. When contexts frustrate these needs, motivation becomes controlled, driven by pressure, guilt or external reward, or collapses into amotivation, the absence of any intention to act (Deci & Ryan, 2000; Ryan & Deci, 2000). The distinction between types of motivation, and not merely their strength, is central to the theory and is the reason the present study measures autonomous motivation, controlled motivation and amotivation separately.

SDT offers a natural way of connecting social media use, distress and motivation. Social media can satisfy relatedness needs, for example through contact with peers, and can support competence and autonomy when used for self-directed learning. Recent work on educational social media use supports this view: in a sample of 293 Saudi undergraduates, perceived autonomy, competence and relatedness were linked with affective learning engagement and with educational social media use, which in turn related to satisfaction and learning performance (Alturki & Aldraiweesh, 2024). However, social media can also frustrate these needs through social comparison, fear of missing out, interrupted attention and displacement of activities that build competence. A study of 422 university students in Taiwan found that autonomous motivation, social media competence and social support were negatively associated with fear of missing out, which in turn was positively associated with social media addiction (Hsiung & Hu, 2026). In SDT terms, distress such as depression, anxiety and stress is a signal that basic needs are not being met, and is therefore expected to accompany a shift from autonomous motivation towards controlled motivation and amotivation. This is the theoretical model summarised in Figure 1.

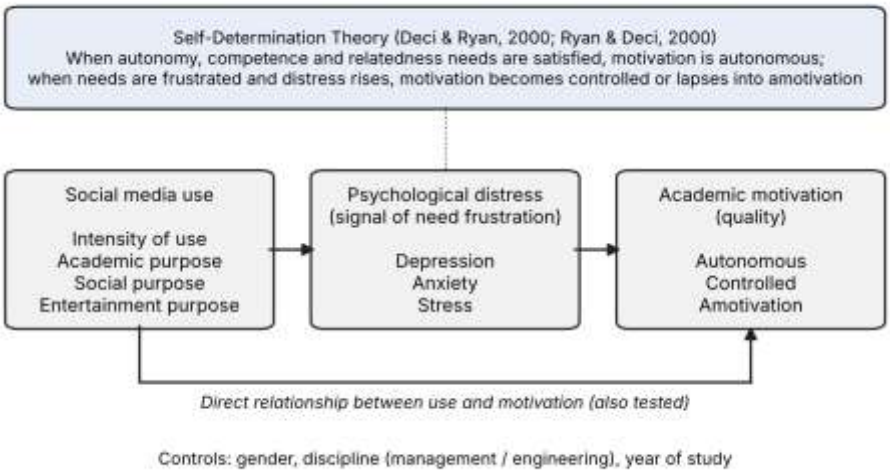


Figure 1. Theoretical model: Self-Determination Theory applied to social media use, distress and academic motivation

2.2 Social Media Use and Psychological Distress

Research on the mental health correlates of social media use has moved from simple measures of time towards measures of how and why platforms are used. The meta-analysis by Godard and Holtzman (2024) is instructive. Across 897 effect sizes, most associations between active and passive use and mental health, well-being and social support outcomes were negligible. The exceptions included associations of active use with online support, well-being, positive affect and anxiety symptoms, while passive use was associated with worse emotional outcomes in general social media contexts but not in social media groups. User age emerged as an important contextual factor. These results caution against assuming a uniform harmful effect, and they point to the need for study designs that distinguish forms and contexts of use.

Studies of university students support the importance of purpose and of problematic patterns of use. In a survey of 806 undergraduates at a Canadian university during the COVID-19 restrictions, problematic social media use was more strongly related to symptoms of stress, depression and anxiety than total time on social media, and students who relied heavily on social media to cope reported higher symptoms (Ghanayem et al., 2024). In a very large sample of nearly 6,000 Chinese undergraduates, motives focused on social connection were linked to lower stress, whereas escapist motives such as killing time were linked to higher stress (Hughes-Nind et al., 2024). Research on fear of missing out in 521 Saudi undergraduates found that it strongly predicted social media use, although the expected mediating effects on well-being and academic performance were not supported (Abd Ellatif Elsayed, 2025). Taken together, these studies suggest that heavier use and use motivated by escape or coping are more likely to accompany distress, while connection-oriented and academic use is less likely to do so. Because intensity and purpose of use are themselves correlated, their separate contributions need to be examined together.

2.3 Psychological Distress and Academic Motivation

The link between distress and the quality of motivation follows directly from SDT but has been tested less often than links to performance. Evidence from adjacent outcomes is consistent with it. A study of 566 undergraduates in Somalia found that social media addiction was linked to lower academic engagement and to poorer sleep, and that poor sleep partly explained the loss of engagement (Khalaf et al., 2025). Among 532 Chinese college students, excessive social and hedonic use increased learning burnout, burnout reduced academic performance, and mindfulness weakened the harmful effects of excessive use on burnout, whereas excessive cognitive use was associated with lower burnout (Ma et al., 2025). Burnout and fatigue are states closely related to distress, and engagement is the behavioural expression of motivation, so these findings suggest that distress is likely to accompany weaker autonomous motivation and greater amotivation.

Research that measures motivation directly shows that the profile of motivation varies considerably within student populations. In a large survey of 723 undergraduates in Peru using a situational motivation scale, students reported high intrinsic and extrinsic motivation and low amotivation on average, and cluster analysis identified three motivational profiles, including a vulnerable group (Juárez-Díaz et al., 2026). This heterogeneity implies that average levels conceal subgroups for whom the combination of heavy use and distress may be particularly consequential, and it supports an analysis that distinguishes types of motivation.

2.4 Social Media Use and Academic Motivation

Direct evidence on the relationship between social media use and motivation is thinner. The studies reviewed above allow some inferences. Educational use is associated with engagement, satisfaction and attainment (Alturki & Aldraiweesh, 2024; Hughes-Nind et al., 2024). Social media use itself, as distinct from distress, was positively correlated with grade point average in one Saudi sample (Abd Ellatif Elsayed, 2025), which shows that heavy use does not necessarily coincide with poorer performance. Excessive hedonic use, in contrast, has been linked to burnout (Ma et al., 2025). The picture suggests that use directed at learning supports autonomous motivation, whereas use directed at entertainment competes with study for attention and may foster disengagement. The relationship between intensity of use and motivation may run largely through distress and through the purposes for which students use platforms, rather than directly.

2.5 Research Gap

Three gaps emerge. First, few studies analyse intensity and purpose of use in the same model, even though they are correlated. Second, the quality of motivation, as defined by SDT, has rarely been the outcome in research on social media, which has tended to focus on performance, engagement or burnout. Third, evidence from management and engineering students in Indian metropolitan settings is scarce. The present study addresses these gaps.

2.6 Conceptual Model and Hypotheses

Figure 2 presents the conceptual model. It places the intensity and the three purposes of use (academic, social and entertainment) on the left, psychological distress (depression, anxiety and stress) in the middle, and the three types of motivation on the right. Gender, discipline and year of study are controls. The model is tested as a set of regression relationships and does not assume causal order.

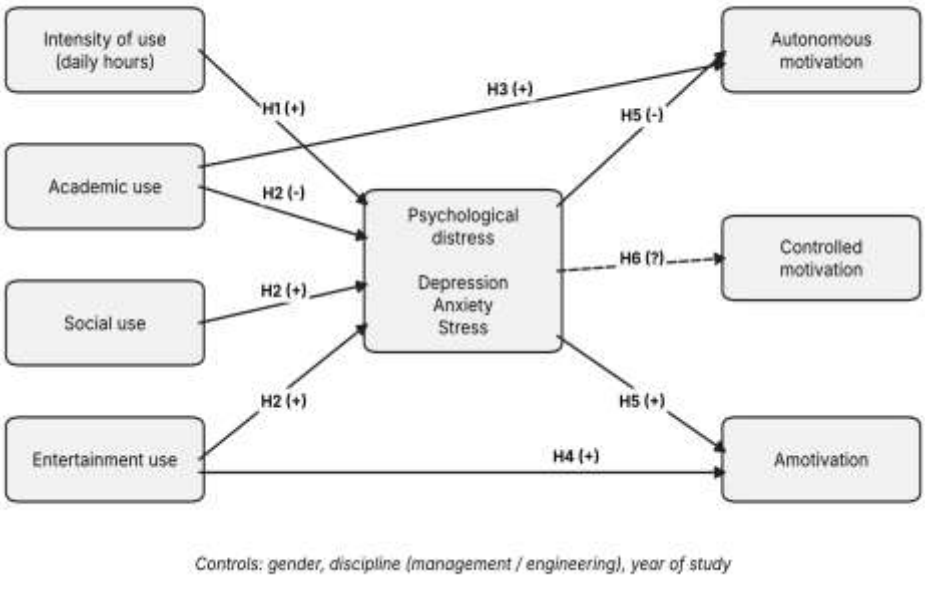


Figure 2. Conceptual model and hypotheses

The following hypotheses follow from the theory and the literature reviewed.

- **H1:** Intensity of social media use is positively related to depression, anxiety and stress.
- **H2:** Social and entertainment purposes of use are positively related, and academic purpose is negatively related, to psychological distress.
- **H3:** Academic use of social media is positively related to autonomous motivation.
- **H4:** Entertainment use of social media is positively related to amotivation.
- **H5:** Psychological distress is negatively related to autonomous motivation and positively related to amotivation.
- **H6:** The relationship of use and distress to controlled motivation is exploratory, because SDT predicts that controlled motivation can arise from either pressure or reward, and no directional hypothesis is advanced.

3. Research Methodology

3.1 Research Design and Setting

The study adopts a quantitative, cross-sectional survey design. The setting is Bengaluru, India, which the national survey of higher education ranks first among Indian districts by number of colleges (AISHE, 2018-19). The population comprises undergraduate students enrolled in management (for example, BBA and BCom with a management specialisation) and engineering (BE and BTech) programmes in colleges and universities in the city. These two disciplines were chosen because they combine high academic workload with strong career pressure and heavy digital engagement, and because they differ in curriculum and teaching style, which allows discipline to be examined as a control.

3.2 Sample and Sampling

The sample consists of 230 undergraduate students, of whom 115 were in management programmes and 115 in engineering programmes. A quota of equal size was set for each discipline, and respondents within each quota were recruited by convenience sampling across institutions. Table 1 describes the sample. Women made up 42.6 per cent and men 57.4 per cent of respondents, and respondents were spread across the four years of study, with 25.7 per cent in year 1, 27.0 per cent each in years 2 and 3, and 20.4 per cent in year 4.

Table 1. Profile of the respondents (n = 230; simulated data)

Characteristic	Category	n	%
Gender	Male	132	57.4
Gender	Female	98	42.6
Discipline	Management	115	50.0
Discipline	Engineering	115	50.0
Year of study	Year 1	59	25.7
Year of study	Year 2	62	27.0
Year of study	Year 3	62	27.0
Year of study	Year 4	47	20.4

Daily time on social media: mean 3.01 hours, SD 1.33, median 2.7, range 1.0 to 9.0 hours.

A sensitivity analysis, using the noncentral F approach implemented in common power software (Faul et al., 2009), showed that with 230 respondents, a significance level of .05 and the largest model in the study (ten predictors), the study had about 80 per cent power to detect an effect of f-squared of about .07 to .08, which corresponds to a small-to-medium effect. Smaller effects could not be detected reliably, and non-significant results for such effects should be interpreted with caution.

3.3 Measures

Social media use. Intensity of use was measured by the self-reported number of hours spent on social media on a typical day. Purpose of use was measured by twelve statements, four for each of three purposes: academic use (for example, using platforms to share notes, join study groups or watch educational content), social use (for example, staying in touch with friends and family) and entertainment use (for example, watching short videos or passing time). Responses were given on a five-point scale from strongly disagree to strongly agree, and each purpose was scored as the mean of its items.

Psychological distress. Depression, anxiety and stress were measured by the 21-item Depression Anxiety Stress Scales (DASS-21), which has seven items per subscale rated from 0 (did not apply to me at all) to 3 (applied to me very much or most of the time) (Lovibond & Lovibond, 1995). Following the scale's convention, subscale sums were doubled, giving a range of 0 to 42 for each subscale. The DASS-21 is a screening measure of symptom severity and not a diagnostic instrument.

Academic motivation. Motivation was measured by an adapted short form of the Academic Motivation Scale (Vallerand et al., 1992), rated on a seven-point scale. Eight items measured autonomous motivation (intrinsic motivation and identified regulation), eight items measured controlled motivation (introjected and external regulation) and four items measured amotivation. Each type was scored as the mean of its items.

Control variables. Gender (female = 1), discipline (management = 1) and year of study were included as controls because they could plausibly relate both to patterns of use and to distress or motivation.

Table 2 reports the reliability and descriptive statistics. Cronbach's alpha (Cronbach, 1951) ranged from .73 to .89, which indicates acceptable to good internal consistency for all multi-item scales.

Table 2. Reliability and descriptive statistics (n = 230; simulated data)

Variable	Items	Alpha	Mean	SD	Skewness	Kurtosis
Daily hours on social media	1	n/a	3.01	1.33	1.59	3.94
Academic use	4	.738	3.57	0.62	-0.26	-0.18
Social use	4	.729	3.66	0.60	-0.31	-0.15
Entertainment use	4	.750	3.53	0.68	0.06	-0.16
Depression	7	.850	13.37	7.93	0.66	0.67
Anxiety	7	.866	14.38	8.54	0.45	-0.29
Stress	7	.848	16.88	8.09	0.35	-0.01
Autonomous motivation	8	.877	4.90	0.81	-0.40	0.23

Variable	Items	Alpha	Mean	SD	Skewness	Kurtosis
Controlled motivation	8	.886	4.25	0.92	-0.14	0.04
Amotivation	4	.779	2.80	0.99	0.42	-0.57

Depression, anxiety and stress are DASS-21 subscale scores (range 0-42); use purposes are scored 1-5; motivation types 1-7. Skewness and kurtosis are given for all variables.

3.4 Procedure and Ethical Considerations

[Replace this paragraph with the actual procedure.] Data were collected through an anonymous online questionnaire distributed through class coordinators and student groups. Participation was voluntary, respondents gave informed consent before starting, no personally identifying information was recorded, and respondents were shown contact information for student counselling services because the questionnaire included items on distress. [Insert institutional ethics committee approval number and date.]

3.5 Data Analysis

Data were screened for missing values, outliers and distributional shape. Descriptive statistics and Pearson correlations were computed first. To address Objective 1, depression, anxiety and stress were each regressed on intensity of use, the three purposes of use and the controls, using ordinary least squares. To address Objective 2, each type of motivation was regressed on intensity and purposes of use, the three distress measures and the controls. Standardised coefficients are reported to allow comparison across predictors, and variance inflation factors were examined to assess multicollinearity. Differences by gender and discipline were examined with Welch t-tests and Cohen's d. All tests were two-tailed with a significance level of .05. Because the data were collected from a single source with self-report measures, the possibility of common-method bias was considered in line with the recommendations of Podsakoff et al. (2003), and it is discussed under limitations.

4. Results

4.1 Descriptive Statistics and Correlations

Respondents spent an average of 3.01 hours per day on social media (SD = 1.33; median 2.7; range 1.0 to 9.0 hours). Purposes of use were rated similarly, with means of 3.57 for academic use, 3.66 for social use and 3.53 for entertainment use on the five-point scale. Distress scores indicated moderate levels on average: the mean was 13.37 for depression, 14.38 for anxiety and 16.88 for stress on the 0 to 42 scale. Autonomous motivation (mean 4.90 on a seven-point scale) was higher than controlled motivation (mean 4.25), and amotivation was low (mean 2.80).

Table 3 shows the correlations. Daily hours were significantly and positively correlated with depression (r = .34), anxiety (r = .40) and stress (r = .41), and with social use (r = .49) and entertainment use (r = .43). Social use and entertainment use were also positively correlated with each of the three distress measures (r = .19 to .29), whereas academic use was not significantly related to any of them. Academic use was positively correlated with autonomous motivation (r = .26), and entertainment use was positively correlated with amotivation (r = .28). The three distress measures were strongly intercorrelated (r = .65 to .75), and each was negatively correlated with autonomous motivation (r = -.32 to -.41) and positively correlated with amotivation (r = .31 to .39). Controlled motivation was almost unrelated to the other variables, with correlations of at most .15.

Table 3. Pearson correlations among study variables (n = 230; simulated data)

Variable	1	2	3	4	5	6	7	8	9	10
1. Daily hours	1									
2. Academic use	.04	1								
3. Social use	.49***	-.06	1							
4. Entertainment use	.43***	.03	.30***	1						
5. Depression	.34***	-.11	.27***	.24***	1					
6. Anxiety	.40***	.02	.25***	.19**	.65***	1				
7. Stress	.41***	-.04	.29***	.23***	.75***	.69***	1			
8. Autonomous motivation	-.26***	.26***	-.19**	-.16*	-.39***	-.32***	-.41***	1		
9. Controlled motivation	.09	.06	.02	.04	.11	.09	.08	-.09	1	
10. Amotivation	.20**	-.08	.09	.28***	.39***	.34***	.31***	-.24***	.15*	1

p < .05, p < .01, ** p < .001. Variables are numbered as listed in the first column.

4.2 Objective 1: Social Media Use and Psychological Distress

Table 4 reports the regressions of the three distress measures on social media use and the controls. All three models were significant: depression, R-squared = .17, F(7, 222) = 6.38, p < .001; anxiety, R-squared = .16, F(7, 222) = 6.22, p < .001; and stress, R-squared = .19, F(7, 222) = 7.23, p < .001. Intensity of use was the only consistent predictor. Daily hours were significantly related to depression (beta = .26, p < .001), anxiety (beta = .36, p < .001) and stress (beta = .31, p < .001). Hypothesis H1 is therefore supported.

Table 4. Regression of psychological distress on social media use (standardised betas; simulated data)

Predictor	Depression	Anxiety	Stress
Daily hours	.26***	.36***	.31***
Academic use	-.11	.02	-.04
Social use	.10	.07	.11
Entertainment use	.09	.01	.06
Gender (female = 1)	.12*	.04	.04
Discipline (management = 1)	.00	-.02	.01

Predictor	Depression	Anxiety	Stress
Year of study	.03	.00	-.06
R squared	.17	.16	.19
Adjusted R squared	.14	.14	.16
F (df)	6.38 (7, 222)	6.22 (7, 222)	7.23 (7, 222)

Entries are standardised coefficients. p < .05, p < .01, ** p < .001. n = 230. All VIF values were below 1.6.

Hypothesis H2 received only limited support. The significant bivariate correlations of social use and entertainment use with distress did not survive once intensity of use was included in the models. Social use (betas .07 to .11) and entertainment use (betas .01 to .09) were not significant predictors of any distress measure, and academic use had a small negative coefficient for depression (beta = -.11, p = .082) that did not reach significance. This pattern reflects the overlap between how much students use social media and the purposes they report: daily hours correlated .49 with social use and .43 with entertainment use. The results indicate that, in this sample, the amount of use carries the association with distress and the purpose of use adds little beyond it. Among the controls, women reported somewhat higher depression (beta = .12, p = .050), and discipline and year of study were unrelated to distress. A direct comparison confirmed the gender difference in depression (women 14.63, men 12.42; Welch t = 2.09, p = .038, d = 0.28), while differences in anxiety and stress by gender were not significant. Management and engineering students did not differ significantly on any distress measure (all p > .40).

4.3 Objective 2: Social Media Use, Distress and Academic Motivation

Table 5 reports the regressions of the three types of motivation. The model for autonomous motivation was significant (R-squared = .27, adjusted R-squared = .23, F(10, 219) = 7.97, p < .001), as was the model for amotivation (R-squared = .22, adjusted R-squared = .18, F(10, 219) = 6.19, p < .001). The model for controlled motivation was not (R-squared = .03, F(10, 219) = 0.67, p = .756).

Table 5. Regression of academic motivation on social media use and psychological distress (standardised betas; simulated data)

Predictor	Autonomous motivation	Controlled motivation	Amotivation
Daily hours	-.09	.09	-.01
Academic use	.24***	.08	-.06
Social use	.00	-.05	-.09
Entertainment use	-.05	.00	.22**
Depression	-.16	.10	.31**
Anxiety	-.04	.01	.16
Stress	-.20*	-.01	-.07
Gender (female = 1)	.11	.04	-.07

Predictor	Autonomous motivation	Controlled motivation	Amotivation
Discipline (management = 1)	-.05	.06	.03
Year of study	.02	.05	-.06
R squared	.27	.03	.22
Adjusted R squared	.23	-.01	.18
F (df)	7.97 (10, 219)	0.67 (10, 219)	6.19 (10, 219)

Entries are standardised coefficients. $p < .05$, $p < .01$, ** $p < .001$. n = 230. The largest VIF was 2.82 (stress).

For autonomous motivation, academic use was the strongest predictor (beta = .24, $p < .001$), supporting H3. Stress was significantly and negatively related to autonomous motivation (beta = -.20, p = .041), and depression had a negative coefficient of similar size that did not reach significance (beta = -.16, p = .090). Anxiety was not a significant predictor. Intensity of use, which was negatively correlated with autonomous motivation in the bivariate analysis (r = -.26), had a small non-significant coefficient once purposes of use and distress were included (beta = -.09, p = .251), which suggests that its association with autonomous motivation operates through the purposes of use and through distress, not separately from them.

For amotivation, entertainment use (beta = .22, p = .001) and depression (beta = .31, p = .002) were significant positive predictors, supporting H4 and, in part, H5. Anxiety had a positive coefficient that approached but did not reach significance (beta = .16, p = .063), while stress was not a significant predictor once depression and anxiety were controlled. Academic use had a small negative coefficient (beta = -.06, p = .296), which was not significant. The negative relationship of intensity of use with autonomous motivation and its positive relationship with amotivation at the bivariate level (r = .20) were, similarly, absorbed by the other predictors.

Hypothesis H5 is therefore partly supported: stress predicted lower autonomous motivation and depression predicted higher amotivation, but the other distress components were not independently significant. This partial pattern is expected given the strong intercorrelations among the distress measures (r = .65 to .75, with a largest variance inflation factor of 2.82), which make it difficult for any one measure to stand out. For controlled motivation, no predictor was significant, which is consistent with the exploratory status of H6. Gender, discipline and year of study were not significantly related to any type of motivation. Management and engineering students did not differ significantly in autonomous motivation (4.82 against 4.99; Welch t = -1.52, p = .130, d = -0.20), controlled motivation or amotivation.

4.4 Summary of Hypothesis Tests

H1 was supported for all three distress measures. H2 was not supported once intensity of use was controlled, although bivariate associations in the expected direction were present. H3 was supported. H4 was supported. H5 was partly supported, for stress with autonomous motivation and for depression with amotivation. H6 showed no relationship, so no pattern was found for controlled motivation.

5. Discussion

5.1 Amount of Use, Not Purpose, Carries the Link with Distress

The first main finding is that the intensity of social media use was consistently related to depression, anxiety and stress, whereas the purposes of use were not once intensity was taken into account. This pattern is consistent with the weak-to-moderate links between use and mental health reported in the wider literature (Godard & Holtzman, 2024) and with evidence that more problematic or heavier patterns of use relate more closely to symptoms than

does the nature of use (Ghanayem et al., 2024). It is only partly consistent with the finding that motives for use matter, with social connection motives linked to lower stress and escapist motives to higher stress (Hughes-Nind et al., 2024). One reason for the difference may be that the present measure of purpose was based on general agreement with statements about use, not on the motives students had when they were actually online, and that in this sample the heavy users were heavy across all purposes. The correlation between hours and both social and entertainment use was high (r = .43 to .49), so that the unique contribution of purpose was small. Future studies would benefit from measures that separate purpose from time, for example through diary methods or platform usage logs.

The effect sizes should also be kept in perspective. Intensity of use explained between 16 and 19 per cent of the variance in each distress measure together with the other predictors. A one standard deviation difference in daily hours (about 1.3 hours) corresponded to roughly a third of a standard deviation difference in anxiety and stress. This is a meaningful but modest association, and it does not show that social media causes distress; students who feel distressed may also turn to social media more heavily, as the coping evidence in earlier work suggests (Ghanayem et al., 2024).

5.2 Purposeful Use Supports Autonomous Motivation, Entertainment Use Accompanies Amotivation

The second finding is that the purpose of use was related to the quality of motivation. Academic use of social media was the strongest correlate of autonomous motivation, and entertainment use was positively related to amotivation. In SDT terms, using platforms to learn, to share notes and to take part in study communities can satisfy needs for competence and relatedness, and thereby support the sense that study is self-chosen and valued. This is in line with evidence that educational use and perceived need satisfaction go together with engagement and satisfaction (Alturki & Aldraiweesh, 2024) and that academic motives for use accompany better attainment (Hughes-Nind et al., 2024). Entertainment use, in contrast, may compete with study for time and attention and may leave students without a sense of purpose in their work, which is consistent with the link found between excessive hedonic use and burnout (Ma et al., 2025). The association with amotivation, and not with controlled motivation, suggests that entertainment-oriented use is related less to students studying under pressure and more to students losing their reasons for studying.

It is noteworthy that the intensity of use, which correlated negatively with autonomous motivation, no longer predicted it once purposes and distress were included. The most plausible reading is that the amount of time matters mainly through what students do with that time and how it makes them feel. This interpretation is, however, based on cross-sectional regression and should be tested with mediation models in longitudinal data.

5.3 Distress and the Quality of Motivation

The third finding is that distress was related to motivation in the direction predicted by SDT: stress was associated with lower autonomous motivation, and depression with higher amotivation. This is consistent with the argument that distress signals frustrated needs and is accompanied by a retreat from self-endorsed motivation. The pattern echoes findings on adjacent outcomes, where addiction-like use was linked to lower engagement through poorer sleep (Khalaf et al., 2025) and excessive use to burnout, which in turn reduced performance (Ma et al., 2025). That the three distress measures were so strongly correlated limits what can be said about which component matters most, and the differences between stress and depression in their relationship to different types of motivation should be treated as tentative.

5.4 The Absence of a Pattern for Controlled Motivation

No predictor explained controlled motivation. This null result is informative. In SDT, controlled motivation includes introjected regulation (studying out of guilt or to protect self-worth) and external regulation (studying for rewards or to avoid punishment), and these forms of regulation are likely to be driven by features of the academic environment, such as grading practices, family expectations and career pressure, more than by social media habits. In a high-pressure environment such as Indian management and engineering education, controlled motivation may be widespread and relatively uniform. The wide variation in motivational profiles reported in

other student samples (Juárez-Díaz et al., 2026) suggests that studies using person-centred approaches may identify subgroups for whom the combination of controlled motivation and distress is especially important.

5.5 Gender and Discipline

Women reported higher depression than men, while discipline had no significant relationship with distress or motivation. The absence of a discipline difference is notable given the differences in curriculum and teaching between management and engineering, and suggests that the processes examined here are broadly shared across the two disciplines, although the study was not powered to detect small differences.

6. Implications

6.1 Theoretical Implications

The study applies SDT to a question usually framed in terms of performance and well-being, and shows that the quality of motivation is a useful outcome. It supports the view that purposes of use are related to need-supportive or need-frustrating experiences and to the type of motivation that follows. It also shows that intensity and purpose of use overlap and that their separate roles are hard to disentangle with cross-sectional self-report data, which argues for designs that measure both with greater precision.

6.2 Practical Implications for Institutions and Educators

- **Promote purposeful use rather than limit use.** Because academic use was related to autonomous motivation, faculty can build structured, voluntary uses of social platforms into courses, such as study communities, peer-explanation channels and curated educational content, while giving students choice in how they take part.
- **Address time and distress together.** Heavy use accompanied higher distress. Counselling centres and mentoring programmes can include conversations about digital habits as part of screening for stress, and can give students practical strategies for managing time online.
- **Watch for entertainment-driven disengagement.** Students whose use is mainly for entertainment and who report depressive symptoms may be at risk of amotivation, and early outreach by mentors may help.
- **Support need satisfaction in the classroom.** Since the quality of motivation depends on autonomy, competence and relatedness, teaching practices that offer choice, feedback and a sense of belonging are likely to be protective whatever students do online.

6.3 Implications for Policy

Policy makers and accreditation agencies that encourage digital engagement in higher education could add guidance on student well-being and digital habits to quality frameworks, and encourage institutions in large student cities to share good practice on mental health support for management and engineering students.

7. Limitations and Future Research

Several limitations should be acknowledged. The design is cross-sectional, so no causal or temporal order can be inferred. Students who feel distressed may use social media more, and students who lack motivation may drift towards entertainment use. The sample was recruited by quota and convenience sampling, which limits generalisation beyond management and engineering students in Bengaluru. All measures were self-reported and collected at one time, which creates a risk of common-method variance and social desirability. Intensity of use was based on self-estimated hours, which tend to be inaccurate. The purpose-of-use measure was a general attitude scale, not a record of behaviour. The DASS-21 measures symptom severity and does not diagnose any condition. The study had adequate power only for effects of small-to-medium size or larger, and some non-significant coefficients may reflect limited power. The strong correlations among distress measures limit the separation of their effects.

Future work could address these limitations in several ways. Longitudinal and experience-sampling designs could track daily use, mood and motivation, and clarify the direction of effects. Studies could test mediation by distress

and by basic psychological need satisfaction directly, using structural equation modelling and measures of autonomy, competence and relatedness. Behavioural logs could replace self-reported time. Person-centred approaches could identify groups of students with different combinations of use, distress and motivation. Samples should include other disciplines, institution types and cities, and comparisons between public and private institutions would be informative. Finally, the moderating roles of gender, age, mindfulness and social support, suggested by earlier work (Godard & Holtzman, 2024; Ma et al., 2025), deserve examination in Indian samples.

8. Conclusion

This study asked how social media use relates to psychological distress and to the quality of academic motivation among undergraduate management and engineering students in Bengaluru. The evidence indicates that the amount of time spent on social media is the main correlate of depression, anxiety and stress, that purposeful academic use goes together with more autonomous motivation, that entertainment use goes together with amotivation, and that distress accompanies a weaker, less self-endorsed motivation to study. Controlled motivation was not explained by social media use or distress. The findings suggest that institutions are better served by encouraging purposeful use and supporting student well-being than by treating social media as uniformly harmful. Because the study is cross-sectional and based on a convenience sample, these conclusions describe associations and should be confirmed with longitudinal evidence.

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