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A Quantitative Study of Smartphone Addiction and Procrastination among Young Adults (18-34 Years)

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Abstract: ***This study examined the association between smartphone addiction and procrastination among 101 young adults aged 18-34 years, using a quantitative, cross-sectional, correlational design and an online survey (September–October 2026). Two researcher-adapted ten-item scales showed excellent reliability (α = .94 and .93). Smartphone addiction was strongly and positively correlated with procrastination, r(99) = .824, p < .001, and explained 67.9% of its variance. It remained the only significant predictor after controlling for age group, gender and daily usage hours (β = .90), and the relationship was not moderated by these variables. Scores were higher among women, older respondents, heavier users and entertainment- or social-media-oriented users, although age and gender were partly confounded in the sample. The cross-sectional design and researcher-adapted scales limit causal and population-level conclusions.***

Keywords: smartphone addiction, procrastination, young adults, self-regulation, digital well-being

1. Introduction

The smartphone has become a hub for communication, study, work and entertainment. Features such as infinite feeds, notifications and variable rewards make it hard to disengage (Alter, 2017), and problematic use may compete with the time and attention needed for planned tasks. Procrastination, the voluntary delay of an intended action despite expecting to be worse off (Steel, 2007), is widely regarded as a self-regulation and emotion-regulation problem (Sirois & Pychyl, 2013). Because the phone offers an instant escape from effortful tasks, the two behaviours may be closely linked. Evidence from Indian young adults beyond student samples remains limited (Mahapatra, 2019).

The study draws on the cognitive–behavioural model of pathological use (Davis, 2001), self-regulation theory (Baumeister & Vohs, 2004) and temporal motivation theory (Steel & König, 2006). Its objectives were to: (1) measure levels of smartphone addiction and procrastination; (2) test the relationship between them; (3) test whether addiction predicts procrastination; (4) examine moderation by age group, gender and daily usage; and (5) compare groups. The primary hypothesis was that higher smartphone addiction is associated with higher procrastination.

2. Review of Literature

Smartphone addiction is described as compulsive use, loss of control, withdrawal-like discomfort and interference with daily life, although some authors prefer "problematic use" because the addiction analogy may be overstated (Panova & Carbonell, 2018). Models such as the pathways model (Billieux, 2012) and I-PACE (Brand et al., 2016) stress impulsivity, affect and weak executive control. The Smartphone Addiction Scale–Short Version is a widely used 10-item screening measure (Kwon et al., 2013).

Procrastination is linked to impulsiveness, distractibility and low conscientiousness (Steel, 2007; Gustavson et al., 2014), and carries costs in stress, health and performance (Tice & Baumeister, 1997). Experimental work shows that the presence of a phone and even unanswered notifications can reduce cognitive capacity and disrupt attention (Ward et al., 2017; Stothart et al., 2015). Correlational studies link problematic phone and social-media use to procrastination (Meier et al., 2016; Przepiórka et al., 2016; Rozgonjuk et al., 2018) and to lower productivity and academic performance (Duke & Montag, 2017; Hawi & Samaha, 2016).

Most studies, however, involve students in Western or East Asian settings, rarely test demographic moderators, and seldom report confidence intervals. This study addresses these gaps with a mixed sample of students, employed, self-employed and unemployed Indian young adults.

3. Methodology

Design and sample: A quantitative, cross-sectional, correlational design was used. 101 respondents aged 18–34 years were recruited by purposive and snowball sampling and completed an online questionnaire between 11 September and 24 October 2026 after giving informed consent. The sample exceeded the planned minimum of 60 and could detect correlations of about r = .28 or larger with 80% power. One respondent who did not disclose gender was excluded from analyses involving gender only.

Instruments: The questionnaire collected age group, gender, occupation, daily smartphone use, most-used application, main purpose and perceived effect on productivity, followed by two ten-item scales rated from 1 (strongly disagree) to 5 (strongly agree) (Likert, 1932). The scales were designed in the conceptual tradition of the SAS-SV and the Pure Procrastination Scale but are researcher-adapted, so published norms and clinical cut-offs do not apply. Total scores range from 10 to 50.

Table 3.1: Summary of the instruments

Scale	Items	Example item	α
Smartphone addiction	10 (Q1–Q10)	I find it difficult to stop using my smartphone.	0.937
Procrastination	10 (Q11–Q20)	I postpone assignments or work until the last minute.	0.929
Procrastination (excluding 4 phone-referencing items)	6	I often regret postponing important tasks.	0.891

Ethics and analysis: Participation was voluntary and anonymous, in line with the Declaration of Helsinki and national ethical guidelines. Analyses used Python (SciPy): descriptive statistics, Cronbach's alpha, Pearson, Spearman and Kendall correlations, simple and hierarchical regression, moderated regression, t-tests, ANOVA with Tukey post-hoc tests, and non-parametric checks. Significance was set at .05, and correlation strength was interpreted using Schober et al. (2018).

4. Results

4.1 Participants

Of the 101 respondents, 54 were men, 46 women and one undisclosed. 44% were aged 18–22. Students (41%) and employed respondents (40%) were the largest groups, and Instagram (41) and WhatsApp (36) the most-used applications. Younger respondents were mostly male and the oldest group mostly female, so age and gender are partly confounded.

Table 4.1: Profile of respondents

Variable	Categories (n)
Age group	18–22 (44); 23–26 (28); 27–30 (9); 31–34 (20)
Gender	Male (54); Female (46); Not disclosed (1)
Occupation	Student (41); Employed (40); Self-employed (14); Unemployed (6)
Daily use	<2 h (29); 2–4 h (44); 4–6 h (22); >6 h (6)

4.2 Descriptive statistics and severity levels

The mean smartphone addiction score was 29.14 (*SD* = 10.02) and the mean procrastination score 28.05 (*SD* = 9.45). Using descriptive bands on mean item score (low < 2.50, moderate 2.50–3.49, high ≥ 3.50), 35% of respondents were high on smartphone addiction and 27% high on procrastination (Figure 4.1). These bands are descriptive, not clinical.

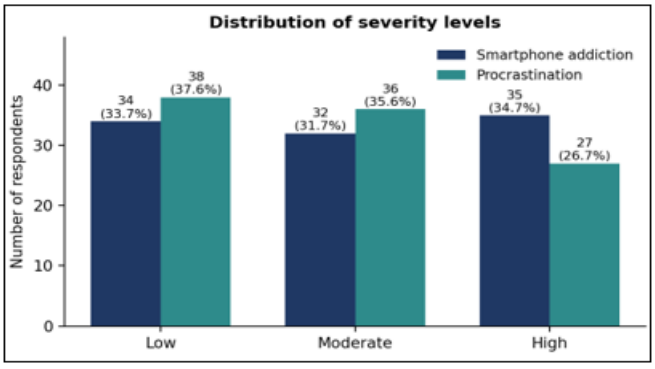

Figure 4.1: Severity levels of smartphone addiction and procrastination

4.3 Relationship between smartphone addiction and procrastination

The two scores were strongly and positively correlated, $r(99) = .824$, 95% CI [.749, .878], $p < .001$ (Spearman $\rho = .830$; Kendall $\tau = .658$), so the null hypothesis was rejected. Because four procrastination items mention the phone, a sensitivity analysis excluding them still gave $r = .786$. All dimension-level correlations were positive and significant (.57–.81), strongest for functional interference of the phone with routines.

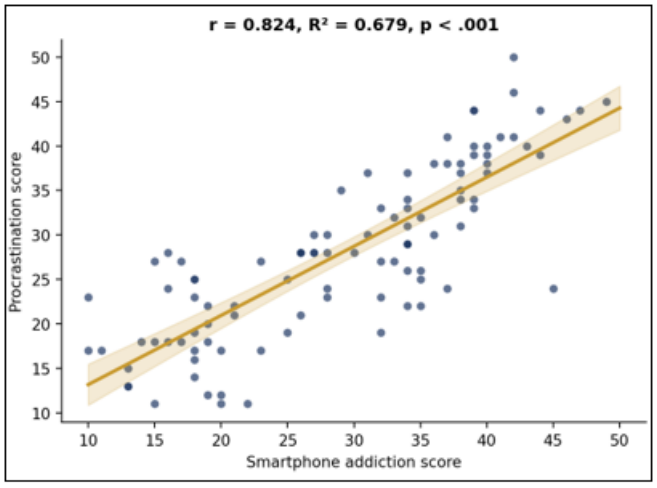

Figure 4.2: Scatter plot of smartphone addiction and procrastination with regression line

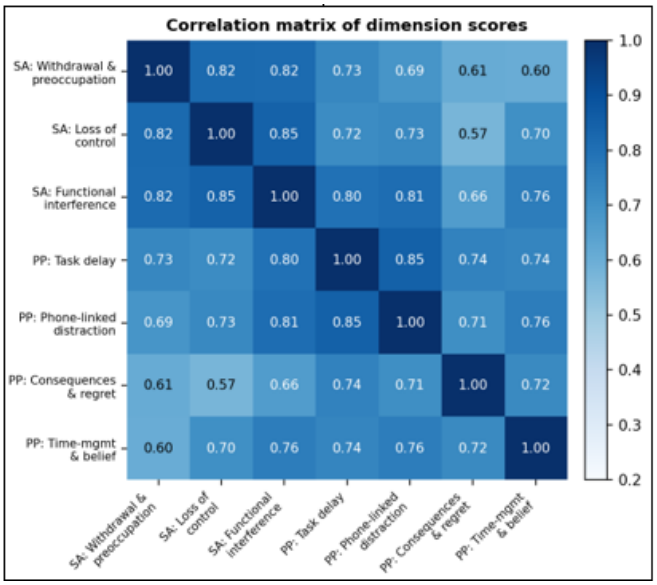

Figure 4.3: Correlations among the dimension scores of the two scales

4.4 Prediction and Moderation

Simple regression showed that smartphone addiction explained 67.9% of the variance in procrastination, $F(1, 99) = 209.19$, $p < .001$; each additional addiction point predicted 0.78 additional procrastination points. In a hierarchical regression (n = 100), age group, gender and usage hours explained 24.1% of the variance; adding smartphone addiction raised this to 68.6% ($\Delta R^2 = .445$, $p < .001$), and addiction was the only significant predictor (Table 4.2). No

interaction with gender, age group or usage hours was significant (all $p > .40$), and the correlation was positive in every subgroup.

Table 4.2: Hierarchical regression predicting procrastination

Predictor	β Step 1	p	β Step 2	p
Age group	0.38	< .001	−.08	0.276
Gender (male = 1)	−.06	0.496	0.05	0.426
Daily usage hours	0.24	0.008	−.04	0.521
Smartphone addiction	—	—	0.9	< .001
R^2	0.241	< .001	0.686	< .001

4.5 Group Differences

Women scored higher than men on smartphone addiction (M = 32.72 vs 25.96, d = 0.71) and procrastination (d = 0.45), but the procrastination difference disappeared after controlling for age. Scores rose with age group, and respondents using the phone under two hours daily scored lower than heavier users, with little difference among heavier groups (Table 4.3). WhatsApp users and those using the phone mainly for education scored lowest. Respondents' own belief about whether the phone affects their productivity was only loosely related to their scores.

Table 4.3: One-way ANOVA results (SA = smartphone addiction; PP = procrastination)

Grouping	SA test	η^2	PP test	η^2
Age group	F(3, 97) = 17.74, < .001	0.35	F = 7.21, < .001	0.18
Occupation	F(3, 97) = 3.09, .031	0.09	F = 0.87, .457	0.03
Daily use	F(3, 97) = 8.08, < .001	0.2	F = 5.60, .001	0.15
Application	F(2, 98) = 10.01, < .001	0.17	F = 8.51, < .001	0.15
Purpose	F(3, 97) = 9.58, < .001	0.23	F = 5.94, < .001	0.16

Note. Kruskal–Wallis tests gave the same conclusions except for occupation on procrastination, where neither test was significant.

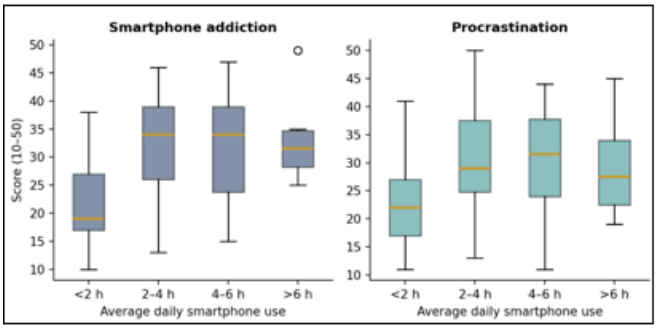

Figure 4.4: Scores by average daily smartphone use (box plots)

4.6 Summary of hypothesis testing

Table 4.4: Hypothesis testing summary

Hypothesis	Result	Decision
H_1: smartphone addiction is positively related to procrastination	r = .824, p < .001	Supported
H_2: smartphone addiction predicts procrastination	R^2 = .679; ΔR^2 = .445 after controls	Supported
H_3: gender, age group or usage hours moderate the relationship	All interactions p > .40	Not supported
H_4: scores differ across demographic and usage groups	Significant for gender, age, usage and (SA only) occupation	Partly supported

5. Discussion

The strong association (r = .824) supports the expectation from self-regulation, mood-repair and I-PACE accounts that compulsive, poorly controlled phone use accompanies the habit of delaying tasks (Baumeister & Vohs, 2004; Sirois & Pychyl, 2013; Brand et al., 2016). It is larger than the small-to-moderate correlations usually reported, which may reflect shared-method variance (Podsakoff et al., 2003), conceptual overlap between scales, and a sample that combines low-scoring younger students with higher-scoring older and heavier users. The sensitivity analyses suggest the link is not just an artefact of shared wording.

That hours of use added nothing once addiction was controlled, and that scores did not differ among heavier-use groups, supports the view that the psychological quality of use matters more than its duration (Elhai et al., 2017). The strongest links involved functional interference and loss of control rather than discomfort without the phone, in line with habit-based accounts of problematic use (Panova & Carbonell, 2018).

The finding that scores rose with age is the opposite of earlier reports of higher problematic use among younger people (Bianchi & Phillips, 2005; Haug et al., 2015). In this sample the youngest group was mostly male students, and older groups were mostly female and employed or unemployed, so age, gender and occupation are intertwined. This should be treated as a feature of the sample, to be tested in more balanced samples. Practical implications include notification management, phone-free work blocks, limiting late-night use, and digital-wellness and time-management programmes in colleges and workplaces.

Table 5.1: Practical implications by audience

Audience	Suggested action
Young adults	Turn off non-essential notifications; keep the phone out of reach during study or work blocks; charge it outside the bedroom; schedule social-media time.
Counsellors	Screen for problematic phone use in clients with procrastination; combine stimulus control, emotion-regulation skills and self-compassion.
Educators	Offer digital-wellness and time-management modules; set clear device-use norms in class.
Employers	Set norms on after-hours messaging and protect focused-work periods.

6. Limitations and Conclusion

- **Design:** cross-sectional, so no causal claims; the link may be reciprocal or driven by impulsivity or stress.
- **Measures:** researcher-adapted self-report scales; factor structure and validity were not established, and common-method bias is possible.
- **Sample:** non-probability, with unbalanced age and gender composition and small subgroups.

- **Future work:** validated scales (SAS-SV, Pure Procrastination Scale), longitudinal designs, objective usage logs and measures of impulsivity, sleep and stress.

Among 101 young adults, higher smartphone addiction went hand in hand with higher procrastination (r = .824). The association was robust to controls, was similar across gender, age and usage subgroups, and made smartphone addiction the dominant predictor of procrastination. Smartphone habits are therefore a worthwhile target for counselling, education and workplace programmes that help young adults act on their intentions.

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