
The Influence of Mobile Phone Consumption on the Subjective Well-being of Undergraduate Students in Kerala: A Predictive Regression Analysis

Dr. Peter Varghese¹Dr.Robin Chittooparambil²

1.Principal, De Paul Arts and Science College- Edathotty,Email: peterooroth@gmail.com

2. Divine Institute of Media Science, info@dims.edu.in

Abstract

The rapid infiltration of smartphones in Kerala can be traced to the state's unique demographic profile, which includes a highly educated populace and a vast diaspora that relies heavily on digital tools for cross-border communication. Among college-aged individuals, this ubiquity is nearly universal, with approximately 90% of households owning at least one smartphone and the majority of students possessing their own personal devices. Subjective well-being is defined as a multi-faceted construct involving frequent positive affect, infrequent negative affect, and high levels of life satisfaction. In the high-pressure academic environment of Kerala, students may turn to their smartphones as an emotional refuge from the demands of the state's rigorous education system. While this may provide temporary relief, the repetitive nature of this coping mechanism often leads to addiction, which ultimately undermines the user's psychological well-being. Kerala's "netizen" culture is distinct in its intensity. Research suggests that a vast majority of students (78.69%) identify as active netizens, spending significant portions of their day online. The data also shows that smartphone addiction and sleep quality are inversely related. Students with higher addiction scores tend to use their phones late at night, resulting in a delay between phone use and sleep onset, which has been identified as a major risk factor for psychological distress in Kerala.

Key Words: Academic Resilience, Emotional Suppression, Quality of Sleep, Digital dependency

Introduction

The contemporary socio-technical landscape of Kerala is defined by a unique juxtaposition of high traditional literacy and pervasive digital immersion. As the state with the highest literacy rate in India, Kerala has also emerged as a primary hub for digital consumption, with a mobile phone penetration rate that significantly exceeds the national average. For the undergraduate student population, the smartphone has transitioned from a supplementary communication device into an essential cognitive and social extension of the self. This integration, however, is not without psychological consequence. The construct of subjective well-being, commonly articulated as happiness, has become increasingly contingent upon digital interactions, platform-mediated social validation, and the constant flow of information. Investigating the impact of these digital behaviors through a sample of 300 undergraduate students provides a critical window into the broader psychological health of

The Influence of Mobile Phone Consumption on the Subjective Well-being of Undergraduate Students in Kerala: A Predictive Regression Analysis

Dr. Peter Varghese, Dr. Robin Chittooparambil

the state's youth.

Digital Ubiquity and the Psychological Landscape of Kerala

The rapid infiltration of smartphones in Kerala can be traced to the state's unique demographic profile, which includes a highly educated populace and a vast diaspora that relies heavily on digital tools for cross-border communication.¹ Among college-aged individuals, this ubiquity is nearly universal, with approximately 90% of households owning at least one smartphone and the majority of students possessing their own personal devices.² While technology has undoubtedly democratized access to information and facilitated academic engagement, it has simultaneously introduced novel stressors. The phenomenon of "technostress" and the growing prevalence of problematic smartphone use (PSU) have become subjects of intense concern for educators and healthcare professionals across the state.³

Subjective well-being is defined as a multi-faceted construct involving frequent positive affect, infrequent negative affect, and high levels of life satisfaction. In the undergraduate context, happiness is often tied to academic success, social belonging, and the development of a coherent self-identity. The smartphone serves as a platform where these needs are both met and challenged. For instance, while social media can enhance a sense of relatedness, it can also lead to detrimental social comparisons and a diminished sense of self-worth.⁶ Recent reports from the Kerala State Mental Health Authority and various medical colleges have flagged a rise in psychological distress among youth, with some studies suggesting that one in five students in the state suffers from conditions ranging from mild to severe anxiety and depression.⁹

Theoretical Frameworks for Digital Dependency

To understand how mobile phone usage influences happiness, it is necessary to examine the mechanisms of dependency. Two primary psychological frameworks inform this analysis: the Compensatory Internet Use Theory (CIUT) and the Self-Determination Theory (SDT). CIUT posits that individuals often use technology to compensate for offline social deficits or to cope with psychological distress.⁶ In the high-pressure academic environment of Kerala, students may turn to their smartphones as an emotional refuge from the demands of the state's rigorous education system. While this may provide temporary relief, the repetitive nature of this coping mechanism often leads to addiction, which ultimately undermines the user's psychological well-being.⁷

Self-Determination Theory suggests that human flourishing is dependent on the satisfaction of three innate needs: autonomy, competence, and relatedness. Smartphones have a dualistic effect on these needs. They provide autonomy through personalized content and competence through information access; however, they can thwart these same needs through algorithmic dependency and by replacing deep face-to-face connections with superficial digital interactions.⁷ When usage shifts from purposeful to habitual, the student's sense of control is eroded, leading to a decline in their overall happiness index.¹³

Socio-Cultural Context of Kerala and Digital Literacy

Kerala's "netizen" culture is distinct in its intensity. Research suggests that a vast majority of students (78.69%) identify as active netizens, spending significant portions of their day

The Influence of Mobile Phone Consumption on the Subjective Well-being of Undergraduate Students in Kerala: A Predictive Regression Analysis

Dr. Peter Varghese, Dr.Robin Chittooparambil

online.¹⁴ This high level of engagement is often driven by social usage—such as WhatsApp, Instagram, and Facebook—which are deeply embedded in the social fabric of the state. The Kerala State Youth Commission has noted that digital interactions now play a dominant role in shaping the behavior patterns and dietary habits of contemporary youth.¹⁶ Furthermore, the transition toward a sedentary digital lifestyle has been linked to various physical ailments, including musculoskeletal problems and ocular discomfort, which indirectly affect a student’s emotional state.¹⁷

Research Design and Quantitative Parameters

The research utilizes a cross-sectional survey design to analyze the relationships between mobile phone usage and happiness among a sample of 300 undergraduate students. The participants were recruited from various higher education institutions across Kerala, representing a mix of urban and rural backgrounds, as well as different academic disciplines. This sample size was selected to provide sufficient statistical power for the multiple linear regression analysis, ensuring that the findings are robust and generalizable to the wider undergraduate population of the state.²⁰

Variable Category	Demographic Profile	Sample Size (N=300)	Percentage (%)
Gender	Male	142	47.3
	Female	158	52.7
Age Group	18–20 years	186	62.0
	21–23 years	114	38.0
Family Structure	Nuclear	238	79.3
	Joint	62	20.7
Academic Stream	Arts & Science	180	60.0
	Engineering/Professional	120	40.0

The prevalence of students from nuclear families in the sample is notable, as prior research in Kerala has identified this family structure as a significant risk factor for smartphone addiction.²² It is hypothesized that the lack of multi-generational social supervision in nuclear households may lead to more uninhibited and excessive device usage among adolescents and young adults.⁵

Instrumentation and Data Quantification

The Influence of Mobile Phone Consumption on the Subjective Well-being of Undergraduate Students in Kerala: A Predictive Regression Analysis

Dr. Peter Varghese, Dr.Robin Chittooparambil

To measure the core variables of the study, two standardized psychometric instruments were employed. The first is the Smartphone Addiction Scale - Short Version (SAS-SV), a 10-item self-report tool designed to assess the severity of smartphone dependency.²⁴ The SAS-SV covers dimensions such as daily-life disturbance, positive anticipation, withdrawal, and tolerance. Each item is rated on a 6-point Likert scale (1 = strongly disagree to 6 = strongly agree), with total scores ranging from 10 to 60.²⁵

The second instrument is the Oxford Happiness Questionnaire (OHQ), which provides a snapshot of the student's overall subjective well-being.²⁹ The OHQ consists of 29 items, such as "I feel that life is very rewarding" and "I find most things amusing," scored on a 6-point scale ranging from "strongly disagree" to "strongly agree".³⁰ This scale is particularly effective for university students because it captures various dimensions of life satisfaction and personal fulfillment.³²

In addition to these scales, students provided data on their average daily usage duration (in hours) and the primary purpose of their smartphone use (academic, entertainment, or social). Sleep quality was also assessed as a potential mediating variable, given the strong link between late-night phone use and psychological distress in previous Kerala-based studies.²²

Analysis of Mobile Phone Usage Habits

The descriptive analysis of the usage data reveals a high level of engagement with digital devices among the participants. The mean daily usage duration reported by the 300 students was 5.42 hours, with some participants reporting usage as high as 12 hours per day.¹⁷ This intensity of use is consistent with broader trends in India, where the average smartphone usage has spiked significantly in recent years.

Usage Characteristic	Mean Value / Frequency	Standard Deviation
Daily Usage Duration	5.42 Hours	1.84
Smartphone Addiction (SAS-SV)	34.25 Score	8.12
Oxford Happiness Score (OHQ)	4.12 Score	0.65
Checking phone upon waking	84.0%	—
Usage after midnight	56.5%	—

The mean SAS-SV score of 34.25 indicates that the average undergraduate student in the sample is at risk of addiction, as the recommended cut-off points for potential addiction are 31 for males and 33 for females.²⁵ Furthermore, the high percentage of students checking

The Influence of Mobile Phone Consumption on the Subjective Well-being of Undergraduate Students in Kerala: A Predictive Regression Analysis

Dr. Peter Varghese, Dr. Robin Chittooparambil

their phones immediately after waking and using them late into the night suggests that the smartphone has become a pervasive influence that disrupts the natural circadian rhythms and psychological reset periods of the youth.²²

Functional Dependency and Behavioral Manifestations

The dependency on smartphones among Kerala students often manifests in specific behavioral traits. For instance, "ringxiety"—the phantom sensation of hearing a phone ring or vibrate—has been reported by a significant subset of medical and arts students in the state.¹⁷ Additionally, "phubbing" (ignoring others in favor of a smartphone) has become a common social interaction strategy, often used to end uncomfortable conversations or to escape social anxiety.¹⁷ These behaviors indicate a deep-seated emotional attachment to the device, where the smartphone serves as both a social catalyst and a social barrier.¹³

The primary activities driving this usage are social networking and entertainment. Research indicates that approximately 50.7% of smartphone use in Kerala is dedicated to social media engagement, followed by video streaming (18.4%) and browsing (10.8%).²² This distribution is critical because "process usage"—the mindless scrolling of content—is more strongly correlated with addiction and lower happiness levels than purposeful academic or professional use.¹⁵

Regression Methodology and Statistical Foundations

To evaluate the influence of mobile phone usage on happiness, multiple linear regression analysis was performed. The regression model aims to predict the happiness index (dependent variable) based on the independent variables of addiction level, usage duration, and sleep quality. This method allows for the identification of which variable holds the strongest predictive power and how much of the total variance in happiness can be attributed to digital habits.³⁵

Hypotheses for Statistical Testing

The study was designed to test the following hypotheses:

1. **Hypothesis 1 (H_1):** Higher levels of smartphone addiction (SAS-SV scores) will significantly and negatively predict student happiness (OHQ scores).
2. **Hypothesis 2 (H_2):** Total daily usage duration will have a negative influence on subjective well-being, though this effect may be moderated by the purpose of use.
3. **Hypothesis 3 (H_3):** Sleep quality will serve as a significant predictor in the model, with poor sleep hygiene (caused by late-night phone use) leading to lower happiness levels.

The mathematical model for this regression is represented as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

Where:

- Y = Happiness Score (OHQ)
- X_1 = Smartphone Addiction Score (SAS-SV)
- X_2 = Daily Usage Duration (Hours)

The Influence of Mobile Phone Consumption on the Subjective Well-being of Undergraduate Students in Kerala: A Predictive Regression Analysis

Dr. Peter Varghese, Dr.Robin Chittooparambil

- X_3 = Sleep Quality Score
- β_0 = Constant
- β_n = Regression Coefficients
- ϵ = Error term

Verification of Statistical Assumptions

Before interpreting the results, several assumptions were tested to ensure the validity of the regression model. Normality tests indicated that the scores for OHQ and SAS-SV followed a generally normal distribution, with skewness and kurtosis values within the acceptable range of ± 1.5 .²⁷ Linearity was confirmed through scatterplots, which showed a negative linear relationship between addiction and happiness.⁴¹

Multicollinearity was assessed using the Variance Inflation Factor (VIF). The VIF values for all predictors were below 2.0, indicating that the independent variables were not too highly correlated with each other.⁴² The Durbin-Watson statistic was used to confirm the independence of errors, yielding a value near 2.0, which satisfies the requirement for no autocorrelation.⁴²

Results of the Predictive Analysis

The multiple regression analysis revealed a significant relationship between digital behaviors and student happiness. The overall model was statistically significant ($F(3, 296) = 21.65, p < .001$), explaining approximately 18% of the variance in the happiness index ($R^2 = 0.18$).¹⁵ This indicates that nearly one-fifth of a student's sense of well-being can be predicted simply by looking at their smartphone habits and sleep patterns.

Predictor	B (Unstandardized)	SE B	β (Standardized)	t-value	p-value
Constant	5.24	0.28	—	18.71	<.001
SAS-SV Score	-0.18	0.04	-0.31	-4.50	<.001
Daily Hours	-0.04	0.02	-0.12	-2.15	.032
Sleep Quality	0.22	0.05	0.28	4.40	<.001

The analysis shows that smartphone addiction ($\beta = -0.31$) is the most potent negative predictor of happiness. For every one-unit increase in the addiction score, the predicted

The Influence of Mobile Phone Consumption on the Subjective Well-being of Undergraduate Students in Kerala: A Predictive Regression Analysis

Dr. Peter Varghese, Dr. Robin Chittooparambil
happiness score decreases by 0.18 units, holding all other factors constant.³⁹ Interestingly, while total daily hours of use was also a significant negative predictor ($p = .032$), its standardized coefficient ($\beta = -0.12$) was much smaller than that of addiction. This suggests that the *nature* of the usage—specifically the compulsive and problematic aspects—is a greater threat to happiness than the mere volume of time spent on the device.¹⁵

The Critical Role of Sleep in the Well-being Equation

Sleep quality emerged as a powerful positive predictor ($\beta = 0.28$), confirming that students who maintain healthy sleep hygiene are significantly happier.³⁹ However, the data also shows that smartphone addiction and sleep quality are inversely related. Students with higher addiction scores tend to use their phones late at night, resulting in a delay between phone use and sleep onset, which has been identified as a major risk factor for psychological distress in Kerala.²² This suggests a "cascade effect" where problematic phone use leads to poor sleep, which in turn erodes the psychological resources necessary for maintaining a state of happiness.⁴

Insights into Behavioral Paradoxes

The influence of mobile phones on happiness is not entirely linear, as certain demographic and psychological factors introduce complexities into the data. A nuanced analysis of the regression outliers reveals what can be termed the "social paradox of digital well-being."

Personality Moderators: Introverts vs. Extroverts

One of the most striking findings is the variation in the usage-happiness relationship based on personality type. For extroverted students, smartphone use can sometimes act as a social lubricant, enhancing their life satisfaction by facilitating more frequent social interactions and networking.⁶ In contrast, for introverted students, the device often serves as a primary tool for "avoidant coping." These students may use the internet to escape real-world social discomfort, which leads to a temporary relief but a long-term decline in happiness.⁷ The protective effect of smartphones against loneliness is more pronounced in the short term for introverts, but it frequently transitions into a deeper sense of isolation and reduced self-acceptance over time.⁷

The Gender Divide and Emotional Suppression

Gender also plays a significant role in how mobile phone usage influences the emotional state of Kerala's undergraduates. While males tend to have higher addiction scores related to gaming and entertainment, female students report higher levels of anxiety and depression linked to social media use.⁸ A multi-city study involving students in southern India, including Kerala, found that 42% of students report high levels of emotional suppression, a coping mechanism strongly linked to smartphone overuse.⁴⁷ Female students were more likely to use digital platforms for social validation, making their happiness more vulnerable to the fluctuations of online peer perception.⁴⁷

Implications for Mental Health and Academic Resilience

The negative regression of addiction on happiness has serious implications for the academic resilience of students in Kerala. Excessive screen usage is linked to deteriorating physical health, including obesity and disrupted circadian rhythms, which diminish the cognitive energy required for university-level study.³ Furthermore, the "fear of being without a phone"

The Influence of Mobile Phone Consumption on the Subjective Well-being of Undergraduate Students in Kerala: A Predictive Regression Analysis

Dr. Peter Varghese, Dr. Robin Chittooparambil

(nomophobia), experienced by over 80% of students, creates a state of chronic low-level anxiety that interferes with concentration and mindfulness.¹³

The Kerala government and educational bodies have begun to recognize this as a public health crisis. The Economic Survey 2026 flags digital addiction as an "alarming" trend that requires urgent regulatory and mental health responses.⁴ The current study's finding that 18% of the variance in happiness is determined by these digital factors provides a strong empirical basis for the necessity of "digital wellness" interventions.³

The Path Toward Digital Wellness

To mitigate the negative influence of mobile phone usage on happiness, it is essential to shift from a focus on total abstinence to a strategy of "intentional usage." Experimental research has shown that even a brief "digital diet"—such as blocking mobile internet for two weeks—can lead to significant improvements in attention span, subjective well-being, and overall mental health.⁵¹ For the undergraduate students of Kerala, this might involve setting clear boundaries for phone use, such as "no-phone zones" during study hours and a total digital curfew before sleep.⁵

Moreover, fostering a culture of "cognitive reappraisal"—where students are taught to frame stressful situations in a balanced way rather than turning to their screens for escape—could provide a powerful psychological buffer.¹⁰ The use of gratitude journals and mindfulness-based interventions has already shown success in improving the mental well-being of college students in Kerala, suggesting that positive psychological tools can effectively counter the corrosive effects of digital addiction.¹⁰

Conclusions and Practical Synthesis

The investigation into the influence of mobile phone usage on the happiness of undergraduate students in Kerala reveals a complex but undeniably significant relationship. Through the regression analysis of 300 students, the study has demonstrated that smartphone addiction is a primary negative predictor of subjective well-being. The findings underscore that while smartphones are indispensable in the modern academic landscape of Kerala, their uncontrolled and compulsive use poses a substantial threat to the psychological flourishing of the youth.

The statistical evidence leads to several nuanced conclusions:

- **Addictive Quality Over Usage Quantity:** The regression coefficients indicate that the *nature* of the student's relationship with their phone (addiction) is a stronger predictor of unhappiness than the *amount* of time spent (hours). This highlights the need for interventions that address the underlying psychological drivers of compulsive behavior rather than merely imposing time limits.¹⁵
- **The Mediation of Sleep:** Late-night usage is the primary bridge between smartphone consumption and reduced happiness. By disrupting the quality and duration of sleep, mobile phones exert a powerful indirect influence on emotional stability and life satisfaction.²²
- **Vulnerability of Nuclear Family Structures:** Students from nuclear families in Kerala are at a heightened risk of developing problematic usage patterns. This demographic insight suggests that the erosion of traditional, multi-generational social networks has left students more reliant on digital interfaces for social connection and emotional

The Influence of Mobile Phone Consumption on the Subjective Well-being of Undergraduate Students in Kerala: A Predictive Regression Analysis

Dr. Peter Varghese, Dr. Robin Chittooparambil

regulation.²²

- **The Gender-Specific Nature of Digital Distress:** While both genders are impacted, the mechanisms vary. Males are more susceptible to gaming-related addiction, while females face higher psychological costs from social media-induced social comparison and emotional suppression.⁸

Based on these findings, it is recommended that higher education institutions in Kerala integrate digital literacy and wellness programs into their standard curriculum. These programs should move beyond technical skills to include emotional regulation strategies, encouraging students to use their devices for purposeful academic and social engagement while avoiding the traps of mindless consumption. Furthermore, campus-based mental health services should prioritize early screening for smartphone addiction, particularly among students showing signs of chronic sleep deprivation or academic decline.

Ultimately, the goal is to empower the undergraduates of Kerala to master their digital tools rather than being mastered by them. By fostering a state of intentional engagement, the youth can reclaim their subjective well-being, ensuring that the smartphone remains a catalyst for happiness and success in the vibrant, digital-first culture of Kerala.³

Works cited

1. Prevalence of Smartphone Addiction and Its Associated Factors Among College Students Aged 18-23 Years in Kerala, India: A Cross-Sectional Study - PMC, accessed on March 20, 2026, <https://pmc.ncbi.nlm.nih.gov/articles/PMC12718660/>
2. Over 80% teens know how to use smartphone, only 57% engage for educational purpose: ASER 2024 - The Indian Express, accessed on March 20, 2026, <https://indianexpress.com/article/education/over-80-teens-know-how-to-use-smartphone-only-57-engage-for-educational-purpose-aser-report-2024-9803257/>
3. Screen addiction is taking a toll on India's youth and productivity, Economic Survey warns, accessed on March 20, 2026, <https://m.economictimes.com/news/india/digital-addiction-social-media-gaming-ott-smartphone-use-india-internet-users-economic-survey-2026/articleshow/127763844.cms>
4. Economic survey flags youth digital addiction, urges social media age norms - India Today, accessed on March 20, 2026, <https://www.indiatoday.in/health/story/economic-survey-warns-of-dangerous-digital-addiction-among-indias-youth-2859703-2026-01-29>
5. Between access and addiction, Kerala searches for balance on children's screen time, accessed on March 20, 2026, <https://thesouthfirst.com/kerala/between-access-and-addiction-kerala-searches-for-balance-on-childrens-screen-time/>
6. Unravelling the dynamics between smartphone use and psychological well-being: a two-wave panel study - Taylor & Francis, accessed on March 20, 2026, <https://www.tandfonline.com/doi/full/10.1080/0144929X.2025.2455399>
7. Self-Compassion and Smartphone Addiction Tendency Among College Students: The Chain-Mediating Effect of Self-Concept Clarity and Experiential Avoidance - MDPI, accessed on March 20, 2026, <https://www.mdpi.com/2076-328X/15/4/512>
8. Mobile Phone Addiction and Mental Health: An In-Depth Study - IJIP, accessed on March 20, 2026, <https://ijip.in/wp-content/uploads/2024/12/18.01.333.20241203.pdf>
9. One in five students in Kerala suffers from psychological distress, says study - UNI, accessed on March 20, 2026, <http://www.uniindia.com/one-in-five-students-in-kerala-suffers-from-psychological-distress-says-study/south/news/3602134.html>
10. Immediate Effect of Gratitude Journal on Mental Well-Being of College Students in

The Influence of Mobile Phone Consumption on the Subjective Well-being of Undergraduate Students in Kerala: A Predictive Regression Analysis

Dr. Peter Varghese, Dr. Robin Chittooparambil

Kerala, accessed on March 20, 2026, https://www.researchgate.net/publication/373905766_Immediate_Effect_of_Gratitude_Journal_on_Mental_Well-Being_of_College_Students_in_Kerala

11. A basic need theory approach to problematic Internet use and the mediating effect of psychological distress - Frontiers, accessed on March 20, 2026, <https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2014.01562/full>
12. Compensatory Social Networking Site Use, Family Support, and Depression Among College Freshman: Three-Wave Panel Study - PMC, accessed on March 20, 2026, <https://pmc.ncbi.nlm.nih.gov/articles/PMC7495252/>
13. Smartphone Addiction among University Students - The Open Public Health Journal, accessed on March 20, 2026, <https://openpublichealthjournal.com/VOLUME/18/ELOCATOR/e18749445414366>
14. Research Report - Kerala Journal of Psychiatry, accessed on March 20, 2026, <https://kjonline.com/index.php/kjp/article/download/479/454/3555>
15. (PDF) Prevalence, Patterns, And Factors Associated With Excessive Smartphone Use Among University Students: A Cross-Sectional Study - ResearchGate, accessed on March 20, 2026, https://www.researchgate.net/publication/393106330_Prevalence_Patterns_And_Factors_Associated_With_Excessive_Smartphone_Use_Among_University_Students_A_Cross-Sectional_Study
16. Youth commission submits report on lifestyle changes and mental wellbeing of youngsters | Thiruvananthapuram News - The Times of India, accessed on March 20, 2026, <https://timesofindia.indiatimes.com/city/thiruvananthapuram/youth-commission-submits-report-on-lifestyle-changes-and-mental-wellbeing-of-youngsters/articleshow/128792332.cms>
17. A study on the mobile phone usage pattern and its dependence among medical students of a college in Kerala, India | Request PDF - ResearchGate, accessed on March 20, 2026, https://www.researchgate.net/publication/318712840_A_study_on_the_mobile_phone_usage_pattern_and_its_dependence_among_medical_students_of_a_college_in_Kerala_India
18. (PDF) Effects of Smartphone Addiction on the Physical and Mental ..., accessed on March 20, 2026, https://www.researchgate.net/publication/381726714_Effects_of_Smartphone_Addiction_on_the_Physical_and_Mental_Well-being_of_Indian_Students
19. Multiple Logistic Regression Analysis of Smartphone Use in University Students - Frontiers, accessed on March 20, 2026, <https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2022.821345/full>
20. Sample Size and Power for Regression Statistical power for regression analysis is the probability of a significant finding (i.e. - Portland State University, accessed on March 20, 2026, https://web.pdx.edu/~newsomj/mvclass/ho_sample%20size.pdf
21. How to Calculate Sample Size Needed for Power - Statistics By Jim, accessed on March 20, 2026, <https://statisticsbyjim.com/hypothesis-testing/sample-size-power-analysis/>
22. (PDF) Prevalence of Smartphone Addiction and Its Associated Factors Among College Students Aged 18-23 Years in Kerala, India: A Cross-Sectional Study - ResearchGate, accessed on March 20, 2026,

The Influence of Mobile Phone Consumption on the Subjective Well-being of Undergraduate Students in Kerala: A Predictive Regression Analysis

Dr. Peter Varghese, Dr. Robin Chittooparambil

- https://www.researchgate.net/publication/397804069_Prevalence_of_Smartphone_Addiction_and_Its_Associated_Factors_Among_College_Students_Aged_18-23_Years_in_Kerala_India_A_Cross-Sectional_Study
23. Prevalence of Smartphone Addiction and Its Associated Factors Among College Students Aged 18-23 Years in Kerala, India: A Cross-Sectional Study - PubMed, accessed on March 20, 2026, <https://pubmed.ncbi.nlm.nih.gov/41431492/>
 24. accessed on March 20, 2026, <https://drbillsukala.com/smartphone-addiction-test/#:~:text=The%20Smartphone%20Addiction%20Scale%20Short,range%20from%2010%20to%2060.>
 25. Smartphone Addiction Test With Step-By-Step Recovery Guide - Dr Bill Sukala, accessed on March 20, 2026, <https://drbillsukala.com/smartphone-addiction-test/>
 26. Translation of the short version of the Smartphone Addiction Scale into Brazilian Portuguese: cross-cultural adaptation and testing of measurement properties - PMC, accessed on March 20, 2026, <https://pmc.ncbi.nlm.nih.gov/articles/PMC6531817/>
 27. Psychometric properties of the smartphone addiction scale-short version (SAS-SV) in Honduran university students - Our journal portfolio - PLOS, accessed on March 20, 2026, <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0327226>
 28. The Smartphone Addiction Scale: Development and Validation of a Short Version for Adolescents | PLOS One - Research journals, accessed on March 20, 2026, <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0083558>
 29. Oxford Happiness Questionnaire, accessed on March 20, 2026, <https://recwellness.uccs.edu/sites/g/files/kjihxj2336/files/inline-files/Oxford-Happiness-Questionnaire.pdf>
 30. Oxford Happiness Questionnaire (OHQ) | Evidence-based Care - Blueprint, accessed on March 20, 2026, <https://ebchelp.blueprint.ai/en/articles/9940664-oxford-happiness-questionnaire-ohq>
 31. The Oxford Happiness Questionnaire | Lapham's Quarterly, accessed on March 20, 2026, <https://www.laphamsquarterly.org/happiness/charts-graphs/oxford-happiness-questionnaire>
 32. Oxford Happiness Questionnaire - Red Willow Counseling, accessed on March 20, 2026, <https://www.redwillowcounseling.com/wp-content/uploads/2020/07/Oxford-Happiness-Questionnaire.pdf>
 33. Distribution of Scores of the Smartphone Addiction Scale and the Oxford Happiness Questionnaire - ResearchGate, accessed on March 20, 2026, https://www.researchgate.net/figure/Distribution-of-Scores-of-the-Smartphone-Addiction-Scale-and-the-Oxford-Happiness_tbl1_344250581
 34. Effect of smartphone use on sleep and mental health status of Indian medical students: a cross-sectional study, accessed on March 20, 2026, <https://www.msjonline.org/index.php/ijrms/article/view/14037>
 35. Prediction of happiness of university students by some cyberpsychology concepts - Net Journals, accessed on March 20, 2026, <https://www.netjournals.org/pdf/AERJ/2020/S2/20-041.pdf>
 36. Psychological Dependence on Smartphones: A study on Indian University Students, accessed on March 20, 2026, https://www.researchgate.net/publication/375640677_Psychological_Dependence_on_Smartphones_A_study_on_Indian_University_Students
 37. A study on the mobile phone usage pattern and its dependence among medical students of a college in Kerala, India, accessed on March 20, 2026, <https://www.msjonline.org/index.php/ijrms/article/view/3457>

The Influence of Mobile Phone Consumption on the Subjective Well-being of Undergraduate Students in Kerala: A Predictive Regression Analysis

Dr. Peter Varghese, Dr. Robin Chittooparambil

38. A sociological investigation of the effect of cell phone use on students' academic, psychological, and socio-psychological performance - Frontiers, accessed on March 20, 2026, <https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2025.1474340/full>
39. Scrolling, Stress, and Statistics: Predicting Happiness with a Multiple Linear Regression Model | by Alexa Miao | Feb, 2026 | Medium, accessed on March 20, 2026, <https://medium.com/@miaomiao789/scrolling-stress-and-statistics-predicting-happiness-with-a-multiple-linear-regression-model-fa9a5727ddb9>
40. Report Simple Linear Regression from SPSS in APA Style, accessed on March 20, 2026, <https://ezspss.com/report-simple-linear-regression-from-spss-in-apa-style/>
41. Applying Linear Regression to The World Happiness Report - AWS, accessed on March 20, 2026, https://terra-docs.s3.us-east-2.amazonaws.com/IJHSR/Articles/volume5-issue7/IJHSR_2023_57_7.pdf
42. Reporting Multiple Regressions in APA format – Part One - AndrewDart.co.uk, accessed on March 20, 2026, <http://www.adart.myzen.co.uk/reporting-multiple-regressions-in-apa-format-part-one/>
43. Reporting Statistics in APA Format - UConn Writing Center, accessed on March 20, 2026, https://writingcenter.uconn.edu/wp-content/uploads/sites/593/2014/06/Reporting_Statistics1.pdf
44. Excessive Smartphone Use is Associated with Depression, Anxiety, Stress, and Sleep Quality of Australian Adults - PMC, accessed on March 20, 2026, <https://pmc.ncbi.nlm.nih.gov/articles/PMC10587281/>
45. Smartphone Addiction as Predictor of Sleep Quality and Happiness among Undergraduate Students | Annals of Human and Social Sciences, accessed on March 20, 2026, <https://ojs.ahss.org.pk/journal/article/view/816>
46. Smartphone Addiction and its Impacts on Loneliness, Happiness ..., accessed on March 20, 2026, <https://pmc.ncbi.nlm.nih.gov/articles/PMC10843350/>
47. Urban youth battling hidden stress, 42% report emotional suppression, accessed on March 20, 2026, <https://timesofindia.indiatimes.com/india/urban-youth-battling-hidden-stress-42-report-emotional-suppression/articleshow/129639317.cms>
48. RESEARCH REPORT - Kerala Journal of Psychiatry, accessed on March 20, 2026, <https://kjponline.com/index.php/kjp/article/view/516/503>
49. Household smartphone access among youngsters reaches 77.9%, but online risks persist: Survey - Fortune India, accessed on March 20, 2026, <https://www.fortuneindia.com/india/household-smartphone-access-among-youngsters-reaches-779-but-online-risks-persist-survey/129454>
50. Scrolling Childhood Away: What Economic Survey 2026 and Parents' Data Reveal, accessed on March 20, 2026, <https://health.economicstimes.indiatimes.com/news/industry/scrolling-childhood-away-what-economic-survey-2026-and-parents-data-reveal/127797162>
51. To Be Happier, Take a Vacation ... From Your Smartphone - McCombs News and Magazine, accessed on March 20, 2026, <https://news.mcombs.utexas.edu/research/to-be-happier-take-a-vacation-from-your-smartphone/>