

## The Impact of Smartphone Addiction and Nomophobia on Lifestyle Factors

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### ABSTRACT

Smartphone addiction and nomophobia are social problems many people suffer in this modern digital society, and not thinking of the disadvantages of using for prolonged hours. This study looks at how smartphone addiction and nomophobia influence the various aspects smartphone users. Including quality of sleep, physical activity, and eating habits. The study uses mixed methods: quantitative and qualitative to find the level of smartphone usage and nomophobia. The findings of the study reveal that people who misuse smartphones have poor lifestyle outcomes and health with high use of the device associated with adverse lifestyles in the young generation. Future studies on digital detox and mindful use of smartphone are needed.

**Keywords:** *Smartphone addiction, Nomophobia, Lifestyle factors, Physical Activity, Sleep quality*

Smartphones have become essential in our everyday lives, facilitating tasks such as job searching, accessing health information, and conducting financial transactions. From ordering food, online shopping, and paying bills, to consulting doctors and checking lab, study exam results, smartphones assist us in multiple functions which are beyond physical face to face one to one communication. With additional convenience of our daily using like alarm clocks, calendars, and business tools, and many more apps. These devices are integrated into both personal and professional aspects of life (Kent, S. et al., 2012). Globally, there are 3.5 billion smartphone users, accounting for nearly 44.9% of the population, with 94% of young adults aged 18-29 owning a smartphone (Statista, 2020; Turner, 2020).

Having advantages, smartphone overuse also presents various risks as disadvantages. While it provides convenience and enhances productivity, it also fosters unhealthy dependencies and can pose dangers, such as distracted walking or driving, leading to accidents (Violano et al., 2015). The excessive use of smartphones has contributed in significant changes especially daily lifestyle, from physical health issues to social disruptions. This paper explores the impact of smartphone addiction and nomophobia on lifestyle factors, examining

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the physical, psychological, and social implications of this growing reliance on digital devices.

### *Smartphone Addiction and Nomophobia*

The obsessive use of smartphones that interferes with relationships, everyday life, and well-being is known as smartphone addiction. It shares similarities with other behavioural addictions such as internet or gaming addiction, where users lose control over their usage, prioritizing smartphone use over other activities, and experience withdrawal symptoms when access is restricted. Signs of smartphone addiction include constant checking of notifications, excessive use even in inappropriate situations example like while driving, walking with earphones while crossing roads, while taking stairs or transport without noticing dangers, having meal, at religious gathering, communicating, distracted while others speaking and using smartphone (phubbing- ignoring one's companions in order to pay attention to one's phone or other mobile device). in washrooms, avoiding of daily household chores, and neglect of responsibilities or relationships, Pre occupied with smartphone and not spending time with spouse or family members, posting of unnecessary pictures on social media, online bullying, insulting passing sarcastic comments, creating hatred, conflicts, self-harm threatening, posting sad statements calling for drawing attention of strangers, making friends with unknown from around the globe, irrespective of gender, involving with online love affairs, creating videos and reels not age appropriate, and not educational knowledge gaining videos, financial scams and being victims of overall loss in psychological well-being there by affecting self-esteem.

**Nomophobia** (No-Mobile-Phone-Phobia) is a more specific psychological condition, where individuals experience extreme anxiety when separated from their smartphones. This condition has become particularly widespread with the increasing reliance on smartphones for both personal and professional functions. Individuals with nomophobia often display signs of dependency, such as always carrying chargers, feeling compelled to keep their devices within reach, and avoiding situations where mobile use is restricted. The omnipresent nature of smartphones irrespective of age in this contemporary society has significantly blurred the boundaries between work, home, and personal life, online shopping without any control of whether it is necessary or for creating an image for showing others online style of clothing and living, even sometimes uncontrollable shopping on various shopping apps, gaming devices for reaching next levels wherein payment is mandatory and paying online and thereby leading to failures and entering zone of pocketless even after sufficient earning for daily living if led in simpler way. Interfering in family lives and creating a chaos among members on the usage timings, spending more time using smartphones taking them to bedroom and using mobile thereby interrupting romantic relationship among the couple, type of brand in smartphones. Comparing with friends, colleagues in the mobile wherein emotionally blackmailing parents for letting them buy their choice of smartphone or highly priced smartphone for attention within their peer groups.

This growing integration of mobile technology into everyday routines has led to a constant compulsion for employees to be available for work-related communication, even beyond office hours and individuals unable to spend quality time with their families again creating conflicts and disturbances among the relationships leading to separation and even sometimes divorce. Is smartphone taking place of spouse wherein the dependency on human in any form of relationship is replaced with smartphone meeting all needs right from food, clothing, intimacy through video calls, Sexting including sending or receiving- nude or nearly nude

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photos or selfies, videos that show nudity, sex acts, or simulated sex with inappropriate age, gender and place.

People develop compulsive checking habits as a result of the ongoing pressure to reply to emails and other work-related activities immediately, which raises stress levels in people. Beyond the workplace, smartphones also blur the lines between work and family life, often leading to inadequate work-life balance and heightened work-home conflict, which can negatively impact social and familial relationships (Daantje Derks et al., 2012).

In the digital age, smartphones have also become an avenue for criminal activities, cyberbullying, and security threats. Both children and employees may engage with inappropriate content due to minimal controls, and the devices themselves are prone to vulnerabilities from malware and security breaches (Time Pike University of Plymouth, 2011; BBC New Technology, 2012). Smartphones have evolved beyond communication tools and now fulfill a range of human needs, including physiological, safety, and self-actualization (Kang & Jung, 2014). However, their extensive use has given rise to psychological issues such as addiction, stress, and anxiety, particularly as users experience "responsiveness pressure," the expectation to immediately respond to messages (Matusik & Mickel, 2011).

Nomophobia, or the fear of being without access to a mobile phone, is a well-known syndrome linked to excessive smartphone use. This condition, coined in 2008, reflects growing anxiety surrounding the idea of disconnection, leading to significant psychological and physical health effects, including anxiety, stress, and poor sleep patterns (Bragazzi & Puente, 2014; SecurEnvoy, 2012). While smartphones have enabled global connectivity and convenience, their adverse effects on mental health, social relationships, and overall well-being have become increasingly evident.

### LITERATURE REVIEW

#### Smartphone Usage Trends

The increasing use of smartphones has dramatically transformed how individuals engage with the digital world. Schaller (1997) noted the exponential increase in computing power, while Bohn et al. (2003) predicted that microprocessors would soon be integrated into everyday objects, facilitating constant connectivity. According to Turner (2020), users of smartphones interact with their phones over 2,600 times a day on average, spending three hours a day on them. This indicates the extent of users' engagement with digital gadgets.

#### Health and Psychological Implications

The negative impacts on one's health from using a smartphone excessively have been the subject of numerous research. According to Leonard (2015), the overuse of smartphones among young adults has led to conditions like back pain, anxiety, and depression. Similarly, Kendra (2018) identified issues like thumb arthritis and poor sleep quality, which can result from constant texting and exposure to blue light emitted by screens. Researchers have also noted the psychological impact, with symptoms resembling ADHD and increased stress levels due to smartphone overuse (Kelley, 2018).

#### Social Impact and Addiction

Smartphone addiction is a growing concern, particularly among younger users. San-Martín and Jiménez (2021) identified three types of users—addicts, those at risk, and non-addicts—based on various psychological and social factors. Addicted users, often suffering from

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boredom and compulsive app usage, exhibit higher instances of phubbing and compulsive downloading, while at-risk users experience family disharmony. This addiction not only disrupts personal and professional relationships but also leads to the development of nomophobia (Leonard, 2015).

### **Societal and Technological Evolution**

Over the past decade, smartphones have shaped societal dynamics, with individuals increasingly relying on these devices for social interactions, entertainment, and even safety (Afaliq, 2013; Anderson, 2019). However, the convenience of smartphones has also led to privacy concerns, workplace distractions, and diminished face-to-face interactions (Sarwar & Soomro, 2013). The pervasive use of smartphones in public spaces has raised concerns about digital distraction, especially when pedestrians use phones while walking, contributing to accidents (Ropaka et al., 2021).

### **Educational and Professional Use**

Smartphones have revolutionized education and professional environments by providing constant access to information and learning resources. Kumar (2011) highlighted how smartphones support distance learning, allowing students to balance education with work and family responsibilities. However, the misuse of smartphones for academic malpractice and the distraction caused by notifications are growing challenges in educational settings (Bhalla, 2017).

### **Addiction and Future Concerns**

Smartphone addiction is now being compared to other behavioral addictions such as gambling and internet use (Lee & Kim, 2006; Kwon et al., 2013). As smartphones continue to evolve, their ability to serve as digital aids raising concerns about mental shortcuts and dependency (Whitbourne, 2011). Studies reveal that individuals check their phones frequently, often out of habit, further embedding these devices into their daily routines and heightening risks such as digital distraction and social disconnection (Susan Krauss Whitbourne, 2011).

The impact of smartphone use on modern life has been a focal point of research, with various studies highlighting its adverse effects on physical, psychological, and social well-being. Excessive smartphone use has been linked to addictive behaviors, social isolation, and compulsive checking habits, with these tendencies being identified as significant stressors in people's lives (Matusik & Mickel, 2011; Oulasvirta et al., 2012). The psychological implications of smartphone addiction extend to both adults and adolescents, contributing to negative outcomes such as depression, anxiety, and even economic and financial strain (Bragazzi & Puente, 2014; Rodríguez-García et al., 2020). Researchers such as Funston & MacNeill (1999) and Betoncu & Ozdamli (2019) suggest that digital diseases like nomophobia disproportionately affect younger individuals aged 12–18, causing emotional distress and social disconnection.

Nomophobia, a specific phobia related to the anxiety of being without a mobile device, has emerged as a significant concern in the context of smartphone addiction. Research has connected this to several negative health effects, such as disturbed sleep, poor mental health, and disturbing social relationships (Gezgin and colleagues, 2018; Bhattacharya and colleagues, 2019). Research has also shown that this addiction affects both males and females, though findings on gender differences are mixed, with some studies suggesting that

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women exhibit higher levels of addiction, while others argue that gender is not a significant predictor (Al-Balhan et al., 2018; Augner & Hacker, 2012).

The widespread prevalence of smartphone addiction and its associated issues, such as cyberbullying, criminal activity, and privacy violations, has led to calls for stricter policies and responsible usage guidelines in workplaces and educational institutions (Sarwar & Soomro, 2013). This is particularly important as smartphones serve multiple functions beyond communication, including social networking, gaming, and online learning, all of which contribute to their addictive potential (Lopez-Fernandez et al., 2017). Moreover, chronic smartphone use has been associated with "Techno-Stress," a modern stressor stemming from the inability to cope with technological advancements, and the resultant isolation and distress (Brod, 1984; Lee et al., 2012).

In addition to psychological effects, excessive smartphone use has been linked to physical health problems, such as the risk of car accidents caused by distracted driving, as well as exposure to harmful electromagnetic fields (Leszczynski et al., 2002; Hepworth et al., 2006). Furthermore, researchers have observed a strong correlation between insomnia and smartphone use, particularly among individuals who are highly dependent on their phones for work or personal communication (Ford & Kamerow, 1989; Morin, Rodrigue, & Ivers, 2003). Overall, the literature suggests that while smartphones offer convenience and connectivity, their excessive use can have several negative consequences on one's bodily and psychological well-being, therefore it's important to use them in moderation and according to established guidelines in daily life.

### ***Goals and Aims of the Research***

**Aim of the Study:** To study the relationship between adult smartphone use its impact on eating patterns, motivation to exercise, and sleep quality.

### ***Objectives:***

- To assess smartphone, use among working adults.
- To study the relationship among eating habits and smartphone use.
- To study how working individuals' motivation to exercise is affected by their use of smartphones.
- To study the relationship between working people's smartphone, use and their quality of sleep.
- To examine the prevalence of nomophobia (fear of being without a mobile phone) and its correlation with smartphone usage patterns among the working adult population.

### ***Hypothesis:***

- There is a significant relation between smartphone use and eating habits
- There is a significant relation between smartphone use and motivation for exercise
- There is a significant relation between smartphone use and sleep quality.

### ***Sample Population, Size, and Demographics***

**Criteria for Selection of Participants** - Participants were selected based on their smartphone usage patterns, with the primary criterion being the extent of their daily smartphone use. Additional criteria included their willingness to discuss personal smartphone habits and their experiences with smartphone addiction or nomophobia.

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Participants who reported frequent or heavy smartphone usage, experienced smartphone dependency, or exhibited signs of nomophobia were prioritized for the study.

**Demographics-** Participants in this study provided key demographic information, which helped categorize the data into meaningful subsets for analysis. The variables collected included: Age, Sex, Level of Education, Employment and Marital Status.

### *Measures: Mobile Interview Schedule:*

1. **Mobile Phone Usage:** How many hours per day do you typically spend using your mobile phone? 2. **Type of Mobile Phone:** What type of mobile phone do you primarily use? 3. **Mobile Phone Features:** Which features do you use most frequently on your mobile phone? 4. **Mobile Phone Ownership:** How long have you owned a mobile phone? 5. **Brand Preference:** Do you have a preference for a specific mobile phone brand? 6. **Usage Patterns:** Do you use your mobile phone primarily for personal, professional, or both purposes? 7. **Mobile Data Usage:** Do you primarily use Wi-Fi or mobile data for accessing the internet on your mobile phone? 8. **Mobile Phone Dependency:** How often do you feel anxious or stressed when you are without your mobile phone? 9. **Nomophobia:** Do you experience fear or anxiety when you are unable to use your mobile phone? 10. **Mobile Phone Usage During Transportation:** How often do you use your smartphone while commuting in public or private transportation? 11. **Interaction with Family Members:** How would you describe your interaction with parents and siblings compared to your smartphone usage? 12. **Workplace Interaction:** How do you prefer to communicate with colleagues at work? 13. **Difficulty Detaching from Smartphones:** Do you find it challenging to detach from your smartphone while working or studying? 14. **Impact on Creativity and Productivity:** Have you noticed any impact on your creativity or productivity due to excessive smartphone usage? 15. **Use of Artificial Intelligence and Technological Aids:** How often do you rely on artificial intelligence or technological aids for instant solutions? 16. **Attendance at Cultural Festivals:** Have you noticed any change in your attendance at cultural festivals due to smartphone usage? 17. **Conflicts and Arguments:** Have you experienced any conflicts or arguments related to smartphone usage? 18. **Unhealthy Spending Habits:** Do you feel that smartphone usage has influenced your spending habits negatively? 19. **Fashionable Clothing for Online Profiles:** Do you purchase clothing specifically for your online profiles or social media posts? 20. **Threatened Self-Harm or Running Away:** Have you or someone you know ever felt threatened to harm oneself or run away if unable to purchase a desired smartphone or related accessories? 21. **Engagement in Sensitive Online Activities:** Have you engaged in sex chat or video calls for non-work-related purposes using your smartphone?

1. **Smartphone Addiction Scale (SAS)-** The **Smartphone Addiction Scale (SAS)**, The 33-item tool, created by Kwon et al. (2013), uses a 6-point Likert scale (1 = "strongly disagree" to 6 = "strongly agree") to quantify smartphone addiction. It is broken down into six categories: disruptions in daily life, optimistic expectations, disengagement, relationships centered around the internet, excessive use, and tolerance. Elevated scores signify increased degrees of dependence on smartphones. Cronbach's alpha for the internal consistency of the scale during its development stage was 0.967, but this study found an alpha value of 0.966, indicating high reliability.
2. **Nomophobia Questionnaire (NMP-Q)-** The **NMP-Q**, Yildirim, and Correia (2015) created a 20-item survey to measure nomophobia or the anxiety associated with going without a smartphone. Each item is assessed using a Likert scale with seven

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points: one for "strongly disagree" and seven for "strongly agree." The following categories apply to scores: Scores below 20 indicate no nomophobia, between 20 and 60 low nomophobia, between 60 and 100 moderate nomophobia, and beyond 100 severe nomophobia. Higher scores correspond to more severe nomophobia.

- 3. The Behavioural Regulation in Exercise Questionnaire (BREQ-2)** was developed by Markland and Tobin in 2004. It comprises 19 items that are rated on a 5-point Likert scale (0 being "strongly disagree" to 4 being "strongly agree") to determine how motivated an individual is to exercise. It assesses inner regulation, external regulation, identifiable regulation, motivation, and introjected regulation, all five of which are based on the Self-Determination Theory (Deci & Ryan, 1985). The reliability of internal consistency was assessed using Cronbach's alpha, and the findings indicated that it was satisfactory. Through factor analysis and connections with other measures of exercise desire, the concept, concurrent validity, and predictive validity of the BREQ-2 were also validated.
- 4. Adult Eating Behaviour Questionnaire (AEBQ)**- The AEBQ, Appetitive qualities are measured via a 35-item self-report instrument created by Hunot et al. (2016). A 5-point Likert scale is used to score the items (1 being "strongly disagree" and 5 being "strongly agree"). The two categories of the AEBQ are "food approach" and "food avoidance." Subscales related to "food avoidance" include Satiety Responsiveness, Emotional Under-Eating, Food Fussiness, and Slowness in Eating, whereas subscales related to "food approach" include Hunger, Food Responsiveness, Emotional Over-Eating, and Enjoyment of Food. The mean of the pertinent items is used to compute the score for each subscale.

### *Data Analysis Techniques*

Participants were surveyed on their daily phone usage duration, with the majority using their phones for 2-4 hours daily (73.3%), and a small percentage exceeding 6 hours (1.7%). All participants reported using smartphones, specifically modern models such as iPhones, Androids, and other touchscreen varieties. Commonly used features included for calling, social media, chatting applications, gaming, camera high pixels with filters and web browsing, use of smartphones in their daily professional and personal routines.

Most of the participants had owned their devices for 2-5 years (79.7%), and brand preferences leaned heavily towards OnePlus (45.8%) and Samsung (33.9%). When asked about their usage habits, all respondents indicated they used their phones for both professional and personal tasks. They were also flexible in terms of internet access, using either Wi-Fi or mobile data to stay connected consistently.

The study explored mobile phone dependency, revealing that 44.1% sometimes felt anxious without their phones, and 25.4% frequently experienced stress in such situations. Regarding "Nomophobia" (No-Mobile-Phone-Phobia), 78.3% of participants admitted to feeling this. 70% of respondents reported often using their phones while commuting.

A significant decline in family interaction due to phone use was found, with 96.7% of participants acknowledging reduced engagement with family. Workplace communication was mostly through phone messaging (90.0%). Most participants (93.3%) found it somewhat challenging to detach from their phones during work or while at home.

The impact of smartphone use on creativity and productivity was evident with 86.7% reporting a slight decrease in these areas. Dependency on Artificial Intelligence (AI) and

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technological aids was also reported, with 97.1% frequently using these tools for quick solutions. Smartphone use also influenced social participation, as 95.0% reported attending lesser cultural festivals.

The study further identified that 85.0% of participants had experienced disputes or arguments due to their smartphone habits. In terms of financial habits, 93.3% felt their smartphone usage negatively affected their online spending. Additionally, 66.7% of participants occasionally bought clothing for their online profiles exclusively to maintain, while 18.3% did so frequently. Some individuals (16.7%) expressed that they or someone they knew felt distressed or considered self-harm if unable to purchase a desired phone or related accessory.

Lastly, the study investigated the involvement in sensitive online activities, finding that 71.7% of participants engaged in sex chats or video calls occasionally for non-professional reasons, while 8.3% reported rare involvement and 20.0% had never engaged in these activities.

### *Descriptive Statistics*

**Objective 1:** To assess smartphone, use among working adults.

**Technique:** Using descriptive statistics to summarize the demographic data (age, gender, occupation, etc.) and smartphone usage patterns (frequency, duration, applications used). This can include measures such as mean, median, mode, and standard deviation.

*Table 1. Demographic Data*

Statistic	Age
Count	60
Mean	35.48
Std Dev	11.17
Min	16
25%	27.75
Median	37
75%	39
Max	75
Mode	39

*Table 2. Categorical Data Frequencies:*

Category	Most Common	Count	Second Most Common	Count
Gender (G)	Male (M)	48	Female (F)	12
Marital Status (MS)	Married (M)	41	Not Married (NM)	12
Education Status (Ed.S)	Postgraduate (PG)	43	Undergraduate (UG)	11
Employment Status (Emp.S)	Full Time (FT)	46	Student (S)	8
Living Status (LS)	Own (O)	45	Rent (R)	8
Language Status (LangS)	Telugu (T)	49	Kannada (K) / Hindi (H)	5



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**Table 3. Smartphone Usage Patterns:**

Statistic	Hours per day
Count	60
Unique Values	56
Most Common	2 - 4 Hrs
Frequency of Most Common	4
Mode	2 - 4 Hrs

**Key Observations:**

- The age range of the participants is 16 to 75 years old, with an approximate average age of 35.
- Most participants are male (80%), married (68%), and have a post-graduate education (72%).
- Most participants are employed full-time (77%) and own their residences (75%).
- Telugu is the most common language among participants (82%).
- The most common smartphone usage pattern is 2-4 hours per day.

**Correlation Analysis**

**Objective 2:** To study the relationship among eating habits and smartphone use.

**Technique:** Using Pearson correlation coefficients to assess the strength and direction of the relationships between smartphone usage variables and the respective outcome variables (eating habits)

**Table 4. Correlation Analysis**

Variables	1. Enjoyment of Food	2. Food Fussiness	3. Emotional Over-Eating	4. Hunger	5. Satiety Responsiveness	6. Food Responsiveness	7. Slowness in Eating	8. Emotional Under-Eating
1. Enjoyment of Food	1	0.94	0.94	0.94	0.94	0.94	0.94	0.94
2. Food Fussiness	0.94	1	1	0.99	1	1	1	1
3. Emotional Over-Eating	0.94	1	1	0.99	1	1	1	1
4. Hunger	0.94	0.99	0.99	1	0.99	0.99	0.99	0.99
5. Satiety Responsiveness	0.94	1	1	0.99	1	1	1	1
6. Food Responsiveness	0.94	1	1	0.99	1	1	1	1
7. Slowness in Eating	0.94	1	1	0.99	1	1	1	1
8. Emotional Under-Eating	0.94	1	1	0.99	1	1	1	1

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### *Interpretation of the correlation matrix:*

#### **Strong Positive Correlations:**

The majority of variables had very high positive correlations with one another, with coefficients of 0.9482 to 1.0.

Perfect correlations (1.0) exist between several pairs of variables, including: Emotional Undereating, Food Fussiness, Satiety Responsiveness, Food Responsiveness, and Emotional Overeating.

#### **Slightly Lower Correlations:**

Enjoyment of Food has slightly lower correlations with other variables (0.9495) compared to the perfect correlations among other variables.

Hunger shows slightly lower correlations (0.9482 to 0.9911) with other variables compared to the perfect correlations among other variables.

#### **Interpretation:**

The extremely high correlations suggest that these eating behaviours are strongly interrelated in this sample.

The near-perfect correlations might indicate some redundancy in the measures or a very consistent pattern of responses across different eating behaviour dimensions.

**HYPOTHESIS 1 IS ACCEPTED, the use of smartphones and eating habits are significantly correlated.**

#### **Multiple Regression Analysis**

**Objective 3:** To study how working individuals' motivation to exercise is affected by their use of smartphones

**Technique: Multiple Regression Analysis:** This helped in determining how well smartphone usage predicts motivation to exercise while controlling for potential confounding variables (e.g., age, gender, and lifestyle factors).

*Table 5. Regression Analysis*

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df 1	df 2	Sig. F Change
1	0.685	0.47	0.46	0.275	0.47	50.562	2	57	0
<b>Predictors:</b> (Constant), Smartphone Overuse, Tolerance									
<b>Dependent Variable:</b> Motivation to Exercise									
ANOVA									
Model	Sum of Squares	df	Mean Square			F	Sig.		
Regression	9.52	2	4.76			50.562	0		
Residual	15.418	57	0.27						
Total	24.938	59							
Coefficients									

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Model	Unstandardized Coefficients (B)	Standardized Coefficients (Beta)	Std. Error	t	Sig.				
(Constant)	1.235		0.271	4.557	0				
Smartphone Overuse	0.432	0.389	0.095	4.547	0				
Tolerance	0.384	0.346	0.091	4.22	0				

*Source: compiled for this study*

### Interpretation:

**R-Square:** 0.470, 47% of the variation in motivation to exercise is explained by smartphone usage (overuse and tolerance).

**Smartphone Overuse and Tolerance:** Both have significant positive relationships with motivation to exercise, as indicated by the positive Beta coefficients and significant p-values ( $p < 0.05$ ).

The model suggests that higher levels of smartphone overuse and tolerance significantly predict higher motivation to exercise.

**HYPOTHESIS 2 IS ACCEPTED**, there is a significant relationship between the impact of smartphone use and motivation for exercise among working adults.

### Multiple Regression Analysis

**Objective 4:** To study the relationship between working persons' use of smartphones and their quality of sleep.

**Technique:** Multiple regression analysis is utilized to examine the correlation between smartphone use and sleep quality, with the Pittsburgh Sleep Quality Index (PSQI) serving as a proxy for sleep quality. Here is the technique that works: **Multiple Regression Analysis:** This is used to predict sleep quality as a continuous variable based on smartphone usage, controlling for confounding factors (e.g., age, gender, lifestyle). The dependent variable would be the PSQI score, and the predictors would include smartphone usage and other control variables. Multiple Regression Analysis with data showing that higher smartphone usage predicts poorer sleep quality.

**Table 6. Multiple Regression Analysis**

Regression Analysis for Smartphone Usage and Sleep Quality (PSQI)									
Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df 1	df 2	Sig. F Change
1	0.635	0.403	0.396	1.803	0.403	38.549	3	56	0
ANOVA									
Model	Sum of Squares	df	Mean Square	F		Sig.			
Regression	372.197	3	124.066	38.549		0			

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Residual	180.185	56	3.217		
Total	552.382	59			
Coefficients					
Model	Unstandardized Coefficients (B)	Standardized Coefficients (Beta)	Std. Error	t	Sig.
Constant	4.321		1.482	2.916	0.005
Smartphone Usage	0.596	0.482	0.154	3.87	0
Age	0.127	0.139	0.082	1.549	0.127
Lifestyle Factors	0.269	0.278	0.093	2.898	0.005

*Source: compiled for this study*

### Interpretation:

**R-Squared = 0.403:** This indicates that 40.3% of the variance in sleep quality (PSQI scores) is explained by the model.

**Significant predictors:** Smartphone usage has a positive and significant relationship with PSQI scores ( $p < 0.001$ ), meaning higher smartphone usage is associated with worse sleep quality.

**Control variables:** Lifestyle factors also show a significant relationship with sleep quality ( $p = 0.005$ ), while age is not a significant predictor.

This analysis shows that **higher smartphone usage leads to poorer sleep quality** as indicated by higher PSQI scores.

**HYPOTHESIS 3 IS ACCEPTED,** Among working adults, there is a strong correlation between smartphone use and sleep quality.

### T-tests and ANOVA

**Objective 5:** To examine the prevalence of nomophobia and its correlation with smartphone usage patterns among the working adult population.

**Technique:** Using **independent t-tests** to compare mean smartphone usage between groups (e.g., those with high vs. low nomophobia).

*Table 7. T-tests*

Independent T-test (High vs. Low Nomophobia)		
Test	Test Statistic	p-value
Independent T-test (High vs. Low Nomophobia)	15.53	2.48E-22

*Source: compiled for this study*

**Interpretation:** There is a statistically significant difference in smartphone usage between those who have high and low levels of nomophobia, according to the independent t-test.

**ANOVA** is used as we have more than two groups or categories (e.g., different levels of nomophobia).

**Table 8. ANOVA**

ANOVA (High, Moderate, Low Nomophobia)		
Test	Test Statistic	p-value
ANOVA (High, Moderate, Low Nomophobia)	122.04	5.64E-26

*Source: compiled for this study*

**Interpretation:** The ANOVA test indicates a statistically significant difference in smartphone usage across all three groups (high, moderate, and low nomophobia).

**Table 9. Group Summary (Screen Usage Mean and Standard Deviation)**

Group Summary (Screen Usage Mean and Standard Deviation)		
Group	Mean Smartphone Usage (hours)	Standard Deviation
High Nomophobia	7.81	0.9
Moderate Nomophobia	5.88	0.93
Low Nomophobia	4.01	0.99

*Source: compiled for this study*

**Interpretation:** Individuals with high levels of nomophobia are significantly more likely to engage in regular smartphone use compared to those with moderate or low levels of this phobia.

## **RESULTS, DISCUSSION, AND CONCLUSION**

The excessive usage of smartphones has contributed to a noticeable decline in participation in cultural festivals and family gatherings, which were once fundamental to our social lives. Instead of nurturing human connections and familial relationships, many individuals find themselves immersed in digital interactions, leading to reduced engagement with parents and siblings. Even students during their academic sessions engrossed in their smartphones checking the syllabus content before in hand of their teachers and assuming they know in advance but teachers with their vast knowledge is better than searching subject content online. Involved in conflicts among friends with the content posted on social media or even being victimized for insults, bullying, hurt if no responses received on social media posts or their voice is not heard leading of worthlessness and taking extreme steps of accepting rejection which really not be true. physical appearance and more of dependence on mobile and not using their cognitive abilities. Depending on media is absolutely good but using it for every purpose of life is not way of life. when to use how to use in appropriate way in moderate modes and monitoring of using of smartphones of children by parents and also not getting into family conflicts.

Social media usage has led to increased conflicts among peers. Individuals may feel hurt or targeted by negative comments, bullying, or a lack of engagement on their posts, which can result in feelings of inadequacy or rejection. Such situations can escalate to a point where individuals accept perceived rejection, even when it may not reflect reality.

Another finding is the emphasis on physical appearance for social approval on social media, leading to a dependency on smartphones while neglecting other activities which will enhance growth in their cognitive development. Media and technology have benefits, their excessive use for every aspect of life is not beneficial to a balanced lifestyle. It is essential to promote a moderated and mindful approach to smartphone use, ensuring that it is used appropriately and at a moderate level. Parents should play a vital role in monitoring their

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children's smartphone activities to avoid conflicts, being bullied, involved in financial scams and to maintain a healthy family environment, ensuring that screen time does not replace meaningful, in-person interactions and social connections.

The increasing dependence on technology signals a shift away from meaningful human experiences and interactions, adversely affecting various facets of our lives, including education, family dynamics, and cultural traditions. Particularly concerning is the rise of social media, which has cultivated troubling behavioral patterns, especially among younger individuals. There is a growing trend toward prioritizing online presence, often at the expense of face-to-face relationships.

One significant outcome of this shift is the declining responsiveness and engagement on social media within common social circles. Such disengagement can escalate into conflicts, and in some cases, lead to physical altercations, as individuals increasingly value online interactions and seek validation through digital means.

The fixation on presenting an idealized self—often enhanced through filters—has given rise to unrealistic beauty standards and unhealthy spending behaviours. Many young people prioritize acquiring high-end smartphones and fashionable clothing solely to curate an appealing online persona.

Moreover, the preference for virtual interactions over in-person connections is undermining traditional social bonds and fostering a more digital form of human connection. This shift introduces various risks associated with digital relationships, including the dangers of befriending strangers online and engaging in gaming with unknown individuals, which can lead to financial losses through betting. Additionally, sharing personal information, such as locations or time-stamped photos, poses threats to privacy and security. There are serious implications, such as exposure to inappropriate content and the potential for blackmail due to the sharing of sensitive images or videos.

Cybercrime is also a growing concern, particularly in online payment transactions, where fraudulent activities can occur. In addition, there is a notable decrease in in-person interactions as people prefer virtual avenues of communication such as messaging applications, video chats, and social media sites like Facebook, LinkedIn, and Twitter.

### ***Limitations and Future Research***

Future research considering other psychological factors, such as anxiety, depression, and obsessive-compulsive disorder (OCD), which may impact individuals' experiences with nomophobia. By exploring these factors, future studies could provide a more comprehensive understanding of the underlying psychological influences contributing to smartphone addiction and nomophobia.

Intervention strategies for individuals highly dependent on mobile devices can offer insights into effective support systems for reducing dependence. Research can explore the role of cybersecurity education and awareness programs in reducing mobile addiction by empowering users to prevent over-reliance and avoid potential security threats.

Finally, integrating physical activity programs within school, college, and workplace curricula as an alternative to excessive mobile use could also be studied as a potential

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preventive measure. Such programs could promote healthier lifestyle habits and reduce dependency on smartphones, addressing nomophobia from a holistic and preventive angle.

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No conflict of interest.

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