CME LIVE OPEN ACCESS

Journal of
Earth & Environmental Waste Management

Research Article ISSN: 3065-8799

The Impact of Smartphone Addiction on Users in an Urbanized Environment of Ibadan, Oyo-State, Nigeria

Adeniyi Damilare Akinluyi[1*] and Muyiwa Lawrence Akinluyi[2]

[1]*Department of Geography, University of Ibadan (UI), Ibadan, Nigeria.*

[2]*Department of Architecture, Afe Babalola University Ado -Ekiti, Ekiti- State, Nigeria.*

Corresponding Author: Adeniyi Damilare Akinluyi, Department of Geography, University of Ibadan (UI), Ibadan, Nigeria.

Received: 2025 Apr 05 **Accepted:** 2025 Apr 25 **Published:** 2025 May 05

Abstract

Smartphone addiction refers to an intense focus on a smartphone, often through social media, games, or other apps, causing difficulties in coping without the device. This was conducted to examine the effects of smartphone addiction on users in Ibadan, Oyo state. The study used a mixed survey research method, administering 400 structured questionnaires across the LGAs in Ibadan. The Smartphone Addiction Scale (SAS) Instrument, with six subscale factors, was used to question respondents. Correlation Analysis, specifically Spearman's rho correlation coefficient, explored the relationship between smartphone usage frequency and daily life outcomes. The analysis revealed that extended smartphone usage was positively correlated with physical issues such as neck stiffness, insomnia symptoms, blurred vision, and wrist pain. Furthermore, it was found that longer smartphone usage was negatively correlated with the ability to cope without the device and had a minimal impact on social interactions. In conclusion, the study suggests that smartphone overuse has detrimental effects on users' physical and mental well-being, and it may be helpful to reduce smartphone usage to mitigate these effects.

Keywords: Smartphone Addiction, Smartphone Addiction Scale (SAS)

1. Introduction

1.1. Background to the Study

Smartphone addiction is a behavioral condition characterized by an extreme focus on a smartphone, including interactions on social media, playing games, or using other applications on the device [1]. It is a reactive disorder that negatively impacts a person's relationships with others and the outside world. This reliance syndrome can lead to nomophobia, which is the fear of being without a smartphone. Smartphones offer various entertainment features such as games, camera, video, Bluetooth, multimedia, radio, YouTube, movies, GPS, and other apps, leading people to become dependent on them [2]. Smartphones are overused compared to other devices like desktops or laptops because of their portability. Nomophobia, the fear of losing access to one's phone or not having connectivity, is a key aspect of this addiction (LaRose & Eastin; Griffiths; Oulasvirata et al.,).

The frequent use of smartphones can lead to addiction, impacting various aspects of users' lives, including their physical and mental health, relationships, and potential withdrawal symptoms (Mustafi et al.,). The study conducted by Sapienza, Lítlá, Lehmann, and Alessandretti (2023) based on smartphone usage data from 500,000 users in various countries and continents illustrates that an individual's environment influences their smartphone usage patterns. The study observed differences in smartphone usage based on demographics and identified the impact of the residential environment on usage.

Smartphone addiction is a condition characterized by the excessive and obsessive use of mobile devices. It is typically measured by how frequently users access their smartphones and how much time they spend online within a given time frame. Family members, friends, coworkers, and others who are close to you or have influence over you may have significant concerns about your excessive phone use (LaRose & Eastin; Don; Oulasvirata et al.,).

Excessive smartphone usage can have detrimental effects on socioeconomic status, educational level, and physical and psycho-social health. These effects may include neck stiffness, blurred vision, wrist or back pain, sleep disturbances, and decreased in-person social interaction (Kuss et al.,; Fasae & Adegbilero; Haug et al.,). Additionally, nighttime smartphone use can lead to waking up late, and in some cases, individuals report that they cannot live without smartphones. A study conducted in the US found that 65% of the participants (N = 1061) reported that they could not live without smartphones (Wajcman, Bittman, Jones, Johnstone, & Brown). Furthermore, nearly 70 percent of Belarusian university students were convinced of the harmful effects of smartphones

(Szpakow, Stryzhak, & Prokopowicz). This study aimed to analyze the impact of smartphone usage on urban residents of Ibadan, Oyo State.

1.2. Statement of the Problem

Although the use of smartphones as a gadget has good effects on all aspects of life, the study of addictive behaviors is urgently needed. According to Gupta et al., and Mustafi et al. Smartphone addiction among users is becoming a serious threat to public health. As a result of regular use, smartphone addiction has detrimental effects on both physical and psycho-social health, including neck stiffness, hazy vision, wrist or back discomfort, disturbed sleep, everyday life problems, and reduced in-person social connection. Nevertheless, the factors that shape how we use our smartphones remain scarce, due to limited availability studies carried out within the research circle. Therefore, this study examined the impact of smartphone addiction on daily smartphone usage.

The physical, mobile aspect of the smartphone facilitates problematic Internet behaviors (i.e. Obsessive social media use, porn, and gambling addiction) by making them accessible anytime and anywhere and therefore increasing how often they are used has been discussed in recent research, which could lead to negative implication such as anxiety (fear of losing access to a smartphone) with an adequate response to mitigate this adverse effects is yet to be thoroughly investigated.

Previous research on smartphone addiction has addressed smartphones as a single addictive entity, measuring the level of "smartphone use" or "smartphone addiction," although the smartphone itself is causing the problems in the way that human has found it difficult to cope without smartphone. The problems arising from smartphone use are dependent on what activities the user engages with while on the smartphone, the motivations for engaging with these activities, and the gratifications received from them which then reinforce continued use (Jeong, Kim, Yum, & Hwang; Lopez-Fernandez et al.,). Most of these studies focus on the level of addiction but fail to analyze the effects of smartphone addiction on users in Ibadan as the addictive behavior has not been thoroughly examined. This study attempts to analyze the effects of smartphone addiction. It will help to explore the relationship between the frequency of smartphone usage and various outcomes related to daily life among users in Ibadan, Oyo State Nigeria from a geographical perspective. As a result, this research attempts to answer the question.

1.3. Literature Review

1.3.1. The Concept of Smartphone Addiction

In a study conducted by Sapienza, Lítlá, Lehmann, and Alessandretti, it was found that smartphones have had a profound impact on human life. Smartphone addiction is a behavioral condition characterized by an extreme focus on a smartphone, such as through interactions on social media, playing games, or using other applications on the device [1]. It is a reactive disorder that has a negative impact on a person's relationships with others and with the outside world. This reliance on smartphones can cause nomophobia, which is the dread of going without a smartphone. The physical portability of the smartphone makes problematic Internet behaviors (such as compulsive social media use, access to pornography, and gambling addiction) easier to engage in and thus increases their frequency of use, but the smartphone itself is not the issue. The activities a user engages in while using a smartphone, their motivations for doing so, and the satisfaction they derive from them all play a role in the issues that result from such use (Jeong, Kim, Yum, and Hwang; Lopez-Fernandez et al.,).

1.3.2. The Urbanized Environment and the Smartphone Addiction

Urbanization, also known as urban drift, refers to the expansion of urban areas due to global changes [3]. This expansion happens naturally as individuals and organizations seek to save time and money on commuting and transportation, while also seeking better jobs, education, housing, and transportation opportunities [3].

In urban areas, the differences in smartphone usage among various demographic groups have provided new insights into the influence of residential environments. Higher smartphone usage in urban areas is only valid for a specific set of mobile applications (Lítlá, Lehmann, and Alessandretti). Smartphone use in rural areas is primarily associated with entertainment, such as gaming and social applications [4,5]. On the other hand, urban dwellers tend to use smartphones more for purposes such as communication, navigation, travel, business, and productivity apps (Lítlá, Lehmann, and Alessandretti] [6,7]. The observation of rural users using smartphones for entertainment is supported by the characteristic patterns of usage across the week, with rural individuals using their smartphones more during weekends.

It's important to note that urbanization can refer to the proportion of people living in urban areas compared to the overall population, or it can refer to the rate at which the urban population is increasing [3]. Individuals in occupations such as farming, factory work, or mining may not need or be able to use cell phones during weekdays. Looking at changes within individuals, moving from urban to rural environments (or vice versa) affects smartphone usage as described above, confirming the significant impact of the environment on smartphone usage. According to Gilbert, Karahalios & Sandvig, people living in rural areas tend to prioritize close relationships and have fewer friends in their local area [8]. This means they may find communication apps less essential for connecting with friends locally. In contrast, in urban settings, these apps are used for various purposes, including connecting with friends, entertainment, and seeking information [9,10]. In urban settings, smartphones are increasingly being used to access services and gain insights into how our real-life experiences influence our interaction with technology (Lítlá, Lehmann, and Alessandretti). This trend presents new opportunities for investigating the relationship between online and offline behavior. Understanding the dynamic between

urban environments and smartphone usage is crucial for developing interventions and technologies that support both mental and physical well-being (Lítlá, Lehmann, and Alessandretti).

1.3.3. The Effect of Smartphone Addiction on Academic Performance

Additional research brought attention to the detrimental effects of smartphone addiction among college students. By describing its symptoms, categorizing its severity, and creating methods to assess it, they were able to determine the nature of this particular addiction (Hafidha, Abdelmajid, & Naeema). Acelajado wrote about how technology affects every facet of contemporary life and how people are exposed to a wealth of diverse and international information. Being exposed to such a large amount of information could make it difficult to discriminate between reliable and unreliable sources. Despite the smartphone's role in fostering collaboration, communication, and creativity, American high schools still reject the use of smartphones as educational tools. The issue is not with the smartphone itself, but rather the addiction of the smartphone that needs to be modified (Geary).

According to Ishii, smartphone overuse by individual and mostly students may have negative effects on their academic performance [11]. Students overusing the smartphone study for shorter periods and are likely to be victims of crimes. Lepp, Barkle, and Karpinski; Javid, Malik, and Gujjar found that the student smartphone increased use may negatively impact academic performance, mental health, and subjective well-being or happiness. Tindell and Bohlander reported that the majority of university students use the smartphone in classrooms. In this respect, some studies revealed a negative relationship between smartphone use and university students' achievement (Lepp, Barkle, & Karpinski) [12]. According to studies, university students use their smartphones for pleasure and eventually develop a habit of doing so. According to Hong et al., there is a positive correlation between smartphone use and anxiety but a negative correlation between smartphone use and self-esteem. Daily usage of smartphones has raised the level of addiction, claim Cagan et al. It has been determined that there is a negative association between smart phone addiction and academic achievement as well as a positive correlation between smart phone addiction and depression severity. Similar to this, Naz et al. emphasized the financial costs of heavy phone use among college students. They discovered that it is among the most terrible risks to the economic Independence of students and their families. They concluded that its excessive use paves the way for crimes and deviant acts that were regarded as severe threats to the stability of communities.

1.3.4. The Effect of Smartphone Addiction on Daily Behavior and General Life

Pennay found that smartphone use while driving cars weakens concentration, which, in turn, causes accidents. Some researchers confirm that overuse of smartphones (e.g., Ehrenberg, Juckes, White, & Walsh) leads to smartphone addiction. This overuse has been empirically supported to have negative health effects (Toda, Monden, & Kubo). Louis reported that the amount of time spent in face-to-face interactions with friends is a strong predictor of the social use of the smartphone. The growing use of smartphone has been accompanied by means of increasing poor consequences. One of these negative effects is the harmful reflection on health that results from exposure to rays and wireless waves. This can cause cancer, brain tumors, nervous disturbances, poor concentration, and problems with the function of the iris and the immune system. It also has harmful effects on the eardrum, the wrist, the neck and the joints. Fatigue and sleep disorders are other negative effects (Alasdair & Philips) Richard revealed that one is more likely to develop brain cancer as a result of more than 10 years of smartphone use. Long time users of smartphones are more likely to have a tumor in the nerve that links the ear to the brain. They may likely prone to suffer from stress, disturbed sleep, work and study problems, negligence of friends and responsibilities, withdrawal, irritation, and poor body activity.

1.4. Consequences of Excessive Smartphone Use

There are numerous negative consequences associated with excessive smartphone use. Excessive smartphone use can lead to neurological changes where the brain of the affected individual has been found to have significantly higher levels of gamma-amino butyric acid (GABA), which results in poorer attention and control as well as being more easily distracted (Hong et al.,). The high accessibility to the rapid flow of information from adolescents' smartphones can reduce their attention spans as well (Kim et al.,). Due to neurological immaturity, adolescents can become more dependent on instant rewards associated with smartphones as opposed to natural and/or delayed rewards that come from interactions with friends and family members, or their hobbies (Chen, Liang, Mai, Zhong, & Qu) [13]. The connectivity in parts of the brain that regulate emotions, decision-making, inhibition, and impulsive control may also be affected by excessive smartphone use (Chen et al.,). One of the more serious consequences of uncontrolled smartphone use is the occurrence of accidents. Unintentional injuries, such as road traffic injuries, pedestrian collisions, and falls have increased with the incidence of smartphone users talking, texting, or listening to music while on the road (Kim, Min, Kim, & Min; Kong, Xiong, Zhu, Zheng, & Long; Shabeer & Wahidabanu) [14].

One in three adolescents aged 16–17 reported that they texted while driving [15]. In Korea, accidents associated with smartphone use among pedestrians increased by 1.9 times over 4years (Lim, Lee, Choi, & Joo). As a result, the term "smombie" was coined, combining the words smartphone and zombie, to describe smartphone users who are being "absorbed" into their smartphone, resulting in failure to focus on anything else and thus an increased risk of accidents [16]. Other than the direct impacts of problematic smartphone use, the dangerous act of performing live video streaming using smartphone needs further investigation. Approximately 37%–67% of streamers or performers are between the ages of 11 and 23 (Lin & Lu) [17]. In order to

increase their popularity or to gain acceptance and self-confidence, the performers may engage in dangerous activities or challenges that can result in injury and loss, such as drinking cooking oil, binge eating, or performing some vulgarity or obscenity in their live-streaming video via Facebook live, YouNow, Inke, or KuaiShou (Yu, Jung, Kim, & Jung; Zou). The audience would spend a certain amount of money to reward the performers to get their attention and also to fulfill their demands (Zou) [18].

1.5. Comorbidity

Excessive smartphone use also coincides with other mental disorders such as social anxiety, depression, impulsivity, and loneliness, as well as attention deficit problems (Elhai, Dvorak, Levine, & Hall). Anxiety was found to be more prevalent among adolescents with problematic smartphone use due to device interference or distraction (Hong et al.,) [19]. The need to compulsively check new messages and notifications can increase personal stress [19]. Adolescents who are overly reliant on smartphones, especially for social connection purposes, obtain less practice in using non verbal communications skills such as understanding facial expression or emotional reactions (Hong et al.,). In addition, they are also less sensitive toward their own behaviors and inflexible in communication (Hong et al.,). Thus, it has been reported that a high frequency of texting has been associated with less emotionally satisfying relationships with others [19]. Problematic smartphone use has also been shown to affect the communication between parents and children as well as social participation (Radesky et al.,) [19]. Some adolescents may utilize smartphones as a coping mechanism to mitigate their depressive symptoms and to alleviate boredom or frustration [19,20]. Using devices provides them with fun and the feeling of reduced distress so that they can shift their attention from other problems in life. Such behavior may temporarily help adolescents to feel relieved and provide them an escape from the problems, but it is not beneficial in the long term, as the problems remain unsolved. Instead, this will increase the likelihood of developing dependence on smartphones as a way to address psychological problems [21].

In addition, those seeking out companionship in a safe virtual environment may develop depression or being more depressed as they become more socially isolated, but just focused on their phone [14,22]. In other words, excessive use of smartphones may be a form of maladaptive coping strategy (avoidant or emotion-based) rather than a form of problem-solving strategy. Adolescents who use smartphones compulsively appear to find it difficult to avoid using the devices even for a short period because so much of their life revolves around the smartphone [14,20]. When the devices are not around, they feel uneasy and fidget and this could affect their performance at school or during other activities. Smartphones compel people to keep checking them and this leads to fear of missing out (FOMO) and “nomophobia” (no mobile phone phobia), which are situations that will cause distress or anxiety in young people [20,23]. The problematic use of smartphone leads to psychosocial complications in which some of them would even text or watch video while they are walking, driving, or even talking to others (Shabeer & Wahidabanu) [14,19]. A physical loss of phone is even worse, with many being very concerned about losing personal information, disconnecting from others, their mobile payment options being misused, the leakage of inappropriate photos or videos, and missing the newest updates of self or others [23].

1.6. The Study Area- Ibadan, Oyo-State: Location & Urbanization

Ibadan is situated between longitudes 3o 450E and 4o 000E and latitudes 7o 150N and 7o 300N of the equator. Geographically, Ibadan is situated in south-western Nigeria, close to the border between forests and grasslands. The administrative center of Oyo State is currently located in the metropolis of Ibadan. Five of the eleven local government areas that make up the Ibadan region Ibadan North, Ibadan Northwest, Ibadan Northeast, Ibadan Southeast, and Ibadan Southwest are generally regarded as the Ibadan metropolis. The remaining six local government areas are peri-urban or rural, and they are Egbeda, Akinyele, Ona-Ara, Oluyole, Lagelu, and Ido. The city was once the biggest in tropical Africa for a very long time.The city was for a long time the largest in tropical Africa [24]. It is situated on a topographically rough terrain, with a central ridge cutting through the city. The city has an average elevation of 210 meters above sea level, with elevations ranging from 150 meters in the valley to 275 meters. (3,080km2) is the total area of the city (Adebayo) [24]. Ibadan is the largest indigenous metropolitan area in sub-Saharan Africa (Areola, 1994; Adedimeji et al.,).

The urban extent of Ibadan in 2013 was 49,121 hectares, which had increased at an average annual rate of 2.8% since 2000. In 2000, the urban extent was 33,429 hectares, increasing at an average annual rate of 2.1% since 1984, when it was 24,264 hectares. Ibadan’s population grew from an estimated 170,000 in 1911 to 459,196 in 1952. By 1963, its population had reached 625,000. The 1991 census puts the population of the city at about 1.45 million people. Altogether, the region of Ibadan has a population of over 2,455,766 persons according to the 2006 population census. The Ibadan metropolis local government areas account for 1,338,659 persons, while the six other local government areas that constitute the rest of the region account for slightly less than one-third of the population of the state (National Population Commission, 2006). The larger percentage of the land is mainly for agriculture, which is restricted to small scale farm holdings while part of the land is occupied by the nomadic herdsmen where they carry out their pastoral activities.

Built-up Area Density in Ibadan in 2013 was 80 persons per hectare, increasing at an average annual rate of 0.2% since 2000. The built-up area density in 2000 was 78 persons per hectare, increasing at an average annual rate of 0% since 1984 when the built-up area density was 77.78 persons per hectare. The growth of Ibadan is a classical example of urban sprawl in Nigeria. In 1951, the population of Ibadan had reached 100,000 and buildings occupied an area of about 36 square kilometres, while ditches and walls surrounding

the town were more than 25 kilometres in circumference. Studies based on aerial photography at scale 1:25,000 shows that by 1973, the total land area had increased to about 112 square kilometres [25, 26]. All farmlands, fallow lands and river flood plains within the city had been built upon. By 1981 a total land area of about 136 square kilometres had been developed. This increased to 176 square kilometres in 1984, and 214 square kilometres in 1988; a spatial increase of over 84 per cent in seven years. By the year 2000, it is estimated that Ibadan will cover over 400 square kilometres, considering the rate at which the city's population is growing and the trend of growth from 1981 [26]. If the present rate of expansion of the city is not curbed, surrounding towns, such as Ajoda new town on Ife Road, Onidundu village and Idi Ayunre to the south, Omi Adio on Abeokuta Road, and Lalupon-Ejioku on Iwo Road will be linked by physical development. Ibadan will then be an octopus of a city. Many Nigerian cities are exhibiting a similar growth pattern [27-31].

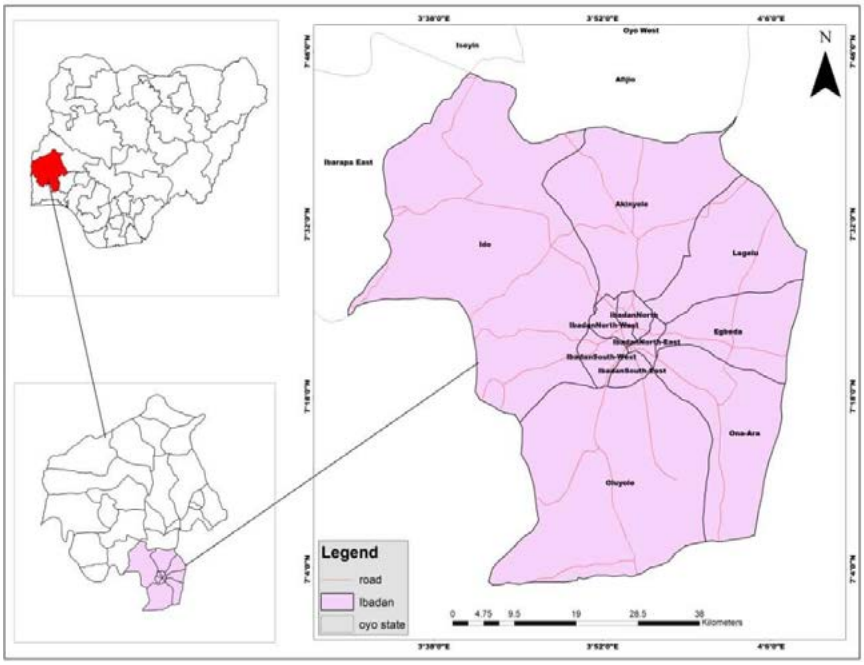

Figure 1: Showing the Map of Ibadan, Oyo-State, Nigeria Research Methodology

Primary data was obtained through a cross-sectional questionnaire survey in all eleven local government areas of Ibadan, The secondary data was used to generate population data from the National Population Commission, (National Bureau of Statistics). The questionnaire was divided into three main sections. Section A contains information on the location and demographic characteristics of respondents. Section B encompassed the Smartphone Addiction Scale (SAS) Questionnaire. This scale was developed by a South Korean psychologist (Kwon Min et al. 2013) and widely used till today. It consists of 33 questions for each item of six factors daily life disturbance (5 items) Cyberspace Relationship (5 items) withdrawal (6 items) Positive anticipation (6 items) Tolerance (5 items) Overuse (6 items), and each question ask the participants to express their opinion on a 6-point Likert scale ranging from coded 6 (Strongly Agree) to 1 (Strongly Disagree). The maximum score for this scale is 198. However, since the lowest score that can be obtained from the smartphone addiction scale was 33 and the highest score was 198, the levels of smartphone addiction were defined in Table 1.0. The merits of SAS aids to elaborate in details the usage of smartphone among users as it allows users for degrees of opinion to determine addiction level, likewise the limitation of the SAS is the Mathematical Computation for users and respondents to comprehend. The measurement can also be manipulated as personal information could be avoided by respondents. Section C contains information on effects of Smartphone Addiction on users using both open and closed ended structured questions [32-34].

S/N	Smartphone Addiction Scores	Remarks
1.	33-98	Low level
2.	99-131	Moderate
3.	132-164	High Risk
4.	165-198	Addicte
Source: Author's Computation		

Table 1: Summary Scores for Smartphone Addiction Levels

S/N	LGAs	Headquarters	Population census (1991)	Population Projection (2022)	Percentage Population	Sample size n/3,710,788x400
1.	North	Agodi	302,271	611,494	16.48	66
2.	North east	Iwo road	275,627	557,593	15.03	60
3.	Northwest	Dugbe	147,918	299,238	8.06	32
4.	Southeast	Mapo	225,800	456,793	12.31	49
5.	Southwest	Aleshin	277,047	560,466	15.10	60
6.	Akinyele	Moniya	140,118	283,458	7.64	31
7.	Egbeda	Egbeda	129,461	261,899	3.76	15
8.	Lagelu	Iyana Offa	68,901	139,386	7.06	28
9.	Ona Ara	Akanran	265,571	248,926	4.99	19
10	Oluyole	Idi Ayunre	91,527	185,159	6.71	26
11	Ido	Ido	52,582	106,373	2.86	14
	Total=		1,834,300	3,710,788	100	40
Source: National Population Commission, Bureau of Statistics and Authors Computation						

Table 2: Administration of Questionnaire by LGA

The population of Local Government Areas obtained from 1991- 2022 Population census of Nigeria would be projected. Given the survey of the sample size, it is projected that four hundred (400) questionnaires will be administered. The projection would be calculated using the below formula while Taro Yamen method was adopted to calculate the sample size. It is expressed as

P (n) =P (o) (1+r) ^n. Where P (n) = base population for the year (1991) r= population growth rate (2.3%), n= number of years. P (n) = (1+2.3%) ^31

P (n) =1,834,300 (1+0.023) ^31

P (n) = 1,834,300 (1.023) ^31. P (n) = 1,834,300 (2.023). P (n) = **3,710,788**

The above projection was calculated for the (11) Local Government Areas in Ibadan.

Using the formula below **n=N/1+N (e)*2.** n=sample size N= total population e= level of significance. n= 3,710,788\1+3,710,788 (0.05)*2. n= **400.**

2. Method of Data Analysis

To analyze the effects of smartphone addiction on users, the socioeconomic characteristics of users, such as age, sex, marital status, occupation, income level, educational qualifications, and data for each user were analyzed within each socioeconomic group and the obtained results are presented in cross-tabulations to show the smartphone addiction level within each socioeconomic. Correlation analysis was utilized to explore the relationship between the frequency of smartphone usage and various outcomes related to daily life. The analysis was conducted using Spearman's rho correlation coefficient, which measures the strength and direction of the relationship between variables. Likewise, Chi-square was carried out on the smartphone addiction scores of the respondents in Ibadan, Oyo State.

3. Results and Discussion

Socio-Demographic Characteristics of Respondents

Table 3.0 shows the frequency and percentage distribution of the respondents by gender, age, educational qualification, occupation, family size, and average monthly income. The majority of the respondents were male (52%), aged between 25 and 64 years (55%), had tertiary education (76%), and were engaged in business (31%) or civil service (24%). The average family size was 1- 5 members (74%), and the average monthly income ranged from below 30,000 naira (35%) to above 100,000 naira (20%).

Social demographic variables		Frequency	Percentage
Gender	Female	194	49%
	Male	206	52%
Age	15-24	2	1%
	18-24	125	31%
	25-64	219	55%
	Above 65	54	14%
	Primary	9	2%
Educational Qualification	Secondary	91	23%
	Tertiary	300	75%
	Artisan	60	15%

	Business	125	31%
	Civil Servant	95	24%
	Professional	13	3%
Occupation	Student	27	7%
	Unemployed	80	20%
	10 and above	7	2%
Family Size	1-5	295	74%
	6-10	98	25%
	Below 30,000	141	35%
	30,000-50,000	88	22%
Average Monthly Income	50,000-100,000	90	23%
	100,000 and above	81	20%
Total		400	100

Table 3: Socio-Demographic Characteristics of Respondents, (Field Work, 2023)

3.1. The Effects of Smartphone Addiction on Users in Ibadan

Table 4.0 shows the results of a correlation analysis that explores the relationship between the frequency of smartphone usage and various outcomes related to daily life. The analysis was conducted using Spearman's rho correlation coefficient, which measures the strength and direction of the relationship between variables. The results also show that four of the seven variables have a statistically significant positive correlation with the daily life disturbance variable: neck stiffness (r=0.188); insomnia symptoms (r=0.227); blur vision (r=0.220), and wrist pain (r=0.310). This means that respondents who use their smartphone for longer hours per day are more likely to experience these physical problems. The correlation analysis further revealed that respondents who use their smartphone for longer hours per day are less likely to cope well without their device (r = - 0.148). Additionally, this negative correlation has a slight influence on their social interactions (r = -0.024). One of the main findings of this study was that the duration of smartphone use per day did not have a significant impact on the level of social isolation among the participants (r = -0.025, p>0.05). This indicates that there is no linear association between how much time people spend on their smartphones and how disconnected they feel from others.

The results suggest that there are significant positive correlations between daily life disturbance and neck stiffness, insomnia symptoms, and blurred vision, meaning that higher levels of smartphone use are associated with more frequent and severe physical problems. On the other hand, there are significant negative correlations between daily life disturbance and coping without smartphone and back and wrist pain, meaning that higher levels of smartphone use are associated with less difficulty in managing without the device and less frequent and severe musculoskeletal problems. There are no significant correlations between daily life disturbance and social interaction or personal relationship, meaning that smartphone use does not have a noticeable impact on these aspects of well-being. The results of this analysis suggest that smartphone overuse has some detrimental effects on the physical and mental well-being of the respondents, especially in terms of causing pain, sleep problems, and vision problems. It also suggests that smartphone overuse may impair the ability to function without the device and may harm some aspects of personal relationships. However, it does not show a strong link between smartphone overuse and social isolation.

Variables		DAILY LIFE DISTURBANCE [I use my smartphone 5-6 hours in a day]
I develop neck stiffness due to smartphone overuse.	Correlation Coefficient	.188**
	Sig. (2-tailed)	0.00
I develop insomnia symptoms while using my smartphone over a long specific period.	Correlation Coefficient	.227**
	Sig. (2-tailed)	0
I lack social interaction as a result of frequently usage.	Correlation Coefficient	-0.025
	Sig. (2-tailed)	0.625
I develop blurred vision as a result of frequently usage.	Correlation Coefficient	.220**
	Sig. (2-tailed)	0
How do you cope without your smartphone?	Correlation Coefficient	-0.148**
	Sig. (2-tailed)	0.003

How often do you feel back and wrist pain due to frequently usage of smartphone?	Correlation Coefficient	.310**
	Sig. (2-tailed)	0
How does smartphone affect your personal relationship?	Correlation Coefficient	-0.024
	Sig. (2-tailed)	0.64
Number of Respondents	N	391

Table 4: Correlations of Excessive Smartphone Usage and it Effect on Individual Well-Being

4. Summary and Conclusion

Conclusion

Due to its many applications that provide quick access to the internet and social media through various social interactions, the use of smartphones has experienced technological growth making a mark on many aspects of life. This study clarified a better understanding of motivation that engaged smartphone users' motives because of its frequent interaction with internet connections to transform the delivery of information [4,14].

The result indicated that four of the seven variables have a statistically significant positive correlation with the daily life disturbance variable: neck stiffness (r=0.188); insomnia symptoms (r=0.227); blur vision (r=0.220), and wrist pain (r=0.310). This means that respondents who use their smartphone for longer hours per day are more likely to experience these physical problems. One of the main findings of this study was that the duration of smartphone use per day did not have a significant impact on the level of social isolation among the participants (r = -0.025, p>0.05). This indicates that there is no linear association between how much time people spend on their smartphones and how disconnected they feel from others. The results of this analysis suggest that smartphone overuse has some detrimental effects on the physical and mental well-being of the respondents, especially in terms of causing pain, sleep problems, and vision problems. It also suggests that smartphone overuse may impair the ability to function without the device and may harm some aspects of personal relationships. However, it does not show a strong link between smartphone overuse and social isolation.

Recommendation

- Timeline should be arranged on daily basis for smartphone usage to cushion its harmful effects on the physical part of the body such as eardrum, the wrist, the neck, the joints Fatigue and sleep disorders.
- The demand for people to spend more time on other important activities that provide value to their respective lives should be considered to reduce this behavioural atitude.
- Additionally, psychologists are urged to change people's thoughts, attitudes, and actions around smartphone use.
- Finally, smartphone users should make the most of the good influences their devices can have on their life and focus on useful rather than pointless activities when using them.

References

1. Choi, N. (2015). The Effects of a smartphone addiction education program for young adult females. *International Journal of u-and e-Service, Science and Technology, 8*(12), 277-284.
2. Abo-Jedi, A. (2008). Cellphone addiction and its relation to self-closure in a sample of Jordanian university and Amman private university students. *The Jordanian Journal for Educational Sciences, 4*(2), 137-150.
3. Akinluyi, M. L., & Adedokun, A. (2014). Urbanization, environment and homelessness in the developing world: The sustainable housing development. *Mediterranean Journal of Social Sciences, 5*(2), 261-271.
4. Wei, R. (2008). Motivations for using the mobile phone for mass communications and entertainment. *Telematics and Informatics, 25*(1), 36-46.
5. Joo, J., & Sang, Y. (2013). Exploring Koreans' smartphone usage: An integrated model of the technology acceptance model and uses and gratifications theory. *Computers in Human Behavior, 29*(6), 2512-2518.
6. Wei, R. (2008). Motivations for using the mobile phone for mass communications and entertainment. *Telematics and Informatics, 25*(1), 36-46.
7. Papacharissi, Z., & Rubin, A. M. (2000). Predictors of Internet use. *Journal of broadcasting & electronic media, 44*(2), 175-196.
8. Gilbert, E., Karahalios, K., & Sandvig, C. (2008, April). The network in the garden: an empirical analysis of social media in rural life. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (pp. 1603-1612).
9. Chung, N., & Koo, C. (2015). The use of social media in travel information search. *Telematics and Informatics, 32*(2), 215-229.
10. Boukes, M. (2019). Social network sites and acquiring current affairs knowledge: The impact of Twitter and Facebook usage on learning about the news. *Journal of Information Technology & Politics, 16*(1), 36-51.
11. Ishii, K. (2011). Examining the adverse effects of mobile phone use among Japanese adolescents. *Keio communication review, 33*(33), 69-83.
12. Chen, Y. F., & Lever, K. M. (2005). Relationships among mobile phones, social networks, and academic achievement: A comparison of US and Taiwanese college students. In meeting of the Hungarian Academy of Sciences Conference. Budapest, Hungary.'
13. Kim, S. G., Park, J., Kim, H. T., Pan, Z., Lee, Y., & McIntyre, R. S. (2019). The relationship between smartphone addiction and symptoms of depression, anxiety, and attention-deficit/hyperactivity in South Korean adolescents. *Annals of general psychiatry, 18,* 1-8.
14. Walsh, S. P., White, K. M., Hyde, M. K., & Watson, B. (2008). Dialling and driving: Factors influencing intentions to

use a mobile phone while driving. *Accident Analysis & Prevention, 40*(6), 1893-1900.
15. Madden, M., & Lenhart, A. (2009). Teens and distracted driving. *Pew Internet & American Life Project, 16.*
16. Kwon, M., Kim, D. J., Cho, H., & Yang, S. (2013). The smartphone addiction scale: development and validation of a short version for adolescents. *PloS one, 8*(12), e83558.
17. Friedlander, M. B. (2017). Streamer motives and user-generated content on social live-streaming services. *Journal of Information Science Theory and Practice, 5*(1), 65-84.
18. Lu, Z., Xia, H., Heo, S., & Wigdor, D. (2018, April). You watch, you give, and you engage: a study of live streaming practices in China. *In Proceedings of the 2018 CHI conference on human factors in computing systems* (pp. 1-13).
19. Sansone, R. A., & Sansone, L. A. (2013). Cell phones: the psychosocial risks. *Innovations in clinical neuroscience, 10*(1), 33.
20. Thomée, S. (2018). Mobile phone use and mental health. A review of the research that takes a psychological perspective on exposure. *International journal of environmental research and public health, 15*(12), 2692.
21. Alhassan, A. A., Alqadhib, E. M., Taha, N. W., Alahmari, R. A., Salam, M., & Almutairi, A. F. (2018). The relationship between addiction to smartphone usage and depression among adults: a cross sectional study. *BMC psychiatry, 18,* 1-8.
22. Hinduja, S., & Patchin, J. W. (2010). Bullying, cyberbullying, and suicide. *Archives of suicide research, 14*(3), 206-221.
23. De-Sola Gutiérrez, J., Rodríguez de Fonseca, F., & Rubio, G. (2016). Cell-phone addiction: A review. *Frontiers in psychiatry, 7,* 175.
24. Oguntoyinbo, A. (1982). The climate of Ibadan. Ibadan Region. Department of Geography, University of Ibadan. *Special Silver Jubilee (NGA) publication*, 16-40.
25. Adediran, P. K. (1984). Ibadan urban sprawl problem: A challenge to urban and regional planning. Unpublished M. Sc. Urban and regional Planning. Thesis submitted to the Department of Urban and Regional Planning, *University of Ibadan, Ibadan, Nigeria.*
26. Onibokun, A.G. (1988a). *Socio-economic Sun'ey of Ibadan City.* Ibadan Metropolitan Planning Authority, Ibadan, Nigeria.
27. Stren, R. E. (Ed.). (2019). *African cities in crisis: managing rapid urban growth.* Routledge.
28. Mschelia, S. M. (1986). Problems of town planning in Gongola State. *Journal of the Nigerian Institute of Town Planners (JNITP), 6,* 135-140.
29. Ema, I.A. 1986. Problems of master plans of implementation in Cross River State of Nigeria. *Journal of the Nigerian Institute of Town Planners (JNITP) 6 & 7:* 128-134.
30. Onibokun, A. G., & Layi, E. (1987). *Public utilities and social services in Nigerian urban centres: problems and guidelines for action-synthesis of a national workshop,* 25-26 May, 1987.
31. Mabogunje, A. L. (1992). *Perspective on urban land and urban management policies in Sub-Saharan Africa* (No. 196).
32. Attamimi, A. (2011). The reasons for the prevalence of BlackBerry cellphones and the resulting educational effects from the perspective of secondary school students in Abo-Dhabi. *In Conference on the negative effects of cellphones on secondary school students, UAE* (pp. 105-130).
33. Çağan, Ö., Ünsal, A., & Çelik, N. (2014). Evaluation of college students' the level of addiction to cellular phone and investigation on the relationsship between the addiction and the level of depression. *Procedia-Social and Behavioral Sciences, 114*, 831-839.
34. Heo, J., Oh, J., Subramanian, S. V., Kim, Y., & Kawachi, I. (2014). Addictive internet use among Korean adolescents: a national survey. *PloS one, 9*(2), e87819.