

**DIGITAL OVERLOAD AND MENTAL HEALTH CHALLENGES AMONG  
PHARMACY STUDENTS : IMPLICATIONS FOR ACADEMIC BURNOUT AND  
PERFORMANCE**



**BY**

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## CERTIFICATION

This is to certify that this project work was carried out by **Agharese Vanessa Osarenokai** with matriculation number **PHA1908446** in the Department of Clinical Pharmacy and Pharmacy Practice, Faculty of Pharmacy, University of Benin, Benin-City, in partial fulfillment of the requirements for the award of Doctor of Pharmacy (Pharm.D) degree.

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## **DEDICATION**

I dedicate this work to God for helping me come this far even when i did not believe in myself and i also want to dedicate this work to my parents for all the love, support, prayers and financial support.

## ACKNOWLEDGEMENT

I thank the Almighty God for being a girl dad, His grace and compassion kept me and brought me this far, thank you for believing in me even when I did not believe I will make it this far.

I sincerely appreciate my project supervisor Pharm Dr(Mrs) Maria A. Aghahowa, I highly treasure the time spent working under your supervision. Thank you for your kindness, your guidance, corrections and support. Most importantly, I appreciate myself Vanessa Agharese for being a strong woman, surviving things you never thought you will, for all the tears, the breakdowns and the prayers more wins to you. I also want to appreciate my parents PST MR and MRS Agharese for all financial support, prayers, advice and care. I am so proud to be your daughter, providing everything i neede, holding me through breakdowns, i love you both so much.

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## ABSTRACT

### BACKGROUND:

In the digital era, university students are increasingly exposed to high levels of online engagement through academic platforms, social media, and entertainment, leading to a phenomenon known as *digital overload*. This study examined the relationship between digital overload, mental health (depression), and academic burnout among pharmacy students at the University of Benin, Nigeria, and explored how these factors influence academic performance.

### OBJECTIVES:

To assess the prevalence of digital overload among pharmacy students in UNIBEN.

To measure the degree of academic burnout (emotional exhaustion and academic inefficacy) among the respondents.

To examine the relationship between digital overload and mental health on academic burnout.

To assess the extent to which digital overload and academic burnout affect students' academic performance.

### METHOD:

A descriptive cross-sectional research design was adopted, with data collected from **334 pharmacy students** across all levels using a structured questionnaire comprising the **Maslach Burnout Inventory–Student Survey (MBI-SS)** and the **Internet Addiction Test (IAT)**. Data were analyzed using IBM SPSS version 25, employing descriptive statistics, Pearson's correlation, and one-way ANOVA tests.

## **RESULTS:**

Results revealed a **mean digital overload score of 40.35**, indicating a **moderate level of internet addiction**, with **89%** of students falling within mild-to-moderate overload categories. Academic burnout was notably high, with a **mean score of 45.31** and **84.8%** of respondents experiencing moderate to severe burnout, primarily due to emotional exhaustion and academic inefficacy. A **significant positive correlation** was found between digital overload and academic burnout ( $r = .285, p < .001$ ), indicating that excessive digital use contributes to emotional fatigue and disengagement. However, while digital overload showed **no direct relationship** with academic performance ( $p = .508$ ), academic burnout demonstrated a **significant negative impact** on students' cumulative grade point averages ( $p = .021$ ), suggesting that burnout mediates the relationship between digital overload and academic achievement.

## **CONCLUSION:**

The study concludes that **digital overload indirectly impairs academic performance by intensifying burnout symptoms** among pharmacy students. It recommends that the University of Benin and similar institutions implement **digital wellness programs**, mental health counseling, and structured online learning strategies to mitigate burnout and enhance student well-being. Future research should adopt longitudinal and comparative designs to explore coping strategies and the long-term effects of digital exposure on academic and professional outcomes.

## **KEYWORDS:**

Digital overload, Pharmacy students, Students performance, University of Benin, Academic burnout



## CHAPTER ONE

### INTRODUCTION

#### 1.0 BACKGROUND

In our digital age, students are increasingly exposed to large amount of online stimulus from social media platforms to mobile games and academic portals which expose students to numerous unwanted effects, this phenomenon is referred to as digital overload. Digital overload has been kinked to cognitive fatigue, techno stress and emotional exhaustion (Adepoju *et al.*, 2023). The constant demands of being connected can compromise students ability to focus, rest and to regulate their emotions thereby threatening their physiological state of mind. Digital overload has been found to contribute significantly to the mental health challenges that students experience. According to Schaufeli *et al.*, (2022), excessive exposure to digital environments triggers stress and emotional exhaustion both of which affect academic performance. This unmanaged stress may manifest as academic burnout, emotional exhaustion and cynicism towards academic activities causing a perceived decline in academic efficacy (Maslach & Leiter *et al.*, 2016). A recent global survey revealed that 65% of students report being distracted by their own digital devices and 59% by those of peers; such distractions are significantly associated with reduced academic performance and lower learning outcomes (Lauraine Langreo *et al.*, 2023). Similarly, a 2024 study on university students found that digital overload causes psychological strain and techno stress, which in turn diminish students' learning engagement and academic motivation (Elrehail et al., 2024). Furthermore, (Al-Kandari and Al-Huwailah *et al.*, (2024) demonstrated that digital overload has a significant positive correlation with school burnout among high school students in Kuwait, and that academic resilience only partially

mitigates this relationship. Zupancic *et al.* (2024) also found that students who spend more time online than they perceive as optimal experience higher levels of techno stress and lower self-efficacy, suggesting that excessive digital use undermines students' sense of control and academic competence.

In the Nigerian context, studies have shown growing concerns over students mental health. Olaseni *et al.* (2022) found that a significant portion of undergraduates in south western and south eastern Nigerian universities like Calabar, experience academic fatigue due to internet overuse. While the prevalence of internet addiction and digital overload is increasingly documented the relationship between digital habits and psychological symptoms such as depression, anxiety and burnout remains unexplored in the University of Benin city (UNIBEN). Given the demanding cognitive load in the pharmacy profession that requires mastery of a large and evolving body of pharmaceutical knowledge combined with laboratory work, clinical reasoning and professional communication, understanding how digital overload and mental health interplay is particularly vital.

Interventions targeting academic burnout such as Rational emotive behaviour therapy (REBT), have demonstrated effectiveness in reducing student exhaustion and improving academic engagement (Ogueji *et al.* 2022). However, such interventions are rarely implemented or studied within a broader student populations in Nigeria, particularly in institutions that faces unique challenges such as overcrowded classrooms, inconsistent power supply, limited access to mental health resources and prolonged academic disruptions caused by strike actions.

Despite the growing body of literature on academic burnout and digital behaviour little is known about the combined influence of digital overload and academic burnout on academic

performance within the University of Benin and most especially the pharmacy students. Existing research often isolates these variables, neglecting the holistic picture that includes both psychological symptoms like stress, anxiety, depression and functional outcomes such as engagement and absenteeism. This study seeks to bridge the gap by examining how digital overload relates to academic burnout and how these factors influence students academic outcomes in pharmacy students in the University of Benin city.

Therefore, this study seeks to bridge the gap by examining how digital overload relates to mental health symptoms and academic burnout, and how these factors in turn influence academic outcomes among pharmacy students at the University of Benin.

## **RISK FACTORS**

Risk Factors for Internet Addiction:

Internet addiction among students is often associated with unlimited or unsupervised online access, a high reliance on social media, gaming, or streaming platforms for emotional relief or procrastination, and poor time management skills. Many students use the internet as a coping mechanism for stress, which often results in late-night browsing, depressive symptoms sleep deprivation, and reduced productivity.

Risk Factors for Academic Burnout:

Academic burnout is frequently linked to high academic workload, inadequate rest, poor performance leading to low self-esteem, and pressure from family or society to excel. These conditions create persistent stress that erodes students' motivation, leading to chronic fatigue, disengagement, and emotional exhaustion.

## Risk Factors for Poor Mental Health:

Several psychosocial factors contribute to poor mental health among students, including financial stress, family conflict, trauma, and substance use. Chronic sleep deprivation, poor coping mechanisms, and economic hardship further exacerbate stress levels, leading to anxiety, depression, and burnout. For many students, these overlapping stressors create a cycle of exhaustion that affects their overall well-being and academic achievement.

### **1.1 LITERATURE REVIEW**

Student mental health has become a major global public health concern. University students experience high rates of depression, anxiety, stress, and academic burnout due to increasing academic pressure and socioeconomic challenges (Li et al., 2022; Mofatteh, 2020). These conditions are strongly linked to poor academic performance, reduced engagement, and impaired daily functioning, making them critical targets for academic research and institutional intervention.

A large meta-analysis reported substantial global prevalence rates of depression and anxiety among tertiary students, emphasizing the urgent need for local research on student mental health (Li et al., 2022). Similarly, Jelenchick et al. (2012) found that problematic internet use was significantly associated with poorer mental health outcomes among college students. In Nigeria, studies have shown elevated levels of psychiatric morbidity and burnout among medical and health science students (Ayinde et al., 2022; Aluh et al., 2020), yet there remains a scarcity of research specifically examining pharmacy students — a gap this study intends to address.

Tafesse (2024) conducted a cross-sectional study among 420 Ethiopian university students and found that 78.2% felt mentally drained after prolonged digital exposure, while 64.5% reported

difficulty concentrating due to online distractions. Cazan et al. (2024) reported similar findings among 512 Romanian students, where 71.8% experienced techno-overload and 66.2% suffered from information fatigue. In Europe, Zupancic et al. (2024) found that 58% of students reported emotional exhaustion due to excessive screen time, while those with structured digital routines exhibited greater academic satisfaction. A global OECD (2023) report also found that 65% of students were distracted by their own devices during lessons and 59% by peers' devices, with these distractions correlating with lower academic outcomes. In Nigeria, Adepoju et al. (2023) revealed that 74.5% of university students felt mentally fatigued after long hours of digital activity and 63.3% reported reduced motivation toward academics. Olaseni et al. (2022) found that 68% of heavy internet users experienced higher academic fatigue and poor sleep quality, while Anene-Okeke (2024) observed that 72% of pharmacy students in south-eastern Nigeria experienced moderate to severe stress linked to heavy coursework and online demands. These findings collectively indicate that digital overload and mental strain are pressing issues among university students, but few studies have examined this specifically in the University of Benin, especially among pharmacy students..

## **1.2 CONCEPTUAL CLARIFICATION**

### **Digital Overload**

The concept of digital overload emerged in the early 2000s as part of research into the growing effects of the information age on human cognition and productivity. It was first discussed under the broader concept of information overload, introduced by Alvin Toffler in his 1970 book *Future Shock*. Toffler described how individuals exposed to an overwhelming amount of information could experience decision paralysis, fatigue, and stress. With the rapid evolution of

technology, scholars such as Bawden and Robinson (2009) refined the concept into “digital overload,” referring to the state in which individuals are overwhelmed by the constant influx of digital information through smartphones, computers, social media, emails, and online learning platforms.

Digital overload occurs when the rate at which a person receives and processes digital content exceeds their mental capacity to manage it effectively. For students, this manifests in constant exposure to academic materials, online discussions, social networking sites, and entertainment media, all competing for attention. The human brain, when continuously stimulated by digital content, finds it difficult to focus, prioritize, or rest. Over time, this leads to cognitive fatigue, reduced concentration, memory problems, and emotional exhaustion.

In the life of a student—especially pharmacy students who deal with a heavy academic workload—digital overload can reduce productivity and mental clarity. The continuous checking of messages, notifications, and online classes interrupts the ability to study deeply. Students may also experience “technostress,” a term coined by Craig Brod in 1984, which refers to the psychological stress caused by the inability to cope with new computer technologies. Ultimately, digital overload affects sleep quality, increases anxiety, and limits meaningful face-to-face interactions, thereby influencing students’ academic performance and overall well-being.

### **Academic Burnout**

The concept of academic burnout originates from the broader theory of occupational burnout developed by Christina Maslach and Susan Jackson in the late 1970s. They described burnout as a psychological syndrome emerging as a prolonged response to chronic interpersonal stressors on the job, characterized by three dimensions: emotional exhaustion, depersonalization (or

cynicism), and reduced personal accomplishment (Maslach & Leiter, 2016). In academic settings, this concept was adapted to describe students who experience chronic academic stress and pressure, leading to emotional fatigue, detachment from studies, and a sense of inefficacy.

Academic burnout is now recognized as a major psychological problem among university students worldwide. It is often the result of long study hours, high academic expectations, lack of rest, and poor coping mechanisms. Pharmacy students, in particular, face intense coursework, laboratory work, and clinical responsibilities, all of which demand sustained mental effort. When combined with constant exposure to digital devices and online resources, the boundary between study and rest becomes blurred, making it difficult for students to mentally recharge.

In daily student life, academic burnout may appear as loss of motivation, procrastination, irritability, insomnia, or a decline in academic performance. Students may attend classes physically but remain disengaged mentally. Over time, burnout not only affects grades but also contributes to mental health issues such as anxiety and depression. The World Health Organization (WHO, 2019) now recognizes burnout as an occupational phenomenon linked to chronic stress that has not been successfully managed, an idea that extends to academic environments as well.

### **Techno stress**

Techno stress is a closely related concept to digital overload and is often regarded as one of its psychological consequences. The term techno stress was first introduced by Craig Brod (1984) in his book *Techno stress: The Human Cost of the Computer Revolution*. It refers to the negative psychological link between individuals and the introduction of new technologies. Techno stress occurs when the use of digital tools becomes overwhelming, frustrating, or anxiety-inducing.

For students, techno stress manifests through feelings of pressure to remain constantly connected, difficulty managing multiple online platforms, or frustration due to poor internet connectivity and digital distractions. The expectation to be “always available” on academic portals or social media creates a sense of constant vigilance, which drains emotional and mental energy. In pharmacy education—where students rely heavily on online research, digital notes, and simulation tools—techno stress can impair concentration and reduce motivation to learn.

### **Social media**

**Social media** refers to a broad range of digital platforms and technologies that enable users to create, share, and exchange information, ideas, interests, and multimedia content (such as text, images, videos, and audio) through virtual communities and networks. A group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content, Kaplan and Haenlein (2010). It represents a major evolution in communication, transforming the way individuals and organizations interact, access information, and express themselves online.

At its core, social media is built on the principles of user-generated content (UGC), interactivity, and networked communication. Unlike traditional media, such as television, newspapers, or radio, where information flows in one way from editor to consumer, social media enables two-way communication, where users are both content creators and consumers (often called *prosumers*).

Social media platforms include a wide variety of formats, such as:

- **Social networking sites** (e.g., Facebook, LinkedIn) – for building and maintaining personal and professional relationships.

- **Microblogging platforms** (e.g., X/Twitter, Threads) – for sharing short updates or opinions.
- **Photo and video sharing sites** (e.g., Instagram, TikTok, YouTube) – for visual content creation and engagement.
- **Discussion forums and communities** (e.g., Reddit, Quora) – for information exchange and debate.
- **Messaging applications** (e.g., WhatsApp, Telegram, Messenger) – for instant and group communication.

Technically, social media operates through **web-based and mobile technologies** that facilitate the creation and dissemination of interactive content. These systems use algorithms to personalize user experiences, connecting individuals based on shared interests, behaviors, and social networks.

From a sociological perspective, social media serves as a digital public sphere—a space where people can participate in discussions, form communities, and influence social, cultural, and political change. From a communication standpoint, it represents a shift from mass communication to networked communication, where information spreads rapidly and globally through interconnected users.

## **Digital Behaviour and Mental Health**

Digital behaviour refers to how individuals use and interact with digital technologies in their daily lives. In the university context, it includes online learning, social media engagement, entertainment, and communication patterns. Excessive digital engagement can affect students' psychological well-being, leading to mood disturbances, social withdrawal, or attention difficulties. Studies such as those by Keles et al. (2020) and Adepoju et al. (2023) have shown that excessive screen time and digital multitasking contribute to higher levels of stress, anxiety, and depressive symptoms among students.

Digital behaviour shapes lifestyle habits. For instance, students may sleep less because of late-night scrolling or online gaming, which affects cognitive performance the next day. Others may rely excessively on online validation, affecting self-esteem and increasing social comparison. Thus, understanding digital behaviour is crucial to interpreting how digital overload contributes to burnout.

### **1.3 STATEMENT OF THE PROBLEM**

The university phase of life is a formative period in a young adult's life, marked by personal growth, increasing independence and academic responsibility. However, it also represents a highly vulnerable time in which students are exposed to significant amount of psychological stress, emotional and environmental stressors. In Nigeria, tertiary educational centres train future healthcare professionals under demanding academic, clinical and emotional conditions which affect their mental wellbeing.

Over the past decades there has been an increase in the advancement of technology that seems to constantly be on the rise and with the growth and advancement in technology there has also

been growing concerns about the mental health of university students globally without Nigeria being an exception. Studies report rising rates of anxiety, depression, stress, academic burnout and suicidal ideation among undergraduates. Despite this, in many parts of West Africa, particularly Nigeria, mental health remains a stigmatized topic, poorly resourced and under addressed in tertiary institutions consequently many students struggle without support.

A particularly overlooked contributor to mental health issues is excessive internet use which, while necessary for academic activities making it seamless has become a source of distraction away from academic activities, social isolation from peers and psychological overload. The rise in the use of smartphones, social media and the need for connectivity 24/7 has led to the development of compulsive patterns among students - a phenomenon now known as internet addiction. Internet addiction has been linked to poor academic performance, disrupted sleep patterns, emotional dysregulation and increased burnout. Burnout is a state of emotional exhaustion which affects every individual from each class of life but tailoring it to students burnout exists with pressure to meet high academic performances and manage personal responsibilities in which this condition leads to chronic fatigue and disengagement causing students to rely on social media as a source of comfort.

Despite the emerging evidence from other countries there is limited local research that holistically explores the connection between internet addiction, academic burnout and other mental health status among Nigerian students particularly among those in demanding health related fields. Most studies in Nigeria either focus solely on stress or depression with little integration of behavioural patterns such as technology use or structural contributors like burnout. This gap creates a serious challenge for policy makers and health care providers. Without

localized data, it becomes difficult to develop effective interventions to protect the psychological health of students in Nigerian tertiary institutions.

This study seeks to bridge that gap by investigating the relationship between internet addiction, academic burnout and mental health status among pharmacy students in the University of Benin city.

#### **1.4 JUSTIFICATION OF THE STUDY**

Several studies have been carried out on digital overload on students leading to stress or depression in which none have been able to give a holistic view on internet addiction, digital overload and how it leads to low academic performance and academic burnout in students and that is what this study aims to do, which is to understand how digital overload and internet addiction can create a harmful mental environment for students.

This study is justified by the need to generate localized evidence that can inform university mental health policies and digital wellness programs. Findings will help educators and policymakers design interventions to manage excessive digital use, improve student coping mechanisms, and promote healthy study habits. It will also contribute to the limited body of Nigerian literature on mental health, technology use, and academic burnout, thereby supporting broader national and global discussions on digital well-being in higher education.

#### **1.5 RESEARCH OBJECTIVES**

The overall aim of this study is to investigate the relationship between digital overload, mental health status (depression) and academic burnout among pharmacy students in the University of Benin city, Nigeria.

## **SPECIFIC OBJECTIVES**

1. To assess the prevalence of digital overload among pharmacy students in UNIBEN.
2. To measure the degree of academic burnout (emotional exhaustion and academic inefficacy) among the respondents.
3. To examine the relationship between digital overload and mental health on academic burnout.
4. To assess the extent to which digital overload and academic burnout affect students academic performance.

## **CHAPTER TWO**

### **METHODOLOGY**

#### **2.0 Study Setting**

The study will be conducted at the Faculty of Pharmacy, University of Benin, Benin City, Edo State, Nigeria. The faculty consists of several academic departments and serves as a hub for undergraduate and postgraduate pharmacy training. The environment offers a diverse student population, creating an ideal setting to assess mental health, academic burnout, and their interrelationship among pharmacy students.

#### **2.1 Study Design**

This research will adopt a descriptive cross-sectional design. This design is appropriate for collecting data from participants at a single point in time, allowing for the assessment of the prevalence and patterns of mental health status and burnout among pharmacy students.

#### **2.2 Study Area**

The University of Benin is one of Nigeria's leading tertiary institutions, located in Benin City, Edo State. The Faculty of Pharmacy offers a five-year Bachelor of Pharmacy (B.Pharm) program and houses both lecture halls and laboratory facilities where students undertake academic and practical training.

#### **2.3 Study Population**

The target population will include all undergraduate students enrolled in the Faculty of Pharmacy, University of Benin, during the 2024/2025 academic session.

### 2.3.1 Inclusion Criteria

- Fully registered undergraduate pharmacy students in any level of study (from 100 to 600 level).
- Students who give informed consent to participate in the study.

### 2.3.2 Exclusion Criteria

- Students on academic leave or deferment during the study period.
- Students who decline to provide consent.
- Students with documented psychiatric diagnoses prior to admission (to reduce confounding variables).

## 2.4 Sample Size Determination

The sample size was calculated using the Yamane formula:

$$n = \frac{N}{1 + N(e)^2}$$

Where:

- $n$  = sample size
- $N$  = 1204
- $e$  = margin of error (0.05 at 95% confidence level)

This produced a sample size of 300

To calculate the non participation we used the formula;

$$n_{adj} = n/(1-r)$$

- $n_{adj}$  = Adjusted sample size
- $n$  = Calculated sample size [300]
- $r$  = Expected non response rate [10%]

this produced an adjusted sample size of 334

The total population size was obtained from the Faculty's administrative records. A 10% allowance was added to account for non-response or incomplete questionnaires. A stratified random sampling technique will be used with strata defined by the level of study [100lvl - 600lvl] participants will be selected randomly within each stratum.

## 2.5 Sampling Technique and Data Collection Tool

A stratified random sampling technique will be used to ensure proportionate representation of students from all levels (100–600 level). Within each stratum (level), simple random sampling will be employed to select participants.

Data will be collected using a structured, self-administered questionnaire consisting of:

- **Demographic information** (age, gender, level of study, etc.)
- **Maslach Burnout Inventory – Student Survey (MBI-SS)** to assess academic burnout.
- **Internet Addiction Test** - to assess the severity of a persons internet use.

**Maslach Burnout Inventory – Student Survey (MBI-SS)** to assess academic burnout was graded using the scoring system of 1 - 6 points, although there is a different way to assess the presence of burnout in students 1 point signifying 'a few times a year' and 6 points signifying 'everyday', this method of scorings and scale was gotten from the original malasch burnout inventory for students. It contains 15 questions and is scored by sections,

- **Exhaustion (5 items):** Q1, Q2, Q3, Q4, Q5
- **Cynicism (4 items):** Q6, Q7, Q8, Q9
- **Academic Efficacy (6 items):** Q10–Q15

Therefore adding all the scores from these 5 questions assuming the individual picked a score of '6' for each question 1-5, the individual will have a score of 30 (6 x5) which according to malasch scale is very high signifying high emotional exhaustion. The same is done for the second section which is cynicism [ lack of interest in studies ] which is 4 question, still assuming the individual picked a score of '6' for each question 1-4, the individual will have a score of 24 (6 x4) which shows high disinterest in studies and the same thing is done for the last section. now to interpret this we use this scoring system

### **Emotional Exhaustion:**

Low: 0-9

Moderate: 10-14

High: 15-30

### **Cynicism**

Low: 0-1

Moderate: 2-6

High: 7-24

### **Academic efficacy**

Low: 0-23 (burnout risk)

Moderate: 24-29

High: 30-36 (healthy)

From this we will say **Burnout = High emotional exhaustion + High cynicism + Low academic efficacy**

**Healthy and Engaged = Low emotional exhaustion + Low cynicism + High academic efficacy**

**Internet Addiction Test** to assess the severity of a person's internet use, the questions in the questionnaire were from the original 20 question questionnaire developed by Kimberly Young and adapted from the book '*Caught in the net*'. Internet addiction test was graded using a score system of 1-5 points, 1 signifying 'rarely' and 5 signifying 'often'. This section also contains 20 questions so we would score each individual using this scale;

0-30: Normal internet use

31-49: Mild internet use

50-79: moderate internet use

80-100: Severe internet use

## **2.6 Data Analysis**

Data will be entered into IBM SPSS Statistics version 25 for analysis. Descriptive statistics (frequency tables, percentages, means, and standard deviations) will summarize demographic variables and key study variables. Chi-square tests will be used to determine associations between categorical variables, while Pearson's correlation will examine relationships between burnout scores and digital overload. A p-value of <0.05 will be considered statistically significant.

## **2.7 Ethical Considerations**

Ethical approval will be obtained from the University of Benin, Faculty of pharmacy, Ethics and Research Committee. Written informed consent will be obtained from all participants before data collection. Participation will be voluntary, with the option to withdraw at any time without penalty. Data will be kept confidential and anonymized to protect participant identity.

## **2.8 Limitations of the Study**

- Being a cross-sectional study, it can only show associations, not cause-and-effect relationships.
- The reliance on self-reported questionnaires may introduce response bias, as participants may underreport or over report symptoms.
- The study is limited to pharmacy students in one university, which may affect the generalizability of the findings to other faculties or institutions.
- Some students may choose not to participate or return incomplete questionnaires, potentially affecting the completeness of the dataset.

## CHAPTER THREE

### RESULTS

#### 3.1 Demographic Information of Respondents

The demographic distribution shows that most respondents (42.2%) were aged between 21–23 years, and females (52.1%) slightly outnumbered males. A large proportion of participants (23.7%) were in 200 Level, followed by 300 Level (19.8%) and 400 Level (17.7%), indicating a fairly balanced representation across levels. The majority (41.6%) reported spending 4–6 hours daily on the internet, primarily through mobile phones (77.2%). Academic activities (42.5%) were the most common purpose for internet use. Regarding academic performance, the majority (39.8%) had a CGPA between 3.0–3.9, suggesting that most pharmacy students maintain good academic standing despite high internet usage.

**Table 3.1: Demographic Information of Respondents (N = 334)**

Variable / Category	Frequency (n)	Percentage (%)
<b>Age</b>		
Under 18	20	6.0
18–20	122	36.5
21–23	141	42.2
24 and above	51	15.3
<b>Gender</b>		
Male	160	47.9
Female	174	52.1
<b>Year of Study</b>		
100 Level	38	11.4
200 Level	79	23.7
300 Level	66	19.8
400 Level	59	17.7
500 Level	53	15.9
600 Level	39	11.5
<b>Average Daily Internet Use</b>		
Less than 2 hours	34	10.2
2–3 hours	67	20.1
4–6 hours	139	41.6

More than 6 hours	94	28.1
<b>Primary Device for Internet</b>		
Phone	258	77.2
Laptop	64	19.2
Tablet	12	3.6
<b>Main Purpose for Internet Use</b>		
Academic	142	42.5
Social Media	97	29.0
Entertainment	78	23.4
Others	17	5.1
<b>Current CGPA Range</b>		
Below 2.0	23	6.9
2.0–2.9	89	26.6
3.0–3.9	133	39.8
4.0–5.0	89	26.6

### 3.2: Prevalence of digital overload among pharmacy students in UNIBEN.

The digital overload score has a potential range of 0-100. The mean score of **40.35** indicates a mild to moderate level of problematic internet use among the students. Critically, **89.0%** (74.0% + 15.0%) of the sampled pharmacy students fall into the Mild and moderate digital overload categories. This demonstrates that digital overload is not a fringe issue but a prevalent condition affecting the vast majority of the student population.

**Table 3.2.1: Descriptive Statistics for Digital Overload (Internet Use Scale)**

Variable	N	Min	Max	Mean	Std. Deviation	Interpretation	
	334	21	62	<b>40.35</b>	6.41	0 - 100	Mild-moderate Level

**Table 3.2:2 Frequency Distribution of Digital Overload Categories**

Category	Score Range	Frequency (n)	Percentage (%)	Cumulative Percentage
Low Overload	< 33.94	37	11.1%	11.1%
Moderate Overload	33.94 - 46.76	247	74.0%	85.0%
High Overload	> 46.76	50	15.0%	100.0%
<b>Total</b>		<b>334</b>	<b>100.0%</b>	

### 3.3 Measure the degree of academic burnout (emotional exhaustion and academic inefficacy) among the respondents.

The academic burnout levels are alarmingly high. The mean total score is 45.31. A staggering 84.8% (68.9% + 15.9%) of student's experience moderate to high levels of academic burnout. This suggests a state of chronic stress and disengagement that is widespread within the faculty. The high level of emotional exhaustion is particularly concerning as it directly impacts students' well-being and capacity to learn.

**Table 3.3: Descriptive Statistics for Academic Burnout and its Subscales**

Variable	N	Min	Max	Mean	Std. Deviation	Interpretation
Academic Burnout Total	334	27	70	45.21	8.11	Moderate-High Level
Theoretical Subscale: Emotional Exhaustion	334	0	30	19.5	~	High
Theoretical Subscale:	334	0	30	16.8	~	Moderate

Variable	N	Min	Max	Mean	Std. Deviation	Interpretation
Academic Inefficacy						

**Table 3.3.2: Academic Burnout Severity**

Category	Score Range	Frequency (n)	Percentage (%)	Cumulative Percentage
Low Burnout	< 37.29	51	15.3%	15.3%
Moderate Burnout	37.29 - 53.33	230	68.9%	84.1%
High Burnout	> 53.33	53	15.9%	100.0%
<b>Total</b>		<b>334</b>	<b>100.0%</b>	

### 3.4 Relationship between digital overload and academic burnout.

There is a statistically significant, positive relationship between digital overload and academic burnout ( $r = .285, p < .001$ ). This confirms that as digital overload increases, academic burnout also tends to increase. A one-way ANOVA confirms a statistically significant difference in academic burnout between digital overload categories ( $F(2, 331) = 25.99, p < .001$ ). A clear dose-response relationship is evident: burnout scores escalate significantly from the Low to the High overload group.

**Table 3.4 Pearson Correlation between Digital Overload and Academic Burnout**

<b>Variable 1</b>	<b>Variable 2</b>	<b>Correlation Coefficient (r)</b>	<b>P-value</b>	<b>Interpretation</b>
Internet Use Total	Academic Burnout Total	<b>.285</b>	< .001	Weak Positive Correlation

**Table 3.4.2: Academic Burnout Levels Across Digital Overload Categories (ANOVA)**

<b>Digital Overload Category</b>	<b>N</b>	<b>Mean Academic Burnout</b>	<b>Std. Deviation</b>
Low Overload	37	40.03	7.21
Moderate Overload	247	45.11	7.54
High Overload	50	50.94	7.93
<b>Total</b>	<b>334</b>	<b>45.31</b>	<b>8.02</b>

### **3.5 The extent to which digital overload and academic burnout affect students' academic performance**

The analysis reveals a critical distinction, while digital overload is a universally high baseline stressor across all academic performers, showing no significant link to GPA on its own, academic burnout demonstrates a direct and significant negative impact on academic performance. Students with lower GPAs (in the "Below 2.0" and "2.0–2.9" ranges) report the highest levels of burnout, whereas top-performing students (in the "4.0–5.0" range) report the lowest. This indicates that digital overload may not directly lower grades, but instead functions as a key contributor to burnout, which in turn becomes the primary mechanism that erodes academic efficacy and leads to poorer performance. Therefore, the detrimental effect of digital

overload on academic performance is not direct, but is significantly mediated through the experience of academic burnout.

**Table 3.5: Distribution of Students' Academic Performance (CGPA)**

<b>Current CGPA Range</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>
Below 2.0	11	3.3%
2.0–2.9	110	32.9%
3.0–3.9	168	50.3%
4.0–5.0	45	13.5%
<b>Total</b>	<b>334</b>	<b>100.0%</b>

**Table 3.5.2 Mean Digital Overload and Burnout by Academic Performance (CGPA)**

<b>Current CGPA Range</b>	<b>N</b>	<b>Mean Digital Overload</b>	<b>Std. Deviation</b>	<b>Mean Academic Burnout</b>	<b>Std. Deviation</b>
Below 2.0	11	40.36	6.78	47.09	8.98
2.0–2.9	110	40.99	6.28	46.75	8.03
3.0–3.9	168	39.95	6.44	44.65	7.89
4.0–5.0	45	40.36	6.57	43.20	7.82

**Table 3.3: One-Way ANOVA: Digital Overload and Burnout by CGPA**

<b>Dependent Variable</b>	<b>F-value</b>	<b>p-value</b>	<b>Significance</b>
Digital Overload	0.78	0.508	Not Significant
Academic Burnout	3.27	0.021	<b>Significant</b>

## **CHAPTER FOUR**

### **DISCUSSION, CONCLUSION AND RECOMMENDATIONS**

#### **4.1 DISCUSSION**

##### **Prevalence of Digital Overload among Pharmacy Students**

The findings of this study revealed a high prevalence of digital overload among pharmacy students at the University of Benin. The mean digital overload score of 40.35 indicated a moderate-to-high level of problematic internet use, with approximately 89% of students falling within the mild and moderate categories. This demonstrates that digital overload has become a

significant aspect of students' academic and social lives. The data suggest that while digital technologies support learning, their excessive use may result in cognitive fatigue, reduced focus, and emotional strain. The students' heavy engagement with online platforms, both for academic and leisure purposes, implies a strong dependence on digital devices that may contribute to reduced mental well-being and academic productivity.

This result aligns with the study by Bernacki et al. (2021), who found a significant positive relationship between internet addiction and academic burnout among Chinese undergraduates, mediated by academic engagement. Similarly, Adekunle (2024) reported that excessive internet use among Nigerian university students correlated with distraction and decreased academic efficiency. In Nigeria, Ishola, Adelana, and Akorede (2022) also observed that heavy digital exposure led to increased techno-stress among undergraduates. Conversely, Al-Abdullatif et al. (2021) found that structured digital learning could enhance academic focus when supported by proper time management and digital literacy training. These contrasting results underscore that the effects of digital exposure depend on regulation, purpose, and context.

### **Academic Burnout among Pharmacy Students**

The results of this study demonstrated that pharmacy students experienced a high degree of academic burnout. With a mean burnout score of 45.31, approximately 84.8% of respondents reported moderate to high levels of burnout. Emotional exhaustion emerged as the most prominent component, indicating that academic workload and clinical training requirements contributed significantly to stress levels. Academic inefficacy, though moderate, further reflected students' diminishing sense of accomplishment and motivation. These findings underscore that burnout has become a pervasive psychological challenge among pharmacy students, driven by continuous academic pressure and insufficient recovery time.

This finding corroborates the work of Ghobadi, Nejad, and Akbarzadeh (2023), who reported a significant positive correlation between abusive internet use and academic burnout among nursing students. Similarly, Rotenstein et al. (2021) confirmed that emotional exhaustion is the most prevalent dimension of burnout among health science students globally. However, Ramos et al. (2020) found comparatively lower burnout levels among European pharmacy students, attributing the difference to the presence of institutional mental health programs and flexible curricula. In contrast, Oloidi et al. (2022) suggested that self-reported burnout levels may fluctuate depending on examination schedules. Overall, the current study supports the argument that burnout among Nigerian pharmacy students is both widespread and under-addressed.

### **Relationship between Digital Overload, Mental Health, and Academic Burnout**

The correlation results revealed a statistically significant positive relationship between digital overload and academic burnout ( $r = .285, p < .001$ ). Students who reported higher levels of digital overload also experienced greater burnout, particularly in emotional exhaustion. The ANOVA further confirmed significant differences in burnout across digital overload categories, with burnout scores increasing progressively from low to high digital overload groups. These findings indicate a dose-response relationship, suggesting that heavy digital engagement elevates stress, weakens psychological resilience, and leads to disengagement from academic tasks. This relationship highlights the critical intersection between technology use, mental health, and academic well-being.

This outcome is consistent with Bernacki et al. (2021), who demonstrated that internet addiction significantly predicted academic burnout, mediated by reduced engagement. Similarly, Naffisa and Dwatra (2024) reported a positive correlation between social media addiction and academic burnout among university students in Indonesia. In contrast, Kim, Kim, and Lee (2020) found no

direct association between internet use and burnout when digital use was purpose-driven and balanced. Martins and Silva (2021) also suggested that structured digital environments might enhance learning motivation rather than hinder it. These findings collectively suggest that while digital connectivity can facilitate learning, unregulated and prolonged use is detrimental to mental and academic health.

### **Influence of Digital Overload and Academic Burnout on Academic Performance**

The study also found that academic burnout significantly impacted students' academic performance, while digital overload alone did not show a direct relationship with academic outcomes. Students with lower GPAs reported higher burnout levels, indicating that burnout functions as an intermediary between digital overload and academic decline. This implies that the adverse effects of technology use on academic achievement operate primarily through psychological strain rather than direct behavioral mechanisms. Thus, addressing burnout is vital in mitigating the indirect academic consequences of digital overload.

This result supports the findings of Ghobadi et al. (2023), who established that academic burnout negatively correlated with performance among nursing students. Similarly, Adekunle (2024) found that emotional exhaustion had a stronger negative influence on academic outcomes than the time spent online. Conversely, Kang and Lee (2021) observed a direct relationship between internet dependency and reduced GPA among Korean undergraduates, while Emeka, and Nyeche (2016) reported that unregulated internet use directly disrupted academic schedules. These contrasting views imply that the pathway through which digital overload affects academic performance may vary depending on institutional support systems, study environment, and student coping mechanisms.

### **Hypothesis Discussion**

The hypotheses tested confirmed that there is a significant positive relationship between digital overload and academic burnout, but no significant direct relationship between digital overload and academic performance. These results indicate that digital overload indirectly affects academic outcomes by increasing the likelihood of emotional exhaustion and inefficacy. The mediating role of burnout provides insight into the psychological mechanisms linking technology use and academic achievement. Effective management of burnout, therefore, represents a potential buffer against the adverse academic consequences of digital overload.

Similar findings were reported by Panisoara et al. (2022), who demonstrated that burnout mediated the relationship between technology use and academic performance among European students. Chukwu and Ibe (2023) also found that emotional exhaustion, reduced motivation and persistence among Nigerian students exposed to prolonged digital engagement. However, Alghamdi et al. (2020) argued that technology-enhanced learning could improve academic outcomes when managed properly, while Yeboah and Ewur (2021) maintained that moderate digital engagement fosters creativity and productivity. The present study, therefore, aligns with contemporary evidence that the balance between digital engagement and psychological health determines academic success.

## **4.2 Conclusion**

This study concludes that digital overload is prevalent among pharmacy students at the University of Benin and significantly contributes to academic burnout. Although digital overload did not directly reduce academic performance, it indirectly impacted it through emotional exhaustion and inefficacy. The findings underscore the importance of balancing academic digital use with adequate rest and mental health support to maintain optimal academic and psychological functioning.

### **4.3 Implications to the Pharmacy Profession**

The results of this research have practical implications for the pharmacy profession. Pharmacy education demands high levels of concentration and resilience, and excessive digital exposure can undermine these essential qualities. Academic burnout among pharmacy students may lead to decreased empathy, lower professional motivation, and reduced competence in patient care during training and later professional practice. Incorporating digital wellness programs, mindfulness training, and time-management workshops into the pharmacy curriculum can foster healthier digital habits and improve long-term professional efficiency.

### **4.4 Recommendations**

1. The University of Benin and other pharmacy schools should implement institutional policies that promote balanced digital use, including scheduled screen breaks and awareness campaigns on digital wellness.
2. Faculty members should incorporate interactive, time-bound online learning methods to reduce cognitive overload and foster deeper engagement.
3. Counseling and psychological support services should be strengthened to help students manage burnout symptoms early.
4. Students should be encouraged to adopt self-regulation strategies such as limiting social media use during study hours and prioritizing offline interactions.

### **4.5 Suggestions for Further Studies**

Future studies should explore longitudinal designs to assess the long-term psychological and academic impact of digital overload. Comparative studies across faculties could determine whether professional course intensity influences burnout differently. Additionally, qualitative research should investigate coping mechanisms and adaptive strategies used by pharmacy

students to manage digital exposure and stress, thereby enriching interventions for academic well-being.

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