

Research Article

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The Dual Role of Mobile Phones in Academic Lectures: Perceptions, Opportunities, and Challenges Among University Students

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Abstract

Background/purpose. The prevalence of personal mobile phones in educational settings has significantly transformed the classroom environment, presenting a unique combination of opportunities and challenges for students' learning experiences. This study employs a survey design to effectively describe university students' perspectives on the opportunities and challenges associated with using phones during academic lectures.

Materials/methods. Using a survey design, data were collected from a simple random sample of 67 undergraduate students at United Arab Emirates University. A survey, developed and validated for this study, was used to explore perceived opportunities and challenges. Descriptive statistics were employed to analyze the data.

Results. The results indicate that these students view mobile phones as valuable tools for enhancing personalized instruction, self-regulated learning, and task completion. However, they remain skeptical about the overall impact of mobile phones on their academic performance. Students identified several significant challenges, including distractions from social media notifications, peer pressure to use their phones, and an increasing dependence on mobile devices. While students acknowledge both the benefits and drawbacks of mobile phone usage, the findings highlight a tension between the advantages and the potential disruptions to focus and academic outcomes during lectures.

Conclusion. The results provide valuable insights into the effects of mobile phone usage and offer implications for educators on managing digital distractions and promoting effective learning strategies in the digital age, fostering empathy and understanding of students' perspectives among educators.

1. Introduction

In the contemporary digital landscape, personal mobile phones have become omnipresent, profoundly shaping various aspects of daily life, including educational contexts (Albikawi, 2023; Junco & Cotten, 2012). Within university classrooms, the prevalence of mobile devices presents a unique blend of opportunities and challenges. While these devices offer unparalleled access to vast reservoirs of information and educational resources, they also introduce distractions that can significantly disrupt the learning process (Lepp et al., 2015; Vaterlaus et al., 2021).

Understanding the implications of mobile phone usage in educational settings is paramount for educators and institutions striving to cultivate effective learning environments (Beland & Murphy, 2016; Bernacki et al., 2020; Criollo et al., 2021). The progress in comprehending and assessing the influence of mobile technology on education has shown significant advancements in how these tools improve learning and academic success. Research by Bernacki et al. (2020) examines how mobile devices enable personalized learning experiences, foster engagement, and offer immediate feedback, ultimately enhancing educational results and supporting student achievement. With technology integration into education on the rise, it becomes increasingly imperative to comprehensively assess how students' digital behaviors influence their engagement with course materials and overall academic performance. By identifying the factors contributing to distractions caused by mobile phones, educators can devise targeted strategies to mitigate these disruptions and enhance students' learning experiences (Bernacki et al., 2020).

Accordingly, this research describes university students' perspectives on using mobile phones during lectures as an area of investigation recommended by previous studies (Ahmad, 2020; Abdullah et al., 2019; Lepp et al., 2014; Vaterlaus et al., 2021). Specifically, the study seeks to identify the frequent opportunities and challenges that students encounter when using their mobile phones in this setting. The findings from this study will provide insights that can inform interventions and strategies to create better learning environments in the digital age. To achieve these objectives, the research is guided by the following questions:

1. How do university students perceive their own use of mobile phones during their academic lectures?
2. What opportunities do university students rate as resulting from using mobile phones during academic lectures?
3. What challenges do university students report when using mobile phones during academic lectures?

This research is important as it examines the increasing role of mobile phones in educational environments, a trend that has generated both excitement and apprehension. As mobile devices become more integrated into classrooms, this study offers valuable insights into their dual function as engagement tools and potential distractions. The research clarifies the intricate relationship between mobile phone use and learning results by investigating its impact on students' attention, concentration, and academic success.

Grasping students' views on mobile phone usage and its effects on their education is crucial for adapting teaching methods in today's digital landscape. The results will guide educators in effectively integrating mobile technology into learning while reducing its disruptive effects. Additionally, this study provides evidence-based recommendations for policy development at institutional and governmental levels, ensuring that mobile phone usage supports educational objectives.

As mobile phones become commonplace, it is vital to find ways to leverage their advantages while reducing their downsides. This research enables educators and administrators to create

informed classroom policies, ultimately maximizing mobile phone use for improved learning experiences and increased student engagement. By delivering concrete data on the impact of mobile technology, the study lays the groundwork for enhanced teaching methods, better educational outcomes, and classroom settings where digital tools act as support rather than distractions.

2. Literature Review

2.1. Theoretical Framework

2.1.1. Extended Self Theory

This study is anchored on the Extended Self Theory (EST), introduced by Russell Belk in 1988, which suggests that individuals expand their understanding of self through their belongings. Belk asserts that the items we possess and hold dear significantly shape our self-image and identity, representing personal accomplishments, memories, associations, and ambitions. This theory is especially relevant in digital belongings, such as electronic devices, social media profiles, digital images, and online content, which have become contemporary manifestations of the self. The theory revolves around several central concepts: Possessions and Identity, where Belk contends that belongings are integral to our identity, mirroring our true selves, personal history, and aspirations. Tangible possessions like clothing, vehicles, and residences represent our individuality and social standing. Similarly, digital devices and virtual possessions also encapsulate personal achievements and affiliations, impacting our self-perception and how others perceive us. The other concept is that digital devices are extensions. In the digital era, smartphones, laptops, and other electronic devices are more than just tools. They have become essential to our identity, containing personal data, memories in photos and messages, and access to our social circles. These digital devices are vital for managing our personal and professional lives and significantly influence our self-identity (Belk, 1988).

Moreover, the theory highlighted the emotional significance that possessions often carry. They represent essential relationships and experiences that shape our sense of self. For example, a digital photo album can arouse cherished memories and strengthen personal connections. The emotional attachment to digital devices is reflective because they contain a significant portion of our personal and professional lives. Belk also discusses the role of digital devices in achieving goals and lifestyles. Possessions, including digital items, play a part in reaching personal objectives and upholding a lifestyle that mirrors a person's identity. For instance, fitness trackers help individuals maintain good health, while educational applications aid learning and personal development. Digital possessions also facilitate the exploration of hobbies and interests, further intertwining with our self-identity (Belk, 1988).

The Extended Self Theory helps explain why people form deep emotional attachments to their belongings, especially modern digital devices like smartphones. These devices are crucial extensions of the self, housing personal information, enabling communication, and facilitating day-to-day activities. They symbolize personal achievements, relationships, and life experiences, contributing significantly to self-identity (Belk, 1988).

Furthermore, scholars introduced other concepts related to the use of digital devices in day-to-day life. For example, Rogers (1995) introduced the concept of commitment, which describes the phenomenon wherein individuals integrate mobile phones into their daily routines to the extent that they feel lost without them (Hooper & Zhou, 2007). This sense of attachment can lead to habitual smartphone usage, where individuals rely on their devices for various tasks, including communication, navigation, and organization (Iqbal & Bhatti, 2020). However, excessive smartphone usage can manifest as overuse behavior, characterized by compulsive and involuntary phone usage, which can harm individuals' well-being. Overuse behavior often serves as a coping mechanism for underlying issues such as low self-esteem and powerlessness (Lee, 2017; Wacks et al., 2021).

Dependent behavior is not the same as overuse, as it is often driven by the significance of a social norm rather than a compulsive urge. For instance, excessive mobile phone usage may not be an addiction but rather a reflection of the importance of communication; this was confirmed by Iqbal and Bhatti (2020) and Wacks et al. (2021). Many respondents reported using their phones to call rides, get weather updates and directions using Google Maps, and utilize the calculator and calendar options. Many of our daily behaviors are habitual, performed unconsciously, without much thought (Vaterlaus et al., 2021). These habits are often triggered by environmental cues that prompt us to act in a certain way in each situation. Our established habits are closely linked to our behavior in a particular context. These cues remind us of our habitual responses, which means that students cannot imagine their day without using their phones, even within the classroom (Biel et al., 2005; Hooper & Zhou, 2007; Shambare et al., 2012; Wacks et al., 2021; Webster & Paquette, 2023). Most studies tackled the topic from an academic point of view and how these devices affect students' academic performance (Rovithis et al., 2019). However, this study intended to meaningfully describe the undergraduate students' perspectives regarding the opportunities and challenges experienced when using phones during their academic lectures.

2.1.2. Previous Studies

Smartphones and tablets have become the preferred platforms for millennials engaging in various online activities (Ahmad, 2020). These mobile devices have evolved beyond simple communication tools; they now serve multiple functions, including banking, photography, personal organization, calculations, and social networking. The use of mobile phones in classroom settings has sparked considerable debate, with educators and researchers exploring the opportunities and challenges associated with their integration (Bozkurt & Kaviye-Ates, 2023). However, advancements in technology and information and communication technologies (ICTs) have led to an increased use of mobile technology in the education sector, particularly at the university level. Many institutions worldwide have begun experimenting with different teaching methods and incorporating mobile phone usage to enhance students' learning experiences. Smartphones offer the ability to access information and maintain connections with family and friends through features like WhatsApp group chats, helping to alleviate boredom and loneliness (Miller et al., 2021). According to global statistics, most smartphone users are young people known as "Digital Natives" or those born in the 1990s. These Digital Natives possess unique traits, including increased technology dependence (Iqbal & Bhatti, 2020). With technological advancements, mobile subscribers can also use the internet, email, and social media such as Twitter and Facebook, making them ideal social interaction tools (Ayer & Thakur, 2019).

Accordingly, several studies have highlighted mobile phone opportunities, such as personalized instruction, self-regulated learning, and second language acquisition. For instance, a study by Ahmad (2020) at a university in Jamaica revealed that utilizing mobile phones as modern tools for gathering and acquiring knowledge creates additional opportunities for learning during lectures. The primary benefits include improved communication and collaboration, greater interaction, and enhanced learning, regardless of time or location. Moreover, a study conducted by Bere and Rambe (2016) at a higher education institution in South Africa examined the use of the popular mobile instant messaging app WhatsApp for learning purposes. The findings revealed a positive correlation between various elements of mobile learning and its perceived effectiveness. Notably, using the messaging app improved accessibility, timeliness, data quality, and relevance. These aspects are essential for perceived usefulness and contribute to the enhancement of flexible, collaborative learning environments (Bere & Rambe, 2016). Therefore, teachers must stay current with new mobile and digital technologies and have the necessary institutional and infrastructural support to effectively prepare and adapt their teaching methods to implement learner-centered approaches. Educational researchers are increasingly observing the adoption of innovative teaching strategies, particularly by

developing smart campuses (Fortes et al., 2019) and smart teaching platforms (Xu et al., 2019). These advancements integrate mobile technology and other technological innovations into the educational systems. In these studies, Fortes et al. (2019) and Xu et al. (2019) have demonstrated that using phones can provide educational advantages, including bridging the digital gap, completing assignments, promoting peer collaboration, providing easy access to information, and enhancing vocabulary skills.

In a study by Abdullah et al. (2019), Mandarin students expressed a positive perception of mobile learning applications' usability, effectiveness, and overall satisfaction. The findings indicated that mobile apps in the classroom for learning Mandarin significantly improved students' language performance, enabled them to complete tasks more efficiently, and enhanced their study habits. Additionally, the learners demonstrated high levels of engagement, were satisfied with their experiences, and showed a willingness to continue using smartphones for their studies. Consequently, students have become increasingly reliant on smartphones to manage their educational tasks, leading to a sustained dependence on these devices throughout their college years (Abdullah et al., 2019). In the context of language learning, particularly in English as Foreign Language (EFL) classrooms, students exhibited moderately positive attitudes toward the use of smartphones (Sitanggang et al., 2024). The students in this study viewed smartphones as valuable tools for learning English. They appreciated the convenience, efficiency, and interactivity that smartphones provide, especially when accessing digital content, enhancing their vocabulary, improving pronunciation, and fostering independent learning. Students commonly utilize smartphones for various tasks, including translating, taking notes, accessing learning materials, practicing pronunciation, and submitting assignments. Overall, their attitudes were categorized as "moderate," reflecting a generally positive outlook on the use of smartphones in their learning experience (Sitanggang et al., 2024).

The widespread use of phones has led to a growing dependence on them due to their practical features and ease of use, which leads to experiencing challenges while learning. For example, students may face distractions during class, affecting their learning and productivity. (Alhumaid, 2019; Criollo et al., 2021). Boredom and a desire to avoid sleepiness are key reasons for distractions in the classroom. These distractions disrupt focus, reduce attention spans, and negatively impact academic performance (Fadillah & Purnawarman, 2024). Moreover, Carter (2017) at West Point College in New York assessed the impact of using internet-connected devices in Principles of Economics classes. The results showed that students without access to technological devices scored significantly higher on their tests than those allowed to use phones and tablets. Research indicates that most students acknowledge that educators enforce policies prohibiting mobile phone use in the classroom. Shrivastava and Shrivastava (2014) found that "77% of respondents agreed or strongly agreed that there should be instructor guidelines restricting mobile phone use during class" (p. 640). Similarly, participants in a study by Ugur (2015) reported that "92% of instructors are concerned about phubbing and have established rules for classroom behavior" (p. 62). As Campbell et al. (2024) revealed, students are of the opinion that prohibiting mobile phones could lessen distractions and improve academic success, particularly for those with lower performance levels. These findings suggest that students prefer to adhere to such policies to avoid conflict with their instructors.

The use of smartphones among young adults has become increasingly prevalent, offering a range of features such as entertainment, social media engagement, communication, and online shopping (Cha & Seo, 2018; Nayak, 2018; Wacks et al., 2021). However, this widespread reliance on smartphones presents significant challenges in managing usage, particularly within educational contexts. Studies indicate that smartphones are often perceived as tools for personal entertainment, which can divert students' attention away from academic tasks (Sitanggang et al., 2024). Despite their potential as educational resources, technical limitations such as slow internet speeds and a narrow range of learning activities hinder their effective use in language learning, further complicating their

role in classrooms. Moreover, Atas and Çelik (2019) highlight that university students primarily use smartphones for non-academic purposes such as texting, social media, and internet browsing. Entertainment, often linked to boredom or loneliness, is a significant motivator for smartphone usage (Albikawi, 2023). In contrast, academic uses such as accessing learning materials are less common, suggesting a misalignment between the devices' potential and actual usage. This misalignment is further underscored by Kottasova's (2015) findings, which suggest that restrictions on mobile phone use in classrooms lead to improved academic performance, reducing distractions from non-academic activities.

Although these studies illustrate the dual role of smartphones—both as tools for engagement and as distractions—they fail to explore the specific ways in which smartphone use can be optimized for educational benefit. While some research addresses the negative impacts of mobile phone distractions, few studies examine effective strategies for balancing mobile use with academic goals, especially in the context of higher education. Furthermore, there is a gap in understanding how students' perceptions of mobile phone use in education influence their actual behaviors and learning outcomes. Research by Ahmad (2020) emphasizes the importance of considering students' viewpoints when implementing mobile technology in classrooms, yet this area remains underexplored.

3. Methodology

3.1. Research Design

This quantitative study utilized a survey design to meaningfully describe undergraduate students' perspectives on mobile phone usage during lectures. Employing the survey as a method for collecting quantitative data and using descriptive statistics for analysis allows for a net understanding of participants' perspectives on the research topic (Nardi, 2018). Quantitative methods provide a structured framework for gathering large-scale empirical evidence, enabling researchers to draw reliable conclusions and generalize findings to broader populations. Using standardized instruments ensures consistency and objectivity in data collection, enhancing the validity and reliability of the study's results. Overall, the survey design is well-suited for addressing the research objectives of this study, offering a systematic and rigorous means of investigating students' perspectives on mobile phone usage in educational settings (Hunter et al., 2019).

3.2. Sampling Procedure

The study used a simple random sampling technique to select participants for the survey. According to Gay et al. (2011), simple random sampling provides every eligible member of the population with an equal opportunity to participate in the study. The target population consisted of all undergraduate students ($n = 5,370$) at the United Arab Emirates University in Abu Dhabi. A representative sample of 67 students was randomly selected based on their availability and willingness to participate in the survey. To ensure randomness, the survey link was distributed electronically to the entire population of eligible female undergraduate students. This open distribution provided every student with an equal opportunity to participate, and the final sample was selected from those who responded voluntarily (Creswell, 2018).

The study sample consisted of undergraduate students. A diverse and representative group was selected from the female campus, including students from various academic disciplines (Education, Business and Economics, Humanities and Social Sciences) and levels of undergraduate study at the university. Participants included both Emirati and non-Emirati students from a range of educational backgrounds. This approach ensured that the sample captured a variety of perspectives from different majors and educational experiences. The decision to target only female students is aimed at reducing variability and ensuring a more homogeneous sample. By focusing on a single gender,

researchers can control for gender-based differences, allowing for a more precise analysis within that group.

Before participating, all students received a clear explanation of the research's purpose, and their consent was obtained at the start of the online survey, allowing them to choose whether to participate. Additionally, ethical clearance was acquired from the authorities at the United Arab Emirates University prior to conducting the study, ensuring compliance with ethical standards and guidelines.

3.3. Research Instrument

An online survey was conducted to gather quantitative data on students' perceptions of mobile phone usage during lectures. The survey items were thoughtfully designed to capture different aspects of phone usage in the study context, including the opportunities and challenges it presents. The questions were based on relevant literature and established measurement scales (Abdullah et al., 2019; Baert, 2020; Kim, 2019; Rovithis et al., 2019; Thapa et al., 2020; Thornton et al., 2014; Yang, 2020). After developing the survey, the content validity of its items was evaluated using Lawshe's Content Validity Ratio (CVR). Three experts assessed each item on a scale of "not necessary, useful but not essential, and essential" (Taherdoost, 2016, p.30). As stated by Ayre and Scally (2014), "CVR values range between -1 (perfect disagreement) and +1 (perfect agreement)" (p.79). The CVR value was computed using EXCEL, and the resulting value was 0.887, which signifies a strong consensus among the three experts. To evaluate reliability, the researchers calculated the Cronbach alpha coefficient, which was 0.827, indicating that the tool was reliable. Based on the experts' comments, some modifications were made, such as linguistic adjustments for clarity and merging certain items to reduce their overall number.

The questionnaire was administered electronically to the selected university students using online survey platforms and email distribution. Participants were provided with clear instructions regarding the purpose of the study, voluntary participation, and confidentiality of their responses. They were given adequate time to complete the questionnaire, typically within a specified timeframe.

3.4. Data Analysis

This study analyzed quantitative data collected through a structured survey using descriptive statistics with SPSS software. Data cleaning involved removing all incomplete survey responses to ensure accuracy. Each survey item was analyzed to provide meaningful insights into students' perspectives on the use of mobile phones during lectures, as well as to rate the opportunities and challenges associated with this practice based on their responses. Descriptive statistics by calculating mean scores and standard deviations help to measure central tendency and gain insights into students' general responses to phone usage as it is the purpose of this study. Frequency distributions involve tabulating how often each response is selected for each item. This approach visualizes the data distribution and highlights common responses among the participants in terms of their general perspectives, opportunities, and challenges experienced when using mobile phones during lectures.

These analyses provide valuable insights for educators and policymakers aiming to address the challenges and opportunities associated with mobile phone usage in educational settings.

4. Results

The results regarding students' perspectives on mobile phone usage during lectures present a complex picture. Descriptive statistics in Table 1 show that there is generally disagreement with the notion that using phones during lectures is good, evidenced by a mean response of 2.33 (SD=1.244). This indicates that students are aware of the potential adverse effects of phone use on their concentration and involvement in class. Furthermore, the moderate agreement with the perspective

that restricting phone use during class is preferable, as reflected by a mean response of 3.05 (SD=1.408), reinforces the idea that limiting phone use could lead to a more effective learning atmosphere. However, a contradiction arises when examining students' dependence on their phones. Even though they are against phone use during lectures, students reported feeling "lost" without their devices, considering them as part of their identity ($\mu = 3.33$; SD=1.162) and labeled themselves as "phone-over users" during class ($\mu=3.09$; SD=1.374). This reveals a conflict between their cognitive recognition of the distractions posed by phone usage and their emotional or habitual need for these gadgets. The results indicate a requirement for strategies that reconcile students' reliance on technology with fostering a focused and distraction-free educational setting, such as encouraging responsible phone usage or incorporating technology to support, rather than obstruct, learning.

Table 1. Students' Personal Perception of Using Mobile Phone During

Statement	N		Mean	Std. D
	Valid	Missing		
I think it is good to use the phone during lectures.	66	1	2.33	1.244
I think it is better to refrain from allowing the use of phones during lectures.	66	1	3.05	1.408
I often feel lost without my phone, even during lectures, as part of my identity.	66	1	3.33	1.162
I can classify myself as a phone-over user during lectures.	66	1	3.09	1.374

Table 2 underscores how students perceive mobile phones' opportunities during lectures, revealing a ranking of perceived advantages as part of their achievements and as an impact on their self-perceptions. The highest opportunity, with a mean score of 3.68 (SD = 1.040), is the improvement of personalized instruction, self-directed learning, and second language learning. This indicates that students recognize the capability of mobile phones to tailor their educational experiences, independently manage their study efforts, and enhance language skills, likely because of the availability of apps and resources designed to meet these needs.

The second most appreciated opportunity is how mobile phones can assist in completing tasks more efficiently and improving personal study practices ($\mu=3.56$; SD=1.178). This shows that students find mobile phones valuable as practical tools for boosting productivity and organization, such as accessing learning materials, organizing schedules, or doing research during lectures.

In contrast, the least recognized opportunity is the positive influence of mobile phone usage on overall academic performance, which received a mean score of 2.86 (SD=1.300). This indicates that although students see specific advantages, they maintain skepticism regarding the broader academic benefits of using phones in lectures. The lower score may be attributed to an awareness of the distractions and potential misuse of phones, which could overshadow their perceived educational advantages in the lecture context.

These findings illustrate students' complex understanding of mobile phone usage. While they acknowledge significant opportunities for personalized education and task management, they are less convinced about the overall impact on academic success. This suggests that even though mobile phones offer certain educational benefits, their use in lecture environments needs to be managed carefully to enhance advantages while minimizing distractions.

Table 2. Perceived Opportunities of Using Mobile Phones During Lectures

Statement	N		Mean	Std. D
	Valid	Missing		
Enhancing personalized instruction, self-regulated learning, and second language acquisition.	66	1	3.68	1.040
Affecting academic performance positively.	66	1	2.86	1.300
Helping complete tasks more effectively and enhance personal study habits.	66	1	3.56	1.178
Enhancing personalized instruction, self-regulated learning, and second language acquisition.	66	1	3.68	1.040

The data presented in Table 3 shed light on students' challenges when using mobile phones during lectures. The most significant challenge, with a mean score of 3.86 (SD=1.149), is the disruption caused by notifications from social media and messaging apps. This indicates a notable effect of outside distractions, as constant alerts can disturb students' concentration, making it hard for them to remain engaged with the lecture material. This issue is further exacerbated by its direct correlation with lower comprehension and poor exam performance, which also received a high score ($\mu=3.73$; SD=1.144), suggesting that students are conscious of the adverse academic impacts these distractions can cause.

Another significant challenge is the peer pressure to use phones during lectures, rated at ($\mu=3.59$; SD=1.123). This reflects the social dynamics present in classrooms, where students may feel the need to check their phones because others are doing so, even if they are aware of its adverse effects on their studies. This behavior illustrates how group norms can shape individual decisions, adding complexity to regulating phone usage in educational settings.

Due to their practicality and user-friendly features, the increasing dependency on mobile phones also stands out as a challenge, with a mean score of 3.56 (SD=1.097). This points to the irony of mobile phones: they provide convenience and functionality, yet their frequent use can lead to an over-reliance that hinders students' focus on lecture content.

Lastly, the challenge with the lowest rating, averaging ($\mu=3.53$; SD=1.243), pertains to the distraction and diminished engagement with course material resulting from phone usage. Although this challenge is rated the lowest, the relatively high average indicates that students still consider it a significant concern, albeit less urgent than others.

In summary, these findings highlight the complex challenges associated with mobile phone usage in classroom settings. While students are aware of the practical advantages of phones, they also recognize the disruptions and dependencies they create, which can negatively affect their academic performance and engagement. This points to the need for specific strategies to reduce distractions, manage peer influence, and encourage balanced phone use in educational environments.

Table 3. Perceived Challenges of Using a Mobile Phone During Lectures

Statement	N		Mean	Std. D
	Valid	Missing		
Causing distraction and reducing engagement with the course material.	66	1	3.53	1.243
Social media and messaging application notifications can disrupt students' focus on the lecture.	66	1	3.86	1.149
Using phones for non-academic purposes during class can lead to lower comprehension and poor exam performance.	66	1	3.73	1.144
Peer pressure to use phones in class can lead students to follow suit despite knowing it negatively affects their learning.	66	1	3.59	1.123
The use of phones has led to a growing dependence on them due to their practical features and ease of use.	66	1	3.56	1.097

5. Discussion

The findings present an intricate perspective on mobile phone usage during lectures. Students acknowledge that while their phones can be distracting, they feel "lost" without them and often identify as "overusers." This creates a tension between their dependence on mobile devices and their recognition of the associated drawbacks. According to Belk (1988), dependent behavior differs from overuse, as it is often influenced more by social norms than by a compulsive urge to use a device for emotional attachment or self-identity. For instance, excessive mobile phone usage might not necessarily indicate addiction; instead, it could highlight the importance of communication. This viewpoint is supported by research conducted by Iqbal and Bhatti (2020) and Wacks et al. (2021). However, within the context of the study, students moderately agree that limiting phone use could enhance their learning experience. This sentiment aligns with previous research (e.g., Shrivastava & Shrivastava, 2014; Ugur, 2015), which supports implementing instructor-enforced policies to manage distractions. Also, Campbell et al. (2024) found that students believe mobile phone bans can help reduce distractions and improve academic performance, particularly for low-achieving students. This finding emphasizes the need for a thorough investigation into strategies that could effectively address distraction issues, contributing to the current study. Previous research by Miller et al. (2021) and Ahmad (2020) has shown the potential benefits of smartphones for learning and communication, suggesting that there are valuable opportunities for their use when applied thoughtfully. These insights highlight the importance of developing strategies that balance mobile phone usage, aiming to integrate its benefits while minimizing distractions. Educators could implement structured policies to limit disruptions and simultaneously harness the educational potential of mobile devices. By purposefully incorporating smartphones into lessons and teaching self-regulation skills, it may be possible to foster an environment that encourages focus and promotes productive technology use.

The Extended Self Theory (Belk, 1988) provides a deeper understanding of the students' emotional attachment to their mobile phones. Belk argues that possessions can become extensions of the self, contributing to one's identity and sense of control. In the context of this study, students' feelings of being "lost" without their phones and their characterization as "overusers" may reflect how mobile devices have become an integral part of their extended selves. The phone is not just a tool but a psychological extension of memory, social connection, and self-expression. This helps

explain why students experience internal conflict; they understand the academic drawbacks of phone use but remain psychologically attached due to its role in shaping their identity and social presence.

The results also indicate that students consider mobile phones valuable tools for enhancing personalized instruction, self-directed learning, and learning a second language. They also appreciate mobile phones' usefulness in completing tasks and improving study habits, which received an average rating. These results highlight students' awareness of the specific benefits that mobile phones can offer in facilitating individualized and flexible learning methods. However, the lower average rating regarding the overall impact of mobile phone use on academic performance during lectures suggests some skepticism about their broader educational benefits, particularly in lecture-focused environments. This aligns with Ahmad's (2020) research, which identified mobile phones as modern tools that provide additional learning opportunities during lectures, especially in supporting communication and collaboration. Similarly, a study by Bere and Rambe (2016) investigated the use of WhatsApp for educational purposes and found a positive correlation between mobile phone use and increased interaction, engagement, and learning efficiency. These studies reinforce the idea that when mobile phones are intentionally integrated into learning, they can enhance the educational experience by promoting interaction and extending access to resources beyond traditional time and location constraints. The primary issue is disruptions from social media notifications, which negatively impact focus and academic performance; Fadillah and Purnawarman (2024) revealed that students often use platforms like WhatsApp and Instagram for 5 to 30 minutes during each lesson. They cite boredom and a desire to avoid sleepiness as the main reasons for this behavior. Unfortunately, this habit disrupts their focus, reduces attention spans, and negatively impacts academic performance. This finding highlights the need for further investigation into teaching methods that can minimize distractions and effectively balance the use of digital devices in classrooms. Additional concerns include peer pressure to use phones and reliance on practical features. Although distractions and reduced engagement were rated lower, they remain significant. Previous research (e.g., Abdullah et al., 2019; Alhumaid, 2019; and Criollo et al., 2021) supports these findings, indicating that students increasingly depend on smartphones for academic tasks despite the potential for distractions. Solutions could involve classroom policies to minimize disruptions, educating students on self-regulation, and promoting mindful technology use.

6. Conclusion

The findings present a nuanced view of mobile phone usage in lecture settings, highlighting a conflicting relationship between their recognized opportunities and associated challenges. Students admit that mobile phones can enhance personalized learning, facilitate self-directed study, and improve task efficiency; however, their concerns about the overall impact on academics indicate worries about distractions and dependence. The disruptive nature of social media alerts, peer influences, and dependency reveals that the practical benefits of mobile phones are often compromised by their ability to divert attention and diminish participation. These insights imply that students may not possess the necessary strategies or self-regulation techniques to take advantage of mobile phones effectively without falling prey to their downsides. This situation prompts important questions regarding the incorporation of mobile technology in educational environments: is it possible to manage their use in a way that supports learning outcomes? Additionally, the conflict between recognizing the benefits and facing behavioral hurdles underlines the need for institutional measures. Educators should strive to maximize the advantages of mobile phones while also establishing clear guidelines and promoting digital literacy to lessen their negative effects. Without these initiatives, the value of mobile phones may be overshadowed by their tendency to distract and hinder academic involvement.

7. Limitations of the Study

The study employs a descriptive analytical approach, which offers valuable insights into the specific characteristics and perceptions of the target sample. While the findings are rooted in a particular group's experiences, they offer a nuanced understanding of the phenomenon within that specific context. Additionally, the data collection instrument was purposefully developed to align with the objectives and scope of the study. Its design reflects the unique educational setting and participant profile, ensuring contextual relevance. Although the results are most applicable to the study's defined context, they contribute meaningfully to the broader discourse and may inform future research in similar contexts.

8. Delimitations: Future Research Directions

Given the study's focus on a specific university context and its use of a descriptive analytical approach, the findings are intentionally scoped to offer in-depth insights into the experiences of a defined student population. The data collection instrument was designed to capture perceptions relevant to this particular setting, providing a nuanced understanding rather than broad generalizations. These delimitations enabled the targeted exploration of mobile phone use during lectures, particularly within the female undergraduate community at UAEU. To further expand upon these insights, future research should adopt more diverse methodological approaches, such as qualitative or mixed methods, to explore the underlying psychological, social, and academic drivers of mobile phone dependence. Investigating how students integrate mobile technology into their self-concept and daily academic routines could deepen our understanding of its role as an extension of the self. Additionally, studies examining the link between mobile phone use and academic performance could yield actionable data for evidence-based interventions. There is also a need for validation studies using the current instrument or the development of new standardized tools that can be applied across varied educational settings. Future research should consider demographic variables, such as gender, academic major, and cultural background, to tailor strategies that address the distinct needs of diverse student groups. Longitudinal designs would be particularly valuable in evaluating the sustained impact of interventions aimed at reducing distraction and fostering responsible technology use. These may include the integration of mobile learning applications, real-time interactive tasks, and institutional policies that support balanced usage. From a practical standpoint, universities are encouraged to implement classroom guidelines that maintain a productive equilibrium between leveraging mobile technology and minimizing off-task behaviors. Awareness campaigns, mindfulness workshops, and skill-building sessions in time management and digital self-regulation can help students use technology more mindfully. Moreover, lectures should be designed to engage learners through collaborative and mobile-supported instructional strategies that are actively used. Continual feedback loops and policy evaluation mechanisms will ensure responsiveness to student needs and evolving classroom dynamics. Collectively, these forward-looking efforts can transform mobile phone usage from a source of distraction into a meaningful educational asset.

Declarations

Author Contributions. H.O.: Literature review, conceptualization, methodology, review-editing, and writing, original manuscript preparation. N.A.: data analysis, review-editing, and writing. H.T.: review-editing and writing. All authors have read and approved the final version of the article.

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