Chapter 8
Exploring the Impact of Digital Detoxification on Higher Education Students' Learning

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ABSTRACT

Nowadays, smartphones are ubiquitous. People spend many hours daily on their smartphones or other digital gadgets. Unlike other electronic devices, smartphones enable such functions almost anytime and anywhere, with numerous consequences for our daily lives. Surfing social network sites or instant messaging can impair well-being and is related to clinical phenomena like depression. The proliferation of social networking platforms has resulted in a rise in usage frequency among young adults. Digital detox interventions have been suggested as a solution to reduce the negative impacts of smartphone use on outcomes like well-being or social relationships. Keeping in touch with their smartphones during lectures hinders students' learning experience. The primary objective of this study is to assess how digital detoxification affects student learning within higher education establishments. The research also delves into the prevalence of digital detoxification among university students, shedding light on their comprehension of social media detox and potential mental health consequences.

INTRODUCTION

Technology and new digital tools can improve student learning. But the opposite may also be true. The explosion of technology and digital media can help students understand how these technologies influence consumer behaviour and how marketers use them. Digital detox is a widely used term for a situation where a person "takes a step back" from all electronic and digital devices (e.g., smartphones, tablets, computers). The goal is to alleviate the stress, anxiety, and depression that often result from too much exposure to the digital world and to focus on real relationships and connections to real-world events. One of the best ways to digitally detox is to get into a green environment. However, a period of digital detox can help you better understand the importance of technology in today's life and learn how to manage its role in society. It is a beneficial addition to our daily life. Young people, in particular, need a deep understanding of how technology can help them in education and other areas of life. However, you must be careful not to engage with the technology and make it not worth your time. To achieve this goal, teachers and educators can play an important role in helping students develop mindfulness through digital detox sessions. These three tips will help you: A digital detox should allow a person to relax. It is, therefore, important to help students and children choose successful goals and avoid the risk of disappointment if the task is unsuccessful. It's a good idea to start by setting small limits each day. For example, students can be invited to slowly eliminate the presence of their technological devices from some parts of their day. This kind of "gradual detoxing" helps to eliminate digital dependencies incrementally. Students feel more in control and can focus on thinking about the usefulness of their devices and how they interact with them instead of focusing on the bad sensation of feeling "empty" because of withdrawal symptoms created by a total sharp interruption. The Covid-19 pandemic gave rise to e-Learning and EdTech like never before. Education can no longer be associated within the four walls. By exploring technological solutions and prioritising education, various institutions and individuals have invested time and effort in giving the best e-learning experiences to students. But in the era of e-learning, eliminating digital clutter has become essential as students spend more time on screens throughout the day for learning or entertainment. Research from Guilford Journals suggests limiting social media use to 30 minutes daily can improve mental health and well-being. Others said you should limit screen time to at least three weeks to see noticeable changes. Constant use of technology can cause mental and physical stress for students and teachers. Using a smartphone or tablet for long periods can be tiring and harmful. Often, parents don't know how to encourage their students to spend more time using digital devices because these devices fail to meet their children's needs when they need them most. Some work and strategies may be needed to help students break free from digital

media. Overuse of technology – whether it is time spent on smartphones, social media or other digital screens – can lead to unexpected consequences and create its effects. The rise of the Internet and digital devices has somewhat changed people's lives. However, excessive use of this technology can lead to physical and mental fatigue, affecting not only one's health but also the relationship quality of students and parents. To prevent this, parents must demonstrate the same behaviour. Sometimes, parents may not be aware of the inappropriate content and online harassment their children are being exposed to. While it is important to incorporate digital detox programs into students' daily lives, parents should also be aware of the problems that arise from excessive use of digital devices. A digital detox is nothing more than limiting the use of electronic devices for a certain period. There are many fun detox challenges/guides created by various authors that can be helpful to students. This includes taking regular breaks, spending time outdoors, and posting school times. Parents can help their wards create a schedule that balances screen time and outdoor time. Taking a digital detox, or at least embracing new, mindful technology practices, can be a healthy development. We must remember that breaking digital habits can be challenging because we do things against our habits. Some mindful steps students can follow include taking short breaks from screens. Ophthalmologists also recommend following the 20:20:20 rule. That means spending 20 minutes on the screen. We must look at or focus on an object 20 feet away for 20 seconds. Another step you can take is to spend time outdoors after learning online. Physical activity always makes more sense and is a great way to distract yourself from other thoughts. Automatic reminders that help people stop checking their phones. Parents can prevent their children from waking up and looking at their phones after bedtime. Counselling and teaching students how to regulate their emotions (FOMO – Fear of Missing Out) can also be very effective. It turns out that time away from electronic devices can also benefit our brains.

LITERATURE REVIEW

The Role of Digital Devices in Modern Higher Education

Since the 20th century, with the development and popularisation of computers and the Internet, the relationship between digital devices and students receiving higher education has become increasingly closer (Händel et al., 2022). Digital devices appear in the teaching process as learning tools and widely participate in students' daily lives (Haleem et al., 2022). As learning tools, digital devices can help students improve learning engagement and efficiency through reasonable application, stimulate students' attention, and become a powerful tool to enhance students' learning

initiative (Tripathi et al., 2023). The effectiveness of digital device-assisted learning can ultimately be reflected in improving students' daily tests and performance points (Haleem et al., 2022; Hover & Wise, 2022). In an ideal situation, digital devices can also become assistants in students' daily lives and maintain health. For example, social media can make communication between classmates and between classmates and teachers more timely, immediately and smoothly, improving communication efficiency and saving time (Maqableh & Alia, 2021).Oztosun et al. (2023) pointed out that digital devices effectively alleviate students' psychological problems during particular periods, such as COVID-19.

Before COVID-19, people's attitudes towards e-learning tools showed a negative trend (Zawacki-Richter, 2021). The outbreak of the pandemic has promoted the popularity of electronic learning tools, and many universities have chosen to teach online and use social media to communicate to avoid cross-infection between students and faculty (Selvaraj et al., 2021; Williamson, 2021). Some scholars have a positive attitude towards this phenomenon, believing that the pandemic has promoted digital innovation in higher education and will positively impact people's attitudes (Williamson, 2021; Zawacki-Richter, 2021). However, everything has two sides. Some scholars are concerned about this phenomenon. They believe many factors are not conducive to student learning in a teaching environment that relies too much on electronic devices. For example, online education using digital devices reduces interaction between teachers and students, and genuine interaction is crucial to learning effectiveness (Selvaraj et al., 2021).

There are a variety of digital devices in the higher educational environment, and their different functions make them play different roles in the education process (Al Rawashdeh et al., 2021). For example, bullet screen provides opportunities to increase classroom interaction (Yang et al., 2021), and virtual reality technology can reproduce teaching material content more vividly and provide virtual scientific experiment scenes (Williams, 2022). With the development of portable electronic devices and the enrichment of smartphone applications, smartphones play a crucial role that cannot be ignored in the modern education environment. While it affects and changes education methods, it also affects students' learning, life, and physical and mental health (Webster & Paquette, 2023).

The Impact of Smartphones on the Learning of Higher Education Students

As the world continues to develop towards intelligence and digitisation, smartphones have become one of the essential learning tools for contemporary young people (Webster & Paquette, 2023). A survey as early as 2015 showed that almost all college students have mobile phones and carry them at all times, even in class (Ugur & Koc,

2015). Mobile phones are popular in universities because smartphones are becoming more portable and intelligent, but also because they are influenced by education policies and universities which hope to use smartphones to provide students with a personalised and efficient learning environment (Zdravkova, 2023). Therefore, using smartphones to change students' learning methods, learning efficiency, and learning effects is not only a concern for many students and teachers but also attracts the attention of researchers in education. To explore the impact of smartphones on students in the higher education environment, scholars have studied the beneficial and adverse effects of smartphones on student learning.

Smartphones' interactive functions, personalised functions, and portability provide students with more learning opportunities and improve their proactive and initiative in learning. First, smartphones offer students and teachers with more interactive learning opportunities. For example, knowledge can be discussed and shared between students or between students and teachers through social media, which can improve student engagement and learning performance (Alismaiel et al., 2022). The personalisation of applications is one of the critical reasons for smartphones to play an essential role in learning environments. This feature allows smartphones to improve students' learning abilities without strict restrictions, making it a powerful learning tool for different subject backgrounds (Firmansyah et al., 2020). Personalised learning procedures help students develop learning independence and improve their enthusiasm for learning (Kacetl & Klímová, 2019). Its portability is also an important factor conducive to student learning. Portable smartphones break the restrictions on teaching locations in the original education scene, allowing students more freedom in choosing their learning time and place (Lin et al., 2022; Rekha Asmara, 2020).

Compared with the positive effects of smartphones, their adverse effects have attracted more attention from scholars. Scholars have analysed the phenomenon and reasons why smartphones are not conducive to learning from multiple perspectives, such as distracting attention, information overload, and being detrimental to time management. The distraction of attention will not only reduce students' learning efficiency but will also cause serious consequences by affecting the accuracy of students' practical behaviours(Mahsud et al., 2021; Troll et al., 2021). Taking nursing students as an example, distraction caused by smartphones will cause severe mistakes in their internship positions, which will, in turn, threaten patient safety (Zarandona et al., 2019). Smartphones can provide students with vibrant learning resources, but they also bring specific negative impacts to students. The amount of information in smartphones far exceeds students' information processing capabilities, which increases the technological pressure they feel and ultimately harms academic performance (Yao & Wang, 2023).

Student's reliance on smartphones will lead to the formation of addictive behaviours, and they will excessively use mobile phones for entertainment activities unrelated to study, eventually taking up study time (Lei et al., 2020; Mahsud et al., 2021). Some studies have also confirmed that addictive behaviour is one of the essential reasons why students cannot concentrate when studying (Mahsud et al., 2021). This substance addiction behaviour will also threaten students' physical and mental health and indirectly affect students' learning results (Mustafaoglu et al., 2021).

The Impact of Smartphones on the Health and Life of Higher Education Students

Good health and living habits are important factors that affect students' learning efficiency and effectiveness (Tadese et al., 2022). For young people, smartphones are not only their learning tools but also play the role of life assistants and have profoundly affected their living habits and even their physical and mental health (Csibi et al., 2021; Wacks & Weinstein, 2021). Therefore, while analysing the direct impact of smartphones on students' learning, the indirect effect of affecting students' health and living habits should also be considered.

Smartphones are essential for improving life efficiency (Csibi et al., 2021; Lei et al., 2020). First, it can shorten the resources consumed by daily activities. For example, compared with going out for shopping, people can save more time and money by shopping online through smartphones (Allah Pitchay et al., 2022; Meher Neger & Burhan Uddin, 2020). In addition, smartphones provide students with a more convenient way to maintain social connections. Students can communicate with family or friends through social media to strengthen emotional ties without time and location limitations (David & Roberts, 2021). In addition to helping students in daily life, smartphones can also be a helper in improving and maintaining health if used properly. Some smartphones can provide health detection functions, which can help students better understand and manage their health status by tracking and recording their health data (Kajitani et al., 2020).

However, for researchers in the field of education, the negative impact of smartphones is of more significant concern than the positive effect. With the development of smartphones, its rich functions attract young people to spend a lot of time using mobile phones daily (Maurya et al., 2022). Although smartphones can help young people improve their quality of life if used wisely, the fact is that young people often cannot control their usage behaviour well when using smartphones. Some surveys show that compared with people of other age groups, young people are more likely to experience excessive use when using smartphones, which is a symptom of substance addiction (Csibi et al., 2021). Substance addiction will cause

many adverse effects on the mental health of addicted individuals, such as a positive correlation between mobile phone addiction and the incidence of depression (Lei et al., 2020). In addition to the impact on mental health, excessive smartphone use can also negatively affect physical health. For example, staring at the mobile phone screen for a long time will reduce students' visual function, sleep quality and cause musculoskeletal pain (Maurya et al., 2022; Mustafaoglu et al., 2021; Wang et al., 2020; Wang et al., 2019).

The Concept and Methods of Digital Detoxification-Digital Detoxification

As digital devices become increasingly popular, people's dependence on electronic products has become increasingly prominent (Desai & Vidyapee, 2019). Although digital devices can bring many noticeable beneficial effects to people's studies, life and work, the negative impact on people's lives is also becoming more and more prominent (Abi-Jaoude et al., 2020; Alotaibi et al., 2022; Bucci et al., 2019; Maurya et al., 2022). Some scholars have found that sometimes the negative impacts of digital devices are far greater than the benefits they bring to people, especially when people misuse electronic products(Abi-Jaoude et al., 2020; Csibi et al., 2021). Therefore, although the development of society and the improvement of living conditions have made people pay more attention to the quality of life and health (Zhang & Ma, 2020), the negative impact caused by the side effects of digital devices will cause significant obstacles to improving the quality of life and health (Alotaibi et al., 2022).

The above phenomena have made people gradually realise the importance of rational use of digital devices and restraining addictive behaviours of electronic products (Csibi et al., 2021), which led to the birth of the concept of digital detoxification. Digital detox is "when a person does not use digital devices such as smartphones or computers, especially to reduce stress and relax" (Oxford Dictionaries, 2023). It is worth noting that this definition is somewhat different from the definition provided by Oxford Dictionaries recorded in previous literature (Radtke et al., 2022). The latest definition corrects the purpose of digital detoxification. The original definition emphasises that digital detoxification aims to reduce stress or maintain real-life social activities(Radtke et al., 2022). The new definition removes the purpose of maintaining social activities and replaces it with the word relax, which makes the purpose more focused on improving personal status.

Smartphones are one of the most popular electronic devices and one of the most addictive. According to the survey by Alotaibi et al. (2022), people who own smartphones will spend an average of 6-8 hours a day using smartphones. Socialising and entertainment are the primary purposes of using smartphones among those

surveyed, and more than half of them have digital addiction behaviours(Alotaibi et al., 2022). The prominence of this phenomenon of smartphone addictive behaviour has contributed to the richness of digital detoxification-related research. Researchers have explored detoxification methods for smartphone users and compared and analysed the effects and differences of various practices (Schmuck, 2020; Wang et al., 2019).

Improving people's dependence on smartphones can be approached from multiple angles. First, individual addictive behaviours can be directly changed through psychological and behavioural support. Previous research has confirmed that interpersonal help, such as interpersonal support, behavioural guidance, and stress management, are effective ways for digital detoxification (Wang et al., 2019). Secondly, the contact between the individual and the smart device can be cut off or controlled. Unplugged tourism is one of the most popular methods of this type, in which individuals reduce or do not use digital devices by interacting with the real world during travel (Egger et al., 2020). Changing mobile phone devices that are less likely to lead to addiction or conducting digital detoxification through auxiliary software or facilities are also feasible measures. For example, some software can prompt or force-lock the phone when the preset usage time is reached, allowing users to reduce usage time passively(Nguyen, 2022).

The Effectiveness and Sustainability of Digital Detoxification's Impact on College Students-Digital Detoxification

The negative impact of digital devices, especially smartphones, on students receiving higher education, has received widespread attention from society. As an effective means to reduce this negative impact, digital detoxification has begun to be promoted in higher education settings, subsequently triggering a series of related research. Scholars discuss the need for digital detoxification of students. Although a series of evidence indicates that electronic products have the function of improving learning efficiency (Alismaiel et al., 2022; Kacetl & Klímová, 2019), it turns out that digital devices, especially smartphones, have a more negative impact on students' learning than positive effect (Troll et al., 2021; Ugur & Koc, 2015; Wood & Muñoz, 2021). Overuse of smartphones is detrimental to students' learning and can even harm their health (Mahsud et al., 2021; Maurya et al., 2022; Troll et al., 2021). Therefore, it is essential to carry out digital detoxification for students in higher education environments.

As a young group, students should take digital detoxification measures promptly. First of all, this is because students are not only the group most prone to excessive use of smartphones (Csibi et al., 2021). Secondly, as people age, their bodies and minds respond more strongly to digital detoxification, and they will experience

stronger negative emotions and various physical withdrawal symptoms (Csibi et al., 2021; Wood & Muñoz, 2021). Last but not least, reasonable digital detoxification can improve the negative physical and mental state caused by addictive behaviours in many aspects. For example, providing students with smartphone addiction with interpersonal support, behavioural guidance, and stress management can help improve their bad sleeping habits caused by overuse of smartphones (Wang et al., 2019). In short, although digital detoxification will cause students to have withdrawal reactions in the short term, it is generally beneficial to students in a long time.

However, since digital devices have penetrated the higher education environment, it is not easy to detoxify digitally by prohibiting students from using them directly (Wood & Muñoz, 2021). Therefore, digital detoxification for students can be implemented in two ways: interpersonal help and software assistance. Universities can provide a variety of activities to provide interpersonal support to students who need digital detoxification, such as providing sports activities, behavioural guidance or carrying out psychological assistance therapy (Wang et al., 2019). Digital detoxification software is a semi-passive self-management method. First, it requires students to actively obtain relevant software and enable permissions for the software to work. Detoxification software can effectively alleviate the negative relationship between electronic device use and students' well-being (Schmuck, 2020). No matter which method is used, it requires the active cooperation of the students themselves. Although electronic detoxification activities have been started in some areas, the time range is limited and is only performed at night (Green et al., 2022). Developing larger-scale and more effective electronic detoxification activities requires support from all aspects. Therefore, increasing the attention paid by students and teachers to digital addiction is still necessary to effectively carry out digital detoxification activities in higher education environments.

IMPLICATIONS

Theoretical Implications

This study explores and analyses the development and changes in the role of digital devices in higher education environments in the context of rapid technological development and emphasises the importance of digital detoxification. It points out that if used appropriately, digital devices can become a tool for students to improve efficiency and effectiveness in learning (Maqableh & Alia, 2021). This provides researchers in education with a more comprehensive research perspective and reference direction. This study also emphasises that although digital devices can positively impact the learning and life of higher education students, their

negative impact cannot be ignored (Arokiyaraj et al., 2021), especially on students' concentration. The negative impact of force is particularly worthy of continued attention from scholars.

In addition to this, this study has theoretical value in the field of psychology, especially on the topic of digital addiction. This study points out that related research on digital detoxification and digital addiction should not be limited to the general group but should be more focused on topics related to digital addiction and digital detoxification among people in similar backgrounds (Csibi et al., 2021) because the environment and individual characteristics are important factors that contribute to the occurrence of digital addiction behaviours. People with similar unique characteristics in the same environment will have more consistent performance in digital addiction behaviours. For example, this study emphasises the higher education environment as a fixed area. The groups in this environment are similar regarding the educational environment and age characteristics, so that the study results will be more accurate.

Finally, this study also has specific implications for the intersection of education and psychology because this article emphasises the multiple impacts of smartphones on students' psychological states and learning effects in higher education environments. This inspires future research on related issues, such as digital device-based learning strategies in higher education contexts.

Practical Implications

This study provides practical reference opinions for those involved in the higher education environment from three perspectives. First of all, from the perspective of educational policymakers, they should not only pay attention to the negative impacts of digital education environments but also consider formulating reasonable digital detoxification measures and strategies. Reasonably composing the layout and application areas of digital devices in the educational environment is one of the essential steps for effective digital detoxification (Wang et al., 2019). This study analyses the current application status of digital devices, especially smartphones, in higher education environments from multiple perspectives and serves as a reference for educational decision-makers to formulate reasonable plans.

Secondly, under the guidance of education policies, university administrators should implement personalised educational policies related to digital devices based on the specific conditions of the university and the differences between various disciplines and student groups. This can effectively improve student learning effects while reducing the burden on classroom teachers (Garad et al., 2021; Maatuk et al., 2021). The management of the living environment in universities is also an issue that university administrators should focus on. Unlike other types of education, college

students will spend more time on campus. Therefore, besides integrating digital devices into the teaching environment, administrators should rationally arrange digital devices in university living facilities. This can improve students' quality of life and efficiency and indirectly benefit students' learning.

Last but not least, this study also provides sound advice on digital detoxification for students, who play the most crucial role in educational settings. Learning knowledge is one of the main tasks they must complete in college. Facing digital devices with rich functions, the students' reasonable use will bring a series of benefits to their learning ability and learning effect. Digital devices have been highly integrated into their daily lives and are a vital tool to improve the convenience of their lives (Haleem et al., 2022). Although students can recognise the impact of digital addiction on themselves, they lack the awareness and methods to help them control and improve this addictive behaviour. This study helps raise students' awareness of their digital addiction behaviours and points to multiple ways to implement digital detoxification.

DISCUSSION

In short, this study provides a theoretical reference for scholars in education, psychology, and the intersection of educational psychology. This study identifies the opportunities and challenges digital devices face in higher education settings from a student perspective. Researchers in related fields can further explore the various impacts of other types of digital device addiction behaviours on students in higher education settings based on this study. They can also continue to have a more in-depth discussion on the impact of smartphones on the higher education environment from multiple perspectives, such as teachers, managers, and educational policymakers in higher education. Secondly, with the diversification of digital devices, exploring the application of other digital devices in higher education environments will also be an important research direction. Finally, researchers could also explore the impact of digital addiction in different settings and among other groups, especially those in occupations requiring extensive smartphone use.

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