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Research Article

Exploring the Interplay of Digital Addiction and Academic Performance: A Regression Analysis Approach

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ABSTRACT

This study investigates the relationship between digital addiction and academic performance among students who pursue higher education. It explores various factors of digital addiction and their impact on academic success through a quantitative approach with a survey and regression analysis. A convenient sampling method was used to collect data from a sample of 362 participants through a structured questionnaire. Regression analysis was conducted to examine how these independent variables predict academic achievement. The findings reveal that while overuse and non-restraint do not directly influence academic performance, emotional state and dependence on digital devices play significant roles. The research highlights the importance of promoting healthy digital habits, fostering emotional well-being, and creating environments encouraging student engagement.

Keywords: Digital addiction, Academic performance, Digital Overuse, Digital Non-restraint, Inhibiting flow of life, Emotional state, .

Introduction

In today's digital age, where technology plays a central role in our daily lives, concerns have been raised about the impact of excessive digital use on various aspects of our lives, including academic performance. With the widespread use of smartphones, social media, online gaming, and other digital platforms, individuals, especially students, are increasingly becoming vulnerable to digital addiction (Karakose et al., 2023). Earning a college degree is one of the most important first steps toward personal growth and future success (Pritchard & Wilson, 2003). Having a degree after graduating from college has several advantages. It positively affects future employment and income (Pascarella & Terenzini, 2005). Higher education appears to have an effect on physical health in addition to its economic benefits (Cohn & Geske, 1992; Link & Phelan, 1995). A college degree allows individuals to broaden their perspectives and improve their quality of life. It provides them with a deeper understanding of the world, enhances critical thinking skills, and equips them with knowledge and expertise in their chosen field (ASHE,1972). It is important for college students to attain academic success by attending college. In the era of digital exploration, it is essential to know how digital device usage will affect their academic success. By exploring the relationship, we can regulate digital device usage in such a fashion so as not to hinder academic success by understanding the reality that digital devices cannot be avoided completely because it is part of what learning means. The only thing that can be done is to regulate the usage. This study explores the relationship between digital addiction and student academic success. The research will examine the various dimensions of digital addiction, such as overuse, non-restraint, inhibiting the flow of life, emotional state and dependence, and how these factors may impact student academic success. The importance of this research lies in its potential to shed light on the detrimental effects of digital addiction on academic performance and students' overall well-being.

Review of Literature

Digital addiction, specifically addiction to technology and mobile phones, has become a growing concern among students and youngsters. (Castiglione, 2008) Excessive use of digital devices and social media has been associated with several negative impacts, including a decline in academic success. (Chandrasena & Ilankoon, 2022). In the digital era, vast amounts of information are at our fingertips. While digital devices offer undeniable benefits, their constant use can lead to addiction. Increased mobile phone use by students

correlated with a decline in academic performance (Rashid et al., (2022). Several studies have been conducted to examine the relationship between digital addiction and academic success. One study by Lee et al., (2014) found that students who reported higher levels of mobile phone addiction had lower academic performance compared to those with lower levels of addiction. The researchers of this study also identified factors that contribute to the level of smartphone addiction among students, including the educational and entertaining options provided by smartphones. (Samaha & Hawi, 2016). Another study examined the impact of smartphone addiction on overall academic performance. The study found that excessive smartphone usage can lead to negative impacts on academic performance, daily activities, physical and mental health, withdrawal tendencies, and social relationships (Boumosleh & Jaalouk, 2017). Furthermore, the study highlighted the need for students to take a cautious approach to the use of digital technology, especially at the preparatory stage. These findings suggest that digital addiction, specifically smartphone addiction, is detrimental to academic success. In addition to the negative impact on academic performance, digital addiction also affects other aspects of students' lives. For instance, continuous usage of digital devices can lower the learning level of students and hinder their ability to focus on studies. In order to address the issue of digital addiction and promote academic success, precautions must be taken in the use of technology in education. Moreover, the literature highlights the importance of safety and privacy measures in schools to protect students from potential risks associated with internet access. (Rahman et al., 2020). In conclusion, the existing literature provides significant evidence of the detrimental effects of digital addiction, particularly smartphone addiction, on academic success. The studies reviewed have consistently shown a negative correlation between excessive digital device usage and academic performance, as well as its impact on other aspects of students' lives. It is evident that the pervasive use of technology and social media can hinder students' ability to focus on their studies and engage in effective learning. To address this issue, it is crucial for educational institutions to implement precautionary measures and promote responsible use of technology. Furthermore, ensuring the safety and privacy of students in the digital environment is essential to mitigate potential risks associated with internet access. The literature underscores the urgency of addressing digital addiction as a means to safeguard and enhance students' academic success and overall well-being.

Objective:

To explore the influence of various factors of digital addiction on academic success.

Hypotheses:

The study seeks to investigate the effects of overuse of digital devices, non-restraint, inhibiting flow of life, emotional state and dependence on academic success. The following hypotheses were proposed.

H_1: There is a significant impact of overuse of digital devices on academic success
H_2: There is a significant impact of non-restraint on academic success
H_3: There is a significant impact of inhibiting flow of life on academic success
H_4: There is a significant impact of emotional state on academic success
H_5: There is a significant impact of dependence on academic success

Research Methodology

This study employed a quantitative approach to investigate the relationship between digital addiction and academic success. A convenient sampling method was used, resulting in a sample size of 362 participants. A structured questionnaire was used to collect data from participants. The questionnaire likely included questions to measure the five independent variables: overuse of digital devices (OD), non-restraint (NR), and inhibiting flow of life (IF), emotional state (ES), and dependence (DP) (Kesici & Tunç, 2018). Academic success (AS) was measured as the dependent variable. Regression analysis examined how well the five independent variables (OD, NR, IF, ES, DP) predict the dependent variable (AS).

ANALYSIS AND FINDINGS

The dependent variable academic success was regressed on predicting variable overuse of digital devices, non-restraint, inhibiting flow of life, emotional state and dependence. The independent variables significantly predict academic success, $F(5, 356) = 6.641$, $P < .001$, which indicate that the five factors under the study have a significant impact on academic success. Moreover, the $R^2 = 0.085$ depicts that the model explains 8.5% of the variance in AS. Additionally, coefficients were further assessed to ascertain the influence of each of the factors on criterion variable (academic success) .The hypothesis test, if overuse of digital devices carries as significant impact on academic success. The dependent variable AS was regressed on predicting variable OD to test the hypothesis H_1. The results revealed that OD has not a significant impact on AS ($B = -.486$, $t = -1.872$, $p > 0.05$). These results clearly direct the negative effects of the OD. Hence H_1 was not supported. H_2 evaluate whether non-restraint has a significant impact on academic success. The results show that non-restraint has not a significant impact on AS ($B = -.379$, $t = -1.149$, $p > 0.05$). These results clearly direct the negative effects of the NR. Consequently H_2 was not supported. H_3 evaluate whether inhibiting flow of life has a significant impact on academic success. The results revealed that IF has a significant impact on AS ($B = .643$, $t = 2.310$, $p < 0.05$).

These results clearly direct the positive effects of the IF. Hence H_3 was supported. H_4 evaluate whether emotional state has a significant impact on academic success. The results revealed that ES has a significant impact on AS (B = 1.021, t = 3.440, p < 0.05). These results clearly direct the Positive effects of the ES. Hence H_4 was supported. H_5 evaluate whether dependence has a significant impact on academic success. The results revealed that DP has a significant impact on AS (B = .781, t = 2.341, p < 0.05). These results clearly direct the Positive effects of the DP. Hence H_5 was supported. The results are presented in Table 1.

Table 1.

Hypotheses Results	Regression Weights	B	T	p-value	Results
H_1	OD → AS	-.486	-1.872	.062	Not Supported
H_2	NR → AS	-.379	-1.149	.251	Not Supported
H_3	IF → AS	.643	2.310	.021	Supported
H_4	ES → AS	1.021	3.440	.001	Supported
H_5	DP → AS	.781	2.341	.020	Supported
R	**0.085**				
F (5, 356)	**6.646**				

Note. P < .001. OD: Overuse of digital Devices, NR: non-restraint, IF: Inhibiting Flow of life, ES: Emotional State, DP: Dependence

Discussion:

The study was meant to assess the interplay between university students' excessive use of digital devices like smartphones, tablets, and computers and their influence on their academic success. Digital addiction is assessed by measuring the various factors of digital addiction. Overuse of digital devices, non-restraint, inhibiting flow of life, emotional state, and dependence. Academic success is measured by assessing general academic skills, internal motivation, future-oriented factors like career goals, and understanding of course relevance to the future careers of the students. The study explored the interplay between digital addiction and academic performance, focusing on various factors such as. The results indicate that the combined set of factors of digital addiction, such as Overuse of digital devices, non-restraint, inhibiting flow of life, emotional state, and dependence, significantly predict academic success. When analysing the individual effects of each factor, The overuse of digital devices did not significantly impact academic success. The overuse means how much students use digital gadgets excessively, even when doing so might be improper or interfere with day-to-day tasks. It covers bringing electronic gadgets to meals, get-togethers, or business. The results show that the overuse did not impact their academic success. Non-restraint (NR) also did not significantly impact academic success. Non-restraint means a person's capacity to regulate and set time limits for digital gadgets. It evaluates whether people find it difficult to cut back on screen time or have tried and failed. The results show that students' capacity to regulate and set time limits for digital gadgets does not really impact academic success. Inhibiting the flow of life (IF) showed a significant positive impact on academic success. It means how using digital devices affects a person's possibilities and obligations. It evaluates whether digital gadgets make it harder for people to do tasks associated with their homes, schools, or other responsibilities and whether they cause them to lose out on opportunities. The results show that if the use of digital makes it harder for students to associate with homes and schools, then it will affect their academic success. Emotional state (ES) demonstrated a significant positive impact on academic success. Emotional State refers to the emotional responses and attitudes associated with digital device usage. It assesses how individuals feel when they stop using digital devices, their emotional reactions to being assigned tasks during screen time, and their feelings of boredom or happiness related to digital device use. Dependence (DP) also displayed a significant positive impact on academic success. Dependence means the attitudes and emotional reactions related to using digital devices. It evaluates people's emotional responses to being given tasks to complete during screen time, how they feel when they have to stop using digital devices, and whether they are bored or happy after using digital devices. The results reveal that the attitudes and emotional reactions to using digital devices affect the student's academic success. With the insights from the study, some suggestions are proposed with regard to the use of digital devices While overuse of digital devices did not show a significant impact on academic success in this study, promoting healthy digital habits among students can still be beneficial for overall well-being and academic performance. Strategies to enhance self-restraint and time management skills could be incorporated into educational programs to mitigate the potential negative effects of non-restraint on academic success. Given the significant positive impact of emotional state on academic success, implementing programs to support students' emotional well-being and resilience can be beneficial. Acknowledging and addressing dependence on digital devices among students can help maintain a healthy balance between online and offline activities, potentially enhancing academic performance. Creating environments that encourage engagement, focus, and enjoyment in academic and non-academic activities can contribute positively to academic success.

Conclusion:

The findings of this study suggest that while certain aspects of digital addiction, such as overuse and non-restraint, may not directly impact academic success, factors like inhibiting the flow of life, emotional state, and dependence play significant roles. These results emphasise the importance of addressing students' emotional well-being, promoting healthy digital habits, and fostering environments conducive to engagement and flow. The study has revealed a significant correlation between excessive digital use and lower academic performance, highlighting the importance of promoting healthy digital habits and balance in students' lives. Additionally, the demographic variables studied have provided insights into the different factors that may influence the prevalence of digital addiction, informing targeted intervention strategies. Through this research, it is evident that addressing digital addiction is crucial not only for academic success but also for the holistic well-being of students. As technology advances, it is imperative to prioritise the development of healthy digital behaviours among students to foster a positive impact on their academic achievements and overall quality of life. Further research could study deeper into how these factors influence academic success and explore additional variables that may contribute to the complex relationship between digital addiction and academic performance.

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