

An Analysis of the Impact of Social Media Addiction on Academic Engagement of Students

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Abstract

The study's goal is to comprehend how internet addiction affects students' academic performance. However, very few research has been able to explain how excessive internet use causes students to lose interest in their academic work. Many studies have examined the detrimental association between addictions and academic performance. This research consists of two factors: internet addiction (emotional and cognitive preoccupation with internet and loss of control and interference with daily life) and academic engagement (enthusiasm and commitment). Through questionnaires, data was gathered from 186 students at a higher institution in Nigeria. Both correlation and regression were used to evaluate the data. The results of the investigation demonstrated that internet addiction significantly and unfavorably affects enthusiasm and commitment. It's interesting to note that internet obsession on an emotional or cognitive level was not shown to be a reliable indicator of internet addiction or loss of control.

Keywords: Academic Performance, Engagement, Internet Addiction, Students

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INTRODUCTION

The sheer fact that more than 500 hours of video were uploaded to YouTube every minute helps to explain the expansion of the internet. Almost 30,000 hours of newly uploaded content are uploaded every hour ^[1]. Facebook and communication apps like WhatsApp have had a similar increase. In addition, everyone's life now revolves on the internet, smartphones, tablets, and iPads, whether they are students, teachers, business people, or government officials. Nigeria has the highest number of internet users in Africa ^[2]. Although the internet has been a part of everyday life for a few decades, the biggest change occurred a few years ago when mobile data prices dropped enough for the lower middle class and lower class of the population to afford it ^[3]. The growth of the data world was fueled by the internet and the rise of social media sites, chat platforms, WhatsApp, and YouTube. As a result, more people began utilizing these services, and once free internet became available, more people started using smartphones and mobile data, which has led to everyone now having access to these services ^[4].

However, using mobile internet on a budget and conveniently has many advantages, doing so excessively might have terrible consequences for people's life, especially for the country's youth. Youth smartphone and internet usage increased to 49% ^[5]. The rate at which the youths now engage themselves with these technology keeps rising every day in Nigeria. Many of these young people are students, while others are professionals in the workforce. Additionally, there have been a ton of studies on the advantages of the internet and other new technologies, but relatively few have addressed how these same tools may harm students' academic performance ^[6]. Despite the advantages of widespread internet use, there appears to be an increase in the risk from excessive internet use, particularly among students. Abuse of the internet and internet-connected gadgets leads to addiction, which has

detrimental effects. At least 24.6% of teenagers in Nigeria are dependent on the internet ^[7]. Online usage has multiplied over the past several years, and as a result, there is an increasing risk that kids will develop internet addiction. Internet addiction, according to ^[8], is "overuse of the internet that impairs a person's mental, emotional, and psychological states as well as their academic, vocational, and social relationships." The prediction of student's academic performance has been a huge concern for higher institutions everywhere ^[31]. The study's objectives include determining the extent of student addiction and the effects of internet addiction on academic engagement, including "emotional and cognitive fixation with the internet" and "loss of control and interference with daily life."

LITERATURE REVIEW

Addiction is typically associated with the use of drugs, alcohol, or any other substance, which leads to an individual's excessive use of the aforementioned things and a variety of negative health impacts. According to research done so far, internet addiction is defined as an excessive, unhealthy use of the internet and related technologies. Excessive internet use also contributes to a variety of difficulties in people's lives, such as decreased work performance ^[9] ^[10]. It impairs one's ability to limit the amount of time spent online ^[11]. Internet addiction is described as the mental or emotional disturbance in a person's psychological state brought on by excessive internet usage ^[10]. Facebook and WhatsApp overuse also affects how people engage with others by making people less socially active and neglecting social activities. Spending too much time alone in a virtual environment without interacting with others causes a lot of problems in society ^[12]. The value of schooling and academic performance of student is the topmost priority of all academic institutions ^[29].

Internet addiction can affect people of any age, but it affects students the most severely. As a result of their active participation in online activities, people are more likely to exhibit this behavior ^[13] ^[14]. Numerous studies have been undertaken globally to examine internet addiction behaviors in people, particularly in young people and students. For instance, ^[15] investigated internet addiction (IA) among South Korean college students. They compared the students' IA levels to those of other research and discovered that 10% of them had severe addictions, compared to 3.1% in those earlier studies. This increase has been linked to the growth of the internet and cellphones. They also found that internet addiction does not discriminate based on gender. Both men and women had to comply with it equally. Understanding the causes or elements of the behavior was necessary after understanding the behavior itself. ^[16] conducted research on the variables influencing smartphone addiction and its effects on academic performance of Bangladeshi students attending private universities. Positive anticipation, increased impatience and intolerance, withdrawal, daily life disturbance, and cyber friendship have been identified as the five most important elements that define students' smartphone addiction and have an effect on their academic performance. ^[17] conducted research on a number of variables that affect how well Bangladeshi pupils learn. They looked at the aspect of academic self-efficacy as a mediator for enhancing students' learning outcomes, particularly as a mediator between general internet use and learning outcomes.

According to a 2017 study by ^[18], South African students spend a lot of time purchasing new technology, such as cellphones, installing apps, charging, and recharging them. They are financially burdened as a result of having to maintain such expensive equipment. Additionally, this has a lot of detrimental effects on their academic achievement. The use of social networking sites (SNS) and users' academic achievement in Qatar have been examined by ^[19]. They split them into three groups: passive users (low usage), engaged users (normal usage), and active users. c) heavy usage by addicts. According to the findings, active users performed better academically than passive or hooked counterparts. Consequently, the linear association between SNS use and academic performance is refuted. ^[20] investigated how internet addiction affected three characteristics of academic engagement in Malaysian students: devotion, vigor, and absorption. They discovered that while enthusiasm was negatively impacted, dedication and absorption were unaffected. Similar investigations have also been carried out in the past. To investigate this phenomenon in the context of Nigeria, however, only a small number of research have been carried out.

The results of this study will be used to assess the severity of internet addiction and examine how it affects students' academic participation. Two characteristics of internet addiction have been taken into consideration: loss of control and interference with daily life, as well as emotional and cognitive fixation with the internet ^[21]. Academic engagement is a useful indicator of a student's enthusiasm, dedication, and absorption when examining the consequences of internet addiction on academic achievement ^[22]. But for the sake of this study, just enthusiasm and commitment are used. This results in the below-mentioned research question:

RQ1: To what extent are students addicted to the internet?

RQ2: Does daily life disruption and loss of control have any effect on computer science students' enthusiasm and commitment?

RQ3: Does emotional and cognitive internet addiction have any effect on the enthusiasm and commitment of computer science students?

Therefore, the goal of our study is to comprehend the degree of internet addiction among students as well as the impact of internet addiction on daily life interference, loss of control, and emotional and cognitive preoccupation with the internet on students' academic engagement as measured by enthusiasm and dedication.

METHODOLOGY

To comprehend the impact of internet addiction on students' academic participation, an empirical study was done. Utilizing a standardized questionnaire with a 6-point rating system, information was gathered from 186 students. Data gathering involved the use of a convenience sampling method. The assessment scales for academic engagement and internet addiction were adapted from [23] IAT scale and UWES scale, respectively. Additionally, the questionnaire's validity and dependability have been examined.

In this study, the academic engagement—or the students' fervor and commitment to their studies—has been used as a dependent variable. Furthermore, the data was examined using SPSS 20 software. Finally, SPSS was used to analyze the data using correlation and regression.

Internet Addiction scale - Item 17 ("Do you try to cut down on the amount of time you spend online and fail?") and item 8 ("Does your performance or productivity suffer because of the internet?") presented double loading and were removed from the [23] internet addiction Test (IAT), which originally had 20 items. Of those, 17 were chosen and scored on a 6-point Likert scale from 1 ("does not apply") to 6 ("always") [21]. The items cover a variety of aspects of Internet addiction, including loss of control and disruption of daily life (7 things), emotional and mental fixation on the internet, and more (11 items). The scale's Cronbach alpha was 0.88.

Academic Engagement measure- Making use of the Schaufeli et al.-created Utrecht Work Engagement Scale for Students (UWES-17) with 6 things for vitality and 5 things for commitment. Since the emphasis was mainly on commitment and energy, the six items of absorption were not taken into account. The scale's Cronbach alpha was 0.708, and The scale has six points: 1 for never, 2 for practically never, 3 for rarely, 4 for occasionally, 5 for very often, and 6 for constantly.

A. Sample

A sample of 186 students of computer science department from the Federal Polytechnic, Ado Ekiti, Nigeria has been taken of which 58.6% were males (109) and 41.4% (77) were females. Among them, most of the students 48.76% are from the 20-25 age group. While 45.82% were from the 25- 30 age group and 3.42% are from the 30-35 age group while 2% are from 35 and above age group. This shows that almost 95% of the students are within the age group of 20 -30 years indicating the younger population as shown in Table 1.

TABLE I: STUDENTS' DEMOGRAPHY DETAILS

Demographic details		Number	N (Percent)
Gender	Male	109	58.6
	Female	77	41.4
Age	20 - 25	91	48.76
	25 - 30	85	45.82
	30 -35	6	3.42
	35 Above	4	2

B. Variables

Independent Variable

Internet Addiction - Young defines internet addiction as behavior related to online activities that make someone fixate on something, such as chat, message, etc., which interferes with their day-to-day life by causing stress in their social and personal lives [28]. It goes by many names, including internet dependency, internet compulsivity, and internet addiction. Simply said, an addict's compulsive behavior takes control of their lives. It gives the person the impression that the internet is more essential than their own lives, families, friends, or loved ones, and takes precedence over them. The internet dominates the addict's life.

Emotional and cognitive preoccupation with the internet - It refers to a reliance on internet activities that is excessive [24]. A drive to use an online tool like a chatbox or Facebook to make oneself comfortable will often lead an individual to favor online interaction. It seems that even when you are offline, you are still considering going

online [25]. Negative sentiments (such as feeling bored, anxious, or depressed) and obsessive thinking about the internet are examples of emotional and cognitive preoccupations with the internet [26].

Loss of control and interference with daily life - The inability to manage how much time is spent online (e.g., staying online longer than intended) leads to a loss of control and disruption of everyday life (e.g., sleep problems and poor academic or professional performance) [26].

Dependent Variable

Academic engagement - As they would invest heavily in academic learning, are often committed to their studies, and are frequently involved in their study activities, students who are focused on their studies might be identified by their degree of engagement. According to [27], engagement is a complex concept that includes vigor, dedication, and absorption.

Enthusiasm - When referring to a student, the term "vigor" describes their capacity to exert a lot of work while demonstrating strong energy and academic curiosity [27].

Commitment - Dedication demonstrates a student's interest in and inspiration for their academics [27].

C. Hypotheses

The greater the student's reliance on the internet in all aspects of his life, the greater the impact on his energy and enthusiasm for studies, because the rising interest in internet life will consume the energy that needs to be utilized in academic or learning purposes, and eventually very little energy will be left for doing anything, which is nothing but vigor of the student, which leads to hypothesis.

H1: The internet's emotional and cognitive influence has a detrimental effect on students' enthusiasm.

Similar to this, when a student uses the internet more frequently, their commitment to their studies declines since they spend the majority of their time online, which lowers their level of motivation for both studying and engaging in other activities. The motivation to study will decline for the pupil. Which brings us to our second premise.

H2: Students' commitment is negatively impacted by emotional and cognitive internet addiction.

The student's ability to focus on their schoolwork will decrease the less control they have over their daily lives. The student may not be able to regulate how much time is spent online chatting, playing games, or conversing with others, which eventually causes the student to have less interest in or zeal for studying, having an effect on both the student's schoolwork and their level of vigor.

H3: Students' vigor is negatively impacted by loss of control and disruptions to daily life.

Similar to how a student might lose focus and possibly be unable to concentrate on their schoolwork if they had less control over their lives. The student may become overwhelmed by the stories and posts of friends and coworkers, criticizing them and thinking less of themselves as a result. This will affect their drive for studying and the degree to which they are committed to their studies (Figure 1).

H4: The loss of control and disruption to everyday life have a negative effect on students' commitment.

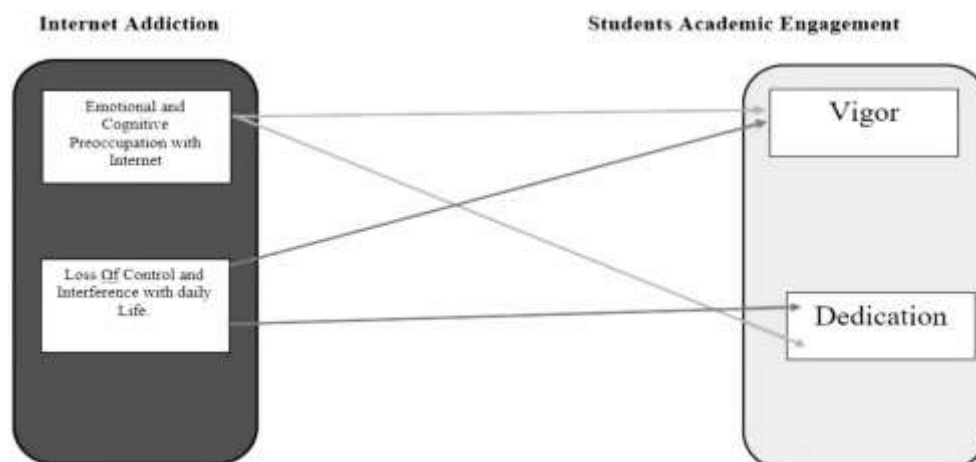


FIGURE 1: The Conceptual Framework

DATA ANALYSIS

Initially, the addiction level is identified in the sample with the help of the IAT 20 test of [28]. Internet Addiction Test (IAT) is a reliable and valid measure of internet addiction by Dr. Kimberly Young comprising 20 items that measure mild, moderate, and severe levels of internet Addiction. The results show that 64.3% of the students are moderately addicted to the internet which encompasses 76 males and 32 females. While 28.6% are mildly addicted to the internet which involves 35 males and 13 females while about 7.1% of the participants are severely addicted to the internet of which 8 are males while 4 are females. Among males and females, 63.7% of males are moderately addicted to the internet while 29.4% are mildly addicted to the internet and 6.9% are severely addicted. The case with females shows that 65.3% are moderately addicted while 26.5% are mildly addicted and 8.2% are severely addicted. This shows that the sample is moderately addicted to the internet and if proper actions are not taken, they might move to the severely addicted category (Table 2).

TABLE II: LEVEL OF ADICTION OF THE STUDENTS

Points Range	No of Students	Percentage	Male (%)	Female (%)
20-49 (Mild)	48	28.6	35 (29.4)	13 (26.5)
50-79 (Moderate)	108	64.3	76 (63.7)	32 (65.3)
80-100 (Severe)	12	7.1	8 (6.9)	4 (8.2)
Total	168	100	119	49

D. Reliability Analysis

The reliability analysis of the scale was performed using SPSS 20; as a result, the values for the study's included variables are listed in Table 3. Because the Cronbach alpha value is higher than 0.60, the results are over the limit and may be deemed reliable enough to continue the investigation.

TABLE III: RELIABILITY ANALYSIS

Constructs	Sources	Cronbach alpha α
Internet Addiction	Young, K.S (2004)	0.91
Emotional and cognitive pre-occupation with internet	Faraci, P., Craparo, G., Messina, R., & Severino, S. (2013)	0.89
Loss of control and interference with daily life	Faraci, P., Craparo, G., Messina, R., & Severino, S. (2013)	0.86
Academic engagement of Students	Spector, P. E., & Brannick, M. T. (2009)	0.82
Dedication	Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006)	0.80
Vigor	Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006)	0.79

E. Mean, Standard Deviations and Correlation

Means, Standard Deviations and Correlations. It also mentions the Cronbach alpha value of the Variables. The control variables (age, gender, and education) are also included. The mean for emotional and cognitive preoccupation with the internet (ECPI) has a mean of 39.79, mean for loss of control (LOC) and interference with daily life is 34.09, mean for vigor is 34.99 while for dedication is 20.91 i.e., more clustered around the mean. In Table 4, there exists a correlation between vigor and ECPI, vigor and LOC, Dedication, and LOC while there exists a very low correlation between dedication and ECPI. It is shown in Table IV.

TABLE IV: Mean, Standard Deviation and Correlation

No		1	2	3	4	5	6	7	M	Std. dev
1	ECPI	1							39.79	9.26
2	LOC	.73**	1						34.09	6.06
3	Vigor	-.39**	-.58**	1					34.99	5.38
4	Dedication	-.28*	-.49**	.78**	1				20.91	5.05

5	Age	.43**	.25	.05	.25	1			2.64	.71
6	Gender	-.23	-.09	-.32*	-.27	.09	1		2.31	.51
7	Education	.07	-.04	.26	.43**	.31*	.26	1	2.75	.64

According to Table V, $F_{6,257} = 14.397$, $p < 0.05$, the independent variables emotional and cognitive obsession with the internet, as well as loss of control and interference with daily life, were substantially associated to the dependent variable vigor and dedication. The R-value is 0.661 and the r square value is 0.424, showing that internet addiction features - loss of control and interference with daily life, as well as emotional and cognitive preoccupation with the internet - can predict 29.4% of the variance in students' vigor. Similarly, internet addiction characteristics can explain 31.9% of the variance in predicting dedication, namely loss of control and interference with daily life, as well as emotional and cognitive obsession with the internet $F(6,257) = 14.796$ with $p < 0.05$.

TABLE V: Mean, Standard Deviation and Correlations

Predictor	Dependent Variable									
	Vigor					Dedication				
	B	SE	Beta	t	Sig.	B	SE	Beta	t	Sig.
Constant	35.345	2.921		19.467	.000	25.918	3.195		12.113	.000
ECPI	-.041	.059	-.168	-.727	.641	-.115	.167	-.118	-.191	.947
LOC	-.431	.074	-.569	-6.356	.011	-.441	.083	-.519	-5.714	.001
Age	.514	.643	.067	.869	.561	2.218	.724	.256	2.164	.164
Gender	-3.137	.852	-.388	-4.159	.001	-3.172	.965	-.353	-4.581	.112
Education	2.511	.671	.286	3.572	.126	4.144	.767	.438	5.741	.111

$R=0.661$ R square = 0. 424 $F(6, 257) = 14.397$ $p=0.00$ || $R=0.676$ R square = 0. 431 $F(6, 257) = 14.796$ $p=0.00$

The primary contributing value β in Table 5 is -0.569, indicating that loss of control and interference with everyday life is the key factor affecting the students' energy. The same element appears to have an impact on the student's devotion level, with a β score of -0.519. Then comes emotional and cognitive online obsession, which has a very minor but considerable impact on the student's vigor with $\beta = -0.168$. While the final -0.118 β value is the least significant result, it indicates a less substantial association between emotional and cognitive online obsession and devotion.

RESULT

Table 1 demonstrates that numerous variables have significant correlations of 0.01 or higher. Therefore, it was necessary to determine whether there existed multicollinearity among the variables. The findings demonstrated that there was no multicollinearity among the variables, as indicated by the variance inflation factors (VIF) value being substantially below the specified cutoff of 3. The table also displays the variables' means, standard deviations, and correlations.

H1: ECPI has a negative impact on students' vigor

If predicted, as a student's emotional and cognitive dependence on the internet increases, it will have a detrimental impact on their vitality. The students' motivation for their studies will suffer as they spend more and more time online, such as on WhatsApp, Facebook, and YouTube. It will lessen the student's energy, which will result in a drop in academic involvement. The findings in Table 5 demonstrate a negative association between vigor and emotional and cognitive online preoccupation, indicating that as these preoccupations increase, vigor in studies declines ($\beta = -0.57$, $p < 0.05$).

H2: LOC has a negative impact on students' vigor

The second theory is that pupils' energy levels drop when they feel helpless or when their regular routines are disrupted. When students show signs of excessive use of the internet, smartphones, and other electronic devices, they can become so absorbed in what they're doing that they lose track of time and fail to complete important daily tasks like completing homework or attending class. Students are less motivated to learn when they feel less in charge of their environment. Age, education, and gender are all included as potential confounding factors. The data in Table 5 confirms our prediction that a negative correlation exists between students' perceptions of their own lack of control and their levels of motivation and engagement in their everyday lives. Students' energy levels drop dramatically when they feel less in charge of their lives and more obstacles are placed in their way ($\beta = -0.457$, $p < 0.05$).

H3: ECPI has a negative impact on students' dedication.

The third hypothesis is that students' emotional and cognitive involvement with the internet has a negative correlation with their commitment to their studies. Students with internet addiction are more prone to spend excessive amounts of time engaged in activities such as IMing, Facebook, YouTube, online gaming, etc., which can lead to feelings of envy, burnout, despair, and other mental health problems. As a result, students' motivation dropped. Table 5 shows that there is a small inverse correlation between students' emotional and cognitive attachment to the internet and their commitment to their studies. ($\beta = -0.007$, $p < 0.005$).

H4: LOC has a negative impact on students' dedication.

Lastly, as predicted, disruptions to students' daily lives have a detrimental impact on their motivation. When a student has less self-control over his use of online activities, he is more likely to become immersed in them, which in turn causes him to pay less attention in class. They become so preoccupied with the internet conversations and movies that they stop paying attention to their schoolwork. Table 5 also reveals a negative correlation between students' feelings of helplessness and their level of commitment to school ($\beta = -0.408$, $p < 0.05$).

Thus, all the above hypothesis is supported by our results displayed in the above tables.

DISCUSSION AND CONCLUSION

Students' access to the internet and mobile devices has had a tremendously good impact on their ability to learn and succeed in a variety of disciplines and courses (Woodcock et al., 2012). However, few studies have attempted to investigate how internet addiction impairs academic learning, despite the fact that the internet and smartphones have been around for quite some time, providing users with a number of benefits. This research has sought to bridge this knowledge gap by exploring the effects of internet addiction on students' motivation and persistence in the classroom. This research has focused on two aspects of internet addiction: emotional and cognitive preoccupation with the internet, and loss of control and interference with daily life.

Findings from the survey indicate that just 6.58 percent of kids have a significant internet addiction. When internet use is this extreme, it's having a major impact on daily life. Problems associated with excessive internet use might have multiple causes, all of which should be considered. However, 63.16 percent of students fall into the moderate category of internet addiction, which indicates that they experience problems related to internet use on a more frequent or occasional basis and that these issues have the potential to become serious if appropriate measures are not implemented. The author states that a score of moderate implies that internet addiction is common. Students who spend more time on the internet or gadgets connected to the internet are more likely to develop an addiction to the internet.

The results show that students' academic motivation is negatively affected by their internet addiction (including ECPI and LOC). While emotional and cognitive concern with the internet might drain a student's energy, the effects of the loss of control and interference with daily life can have a much more significant influence. And this contradicts past research (Cernja, 2019) that found students often let their lives spiral out of control when they focus too much on their education.

Similarly, when it comes to students' attention to their studies, data suggest that emotional and cognitive preoccupation with the internet has relatively little detrimental influence, however the loss of control and interference with everyday life has a significant negative impact. Although internet addiction's emotional and cognitive preoccupation as well as its loss of control and interference with everyday life are indicators of its detrimental impact on students' involvement, the contribution of LOC remains high as compared to ECPI.

Therefore, it is important to investigate the causes of students' lack of self-control and its disruptive effects on their everyday life in order to propose effective measures for mitigating this element of addiction. According to the data, excessive internet use has a negative impact on pupils' motivation to learn. Students' daily lives are disrupted

by their excessive use of the internet because they become preoccupied with or overly reliant on online activities, such as social media. This leads to problems with time management, procrastination, and poor performance on tasks like homework and projects, as well as a lack of focus during class. To remedy this, educators must identify and address the underlying causes that lead students to rely excessively on online resources, freeing up their time and attention for what is truly important.

LIMITATIONS AND FUTURE RESEARCH

All of the information comes from a single institution during one specific time window. Consequently, a cross-sectional study with a narrow focus was done to learn about the effects of internet addiction. To learn more, though, researchers can take larger samples and perhaps do longitudinal studies in the future. Despite the fact that concerns about internet addiction have been around for years, the proliferation of the internet's many capabilities have made them more pressing than ever. It could involve a wide range of novel elements that were not taken into account here. The number of potential factors in this analysis is small. There are likely a plethora more factors that might be added to this investigation. In this article, we analyze a very basic model that does not involve any kind of moderators or mediators. The use of different mediators or moderators in future research on this topic is a promising avenue to pursue. All of the participants in this analysis are college freshmen majoring in business. It would be useful to include a wide range of levels and regions of students in the study.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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