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## STUDENT CYBERLOAFING BEHAVIOR IN LEARNING ENVIRONMENTS: A COMPREHENSIVE REVIEW

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### Abstract

With the emergence of digital technologies, educational institutions have experienced a significant transformation, bringing both opportunities and obstacles. Cyberloafing, the practice of students using the internet for non-academic purposes while studying, is a new issue. This paper provides an extensive review of the research on cyberloafing in educational environments, looking at its frequency, basic causes, and effects on students' well-being and academic performance. This study shows that multiple factors, including personality traits, self-control, academic stress, cognitive absorption, smartphone addiction, and the fear of missing out (FOMO), all have an impact on cyberloafing. Some suggest that while short periods of cyberloafing could help students relieve stress, excessive usage leads to distraction, decreased engagement, ineffective time management, and decreased academic performance. Furthermore, improper usage of digital platforms harms teacher-student interactions, classroom dynamics, and the efficacy of learning as an overall process. Institutions must use strategies for intervention such as fostering digital literacy, monitoring technology-use restrictions, and developing attractive educational environments with less distraction to minimize these adverse impacts. Future research should examine demographic factors, long-term consequences, and potential benefits of cyberloafing, like its contribution to innovation and learning by doing. Educators and regulators can develop balanced approaches for successfully implementing technology while minimizing its disruptive impacts by being aware of these challenges.

**Keywords:** Cyberloafing, Student Behavior, Digital Distraction, Academic Performance, Technology In Education, Online Learning

### 1. INTRODUCTION

The Internet is a core tool in the workplace of the 21st century and no one will doubt the popularity of the Internet and its extensive impact on human life (Holland & Bardoel, 2016). The internet has transformed the workplace and academic environments, serving as an essential tool for collaboration, communication, and access to information. In the workplace, it enables real-time communication through emails and instant messaging, fostering teamwork regardless of location. It also provides access to vast resources, enhancing productivity and efficiency (Kraus et al., 2021).

In academics, the internet opens up a world of knowledge, allowing students and educators to access research papers, online courses, and educational videos. It encourages collaboration among students globally and provides platforms for sharing ideas and projects. Additionally, the internet supports remote learning, making education more accessible and flexible. Overall, its benefits include improved communication, enhanced learning opportunities, and increased efficiency in both professional and academic settings (Haleem et al., 2022).

Although there are many advantages to the Internet, there are drawbacks as well. Information overload is a significant issue, as an excessive amount of content can cause confusion and make it difficult to identify reliable sources. Furthermore, excessive internet use can lead to reduced face-to-face social interactions, which may harm mental health and increase feelings of loneliness. The increase in online harassment and cyberbullying is another adverse effect that can have major emotional consequences for individuals, especially young users, particularly young users. Another concern is addiction, which can make it difficult for people to detach and cause them to neglect their relationships and personal obligations. Last



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but not least, privacy issues are important since personal information can be readily abused or revealed online (Stanley, 2021).

The issue of cyberloafing has become an increasing concern in the digital age, particularly in educational environments. Cyberloafing is using allotted work or study time to conduct non-work-related internet activities. The word combines the terms "loafing," which denotes indolence or aimless activity, with "cyber," which refers to the internet and digital communication (Sert and Saritepeci, 2023). This concept became popular in the early 2000s as internet access in offices increased, and it now extends to educational environments as well, as students frequently have to deal with diversions from their studies.

Students who spend time cyberloafing can take a variety of forms as browsing social media, watching videos or streaming content, playing online games, checking personal emails, shopping online, chatting with friends or family, reading non-work-related and often doing it during class time or lectures. This behavior might be attractive in a setting where technology is everywhere. Students can now engage in online distractions more easily than ever because of the widespread use of laptops and mobile devices, which highlights significant concerns about motivation, self-control, internet gaming disorder, locus of control on social appearance anxiety, and academic performance (Yilmaz et al., 2023). Students usually access the Internet for study-unrelated activities and deviate from their academic goals. This phenomenon is known as student cyberloafing (or cyber-slacking) and reflects the "dark side" of Internet usage in the learning environment (Zhou et al., 2021).

The educational influence of cyberloafing on students is important. Among the ways it can help students is by providing them with some relaxation from the stresses of educational institutions and providing students with much-needed breaks. However, excessive cyberloafing can lead to adverse impacts, including decreased academic performance, lower grades, and compromised understanding of the subject matter. Studies have shown that students who frequently engage in cyberloafing are more likely to delay, struggle with time management, and experience higher levels of stress (Metin-Orta and Demirtepe-Saygılı, 2021).

Students' cyberloafing behavior is influenced by multiple factors. Individual characteristics include personality traits, abilities for time management, and degrees of self-control are among them. External factors like the perception of academic culture and the accessibility of technology also play a significant role. In addition, the reasons for cyberloafing—which can include social connection and stress relief—provide light on why students engage in such activities despite the potential implications for their academic performance (Durak and Saritepeci, 2018).

It is crucial to investigate methods for reducing the adverse effects of cyberloafing in light of these concerns. This includes fostering digital literacy, encouraging mindfulness in the use of technology, and creating engaging learning environments that reduce the temptation to stray from academic tasks. Furthermore, institutions may consider implementing policies that address cyberloafing while promoting a balanced approach to technology use.

## 2. CONCEPT AND BACKGROUND

### 2.1 Introduction to Cyberloafing

Cyberloafing refers to the act of engaging in non-work-related activities online during periods designated for study or work. The concept of cyberloafing has evolved significantly alongside technological advancements and the expansion of digital devices. In the literature, cyberloafing refers to a set of behaviours in which an employee engages in electronic activities that their direct supervisor would not consider job-related (Mashal, 2020).

In the early days of the internet, the main concern was that it might create distractions in the workplace and education. The accessibility of the internet extended the scope of cyberloafing activities as personal computers, as well as mobile devices, became more prevalent. The prevalence of cyberloafing, particularly in business environments, was first studied in the early



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2000s. Cyberloafing has first been studied in work settings and proposed as one of the forms of counterproductive work behavior since it depletes employees' energy and time, thus interfering with their productivity. Given these negative consequences, researchers' interest in understanding the misuse of the Internet in the workplace has increased (Chassiakos and Stager, 2020).

Accordingly, considerable research has been conducted on a wide range of individual and organizational factors regarding cyberloafing including age, gender, occupational status, income, education, and work autonomy, self-control, personality traits, perceived justice, organizational characteristics, routinized Internet use at work and perceived Internet utility (Metin-Orta and Demirutku, 2020).

However as educational institutions integrated technology into their academic programs more and more, the emphasis moved to how students performed. With the emergence of social media and smartphone applications that allow for rapid contact, cyberloafing has become recognized as a prevalent issue among students (Zhou et al., 2021). The need for investigation into student cyberloafing has increased due to the rise of learning environments online during and after the COVID-19 epidemic. The divisions between study and fun have become increasingly unclear as educational institutions have moved to online and blended formats, highlighting additional concerns regarding the causes and effects of cyberloafing behavior in this environment (Mihelič et al., 2022).

## 2.2 Cyberloafing in an Educational Setting

Cyberloafing in education is defined as students and teachers using the internet and other associated technologies during designated teaching and learning time to accomplish personal goals at educational institutions (Alyahya et al., 2022). Technology is generally used in academic settings for entertainment, such as email correspondence, internet buying, video watching, and other personal tasks. There are currently very few empirical studies accessible, and the research on cyberloafing in educational contexts is still in its early stages. Academics propose that cyberloafing may harm the effectiveness of teaching and learning in the classroom (Sharma and Felix, 2023). Cyberloafing can have an impact on how productive teachers teach. It may influence students' cognitive resources, which might cause them to lose attention and become less involved in educational activities. It harms their academic performance (Alyahya et al., 2022)

**Cyberloafing in the classroom:** The effects of cyberloafing at the school are relatively well established as it has been related to poor learner outcomes, such as lower classroom performance and Grade Point Average (GPA) because it forces students to multitask, reduces time, energy, and attention that could have been devoted to learning and distracts students' attention and inhibits deeper learning (Wu et al., 2018). The research of Rana (2019) attempts to understand the factors that influence students' cyberslacking intentions in class, by extending the Theory of Planned Behavior with lack of attention, apathy towards course material, distraction by others, perceived threat, and escapism and findings indicated that constructs such as lack of attention, apathy towards course material, and distraction by others are significant predictors of attitude. Further, attitude, subjective norm, perceived behavioral control, perceived threat, and escapism were found to significantly influence students' cyberslacking intentions (Rana et al., 2019).

**Cyberloafing out-of-classroom:** Cyberloafing outside of class can have mixed effects. While many students waste time and lose focus, some find inspiration and keep learning even after the school day ends. Studies have indicated a negative correlation between a college student's GPA and the number of idle Internet activities they participate in at home. However, students may also benefit from cyberloafing outside of class to help them recover from academic stress and exhaustion (Wu et al., 2018).

## 2.3 Factors Contributing to Cyberloafing Among Students

**Personality traits:** Research has explored the impact of various personality traits on cyberloafing behaviors, revealing nuanced relationships. Özcan and Koç (2022) found that personality traits influence cyberloafing indirectly through the Fear of Missing Out (FoMO), suggesting that increased conscientiousness may still lead to higher cyberloafing (Özcan & Koç,



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2022). Additionally, Jia et al. (2013) reported that extraversion positively correlates with cyberloafing, while conscientiousness, emotional stability, and openness show negative associations. In contrast, agreeableness was deemed nonsignificant in its relationship with cyberloafing. This suggests that individuals high in extraversion may be more prone to engage in cyberloafing, while those with higher conscientiousness and emotional stability are less likely to do so (Jia et al., 2013).

Further studies have enhanced understanding of the connections between personality traits and cyberloafing. Servidio (2014) indicated that traits such as extraversion, openness, and agreeableness increase the risk of Internet addiction, which may contribute to cyberloafing behaviors (Servidio, 2014). Varghese and Barber (2017) highlighted that role conflict intensifies the positive link between neuroticism and cyberloafing while reinforcing the negative relationship between agreeableness and cyberloafing (Varghese and Barber, 2017). Lastly, Koay and Poon (2022) identified that extraversion, conscientiousness, and neuroticism significantly relate to various dimensions of cyberslacking in online classes, while traits like agreeableness and intellect/imagination do not significantly correlate. Together, these studies illustrate a complex interplay of personality traits that can either facilitate or hinder cyberloafing in different contexts (Koay and Poon, 2022).

**Self-Control:** Role of self-control: Self-control moderates the relationship between academic stress and cyberloafing. Students with higher self-control are less likely to engage in cyberloafing despite experiencing academic stress (Nweke et al., 2024). Zhou (2021) supports this by suggesting that individuals with high trait self-control are less likely to cyberloaf, regardless of academic pressures. Conversely, those with lower self-control may experience fluctuating levels of cyberloafing (Zhou et al., 2021).

**Impact of self-control:** Khalifeh (2024) indicates that students' self-control and readiness for smartphone e-learning can significantly decrease cyberloafing activities among higher education students (Khalifeh et al., 2024). The effect of self-regulation on smartphone addiction was negative and significant. In addition, neither self-regulation nor general self-efficacy affected cyberloafing (Gökçearsan et al., 2016).

**Cognitive absorption and social well-being:** Cognitive absorption is a deep attachment experienced by individuals when using information technology, be it computers, cell phones, or the Internet. Cognitive absorption depends on intrinsic motivation for pleasure and satisfaction (Nurhidayah and Wahyanti, 2021).

The study by Magistarina (2024) significant positive relationship between cognitive absorption and cyberloafing and a considerable positive relationship was also found between cyberloafing and social well-being. This investigation has found that cognitive absorption has a significant positive relationship with social well-being (Magistarina et al., 2024).

The findings of Lu (2024) reveal that role stress predicts perceived insider status and emotional exhaustion significantly. Insiders are typically trusted person who understand the inner workings, culture, and dynamics of the group and Emotional exhaustion is feeling completely drained and worn out due to too much stress over time. It makes feel tired, unmotivated, and disconnected from work or life. It perceived insider status negatively correlates with cyberloafing while emotional exhaustion positively correlates with cyberloafing (Lu et al., 2024).

The study by Durak and Saritepeci (2018) highlights that smartphone addiction and metacognitive awareness significantly predict cyberloafing behaviors among high school students. The study revealed that students with higher levels of smartphone addiction and metacognitive awareness tend to engage more in cyberloafing, particularly when faced with easier tasks (Durak & Saritepeci, 2018).

The study of Zhu (2023) highlights the negative impact of cyberloafing on creativity. It suggests that excessive non-productive use of social media detracts students from creative output. Despite this, the positive indirect effect of knowledge acquisition was stronger than the negative effect of cyberloafing. This suggests that when used effectively, social media can have an overall beneficial influence on students (Zhu et al., 2023). While, the research by Gökçearsan (2016) revealed that



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higher levels of social media engagement were associated with increased knowledge acquisition, which in turn enhanced creativity (Gökçearsan et al., 2016).

**Smartphone addiction:** One of the issues of greatest interest about stress, academic performance, and cyberloafing is the use of mobile devices, especially smartphones. While the use of smartphones for learning activities provides teaching opportunities, it can also harm learning environments and processes (Wagner et al., 2012). Excessive smartphone addiction tends to demonstrate higher levels of cyberloafing during online synchronous lessons (F. G. K. Yilmaz et al., 2023). Simón (2024) revealed a negative relationship between challenge stressors and smartphone addiction. It indicates that although smartphones serve as educational tools, their overuse may result in cyberloafing. The findings indicate that challenge stressors could play a role in minimizing smartphone addiction, which may lead to fewer distractions in educational settings (Simón et al., 2024).

The findings of Gürbüz (2023) reveal significant positive correlations between fear of missing out (FoMO), cyberloafing, and smartphone addiction among university students. The study demonstrates that FoMO plays a mediating role, indicating that increased cyberloafing behaviors contribute to higher levels of smartphone addiction through heightened FoMO (Gürbüz et al., 2023). The study of Gözümlü (2020) found that smartphone addiction negatively impacts academic performance. It also identified a significant relationship between smartphone addiction, nomophobia, and cyberloafing, indicating that excessive smartphone use can lead to distractions in educational environments (Gözümlü et al., 2020).

**Loneliness:** – The study of Yang (2022) suggests that workplace loneliness is an important hidden danger that leads to cyberloafing because lonely students suffer more from ego depletion (Yang et al., 2022). University policies and interventions were required to consider loneliness to be a crucial factor influencing behavior regarding non-educational digital technology usage. A university could prioritize creating supportive communities and social networks to mitigate feelings of loneliness among students. By organizing events, clubs, or support groups aimed at fostering meaningful connections, a university could provide students with opportunities to build relationships and combat loneliness (Vicary et al., 2024).

The results of Rinaldi (2024) showed that gender significantly moderated the influence of loneliness on cyberslacking. This suggested that the relationship between loneliness and cyberslacking differed between males and females, implying the importance of gender-related factors in shaping online behavior among students (Rinaldi et al., 2024). For instance, Ma (2022) found that males and females had different patterns of interaction in online environment, with males leaning more toward recreational satisfaction and females toward interpersonal communication and social satisfaction (Ma, 2022). The results contextualized this analysis, indicating that gender-based online preferences and behaviors could moderate how loneliness affected cyberslacking.

**Fear of missing out (FoMO):** FoMO was formally conceptualized in academic literature as a pervasive apprehension characterized by the fear that others might be enjoying rewarding experiences in which one was not involved. FoMO was advanced as pervasive apprehension regarding the fear of missing important career opportunities during one's absence or disconnection from work (Przybylski et al., 2013).

The research by S. Yang and Tinmaz (2024) found that workplace FoMO (Fear of Missing Out) is closely linked to technology. Because of social media and constant updates, people feel they are always aware of what's happening around them, which can increase their anxiety about missing out on work-related events or information (S. Yang and Tinmaz, 2024). The study by Gürbüz (2023) suggests that there is a significantly positive correlation between undergraduates' FoMO levels and smartphone addiction. According to this finding, FoMO on developments on social networks triggers heavy and risky smartphone use, thereby increasing the risk of smartphone addiction in university students. Indeed, some studies point to a significantly positive correlation between FoMO and smartphone addiction, describing FoMO as one of the predictors of smartphone addiction (Gürbüz et al., 2023).



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The findings of the study by Senel (2019), among the reasons for cyberloafing, are the notifications students receive on their smartphones, their desire to communicate, feelings of curiosity, and the need to spend time more pleasurably. Since the reason “feelings of curiosity” is an important indicator of FoMO, it points to a correlation between cyberloafing and FoMO (Senel et al., 2019).

## 2.4 Impacts of Cyberloafing on Academic Performance and Behavior

**Distraction and Loss of Focus:** A study by (Metin-Orta and Demirtepe-Saygılı, 2021) found that students who frequently cyberloaf during classes report lower levels of engagement and participation, negatively impacting their ability to absorb course content (Metin-Orta & Demirtepe-Saygılı, 2021). The study of Zhu (2023) highlights the negative impact of cyberloafing on creativity. It suggests that excessive non-productive use of social media detracts students from creative output (Zhu et al., 2023).

**Correlation Between Cyberloafing and Academic Stress:** Nweke (2024) reports a strong positive correlation between students' cyberloafing and academic stress, indicating that higher academic stress is associated with greater cyberloafing (Nweke et al., 2024).

**Decreased Academic Performance and Cumulative Effects on GPA:** Cyberloafing has negatively influenced students' academic performance by distracting them from learning processes in the classroom, leading to more uncooperative behavior (Soh et al., 2018). Cyberloafing is associated with poor low outcomes, such as low classroom performance and GPA, because it compels students to perform multiple tasks, reducing time, energy, and attention that could be allocated to learning. It also distracts the students' attention and prevents them from focusing on learning. Cyberloafing by students during class reduces student participation and active participation in learning activities in the classroom (Dmour et al., 2020).

## 3. RESEARCH GAP

Despite the growth in studies on student cyberloafing in academic settings, there are still several important gaps that require further study. The study of Marumpe (2023) primarily focuses on the influence of conscientiousness and self-control on cyberloafing behavior, indicating a gap in exploring other psychological or environmental factors that may also contribute to this phenomenon. It suggests a need for broader studies across different educational institutions and diverse student populations (Marumpe et al., 2023). While previous research on cyberloafing among students has largely focused on its negative impact on academic performance and time management, there remains a significant gap in understanding how some students leverage this downtime for productive learning.

Existing studies often overlook the potential benefits of cyberloafing, such as fostering creativity or enhancing self-directed learning. The majority of research has focused on analyzing the types and frequency of cyberloafing practices, but they often disregard the complex contextual and psychological factors that lead to these distractions. Addressing these gaps could inform educators and policymakers in developing targeted interventions that enhance the educational experience while reducing distractions associated with cyberloafing.

Future studies can expand examining the long-term impacts of challenge and obstacle stressors on academic performance across diverse vocational training programs and by incorporating additional variables such as emotional intelligence and coping strategies (Simón et al., 2024). Future research should explore the long-term effects of cyberloafing and its relationship with various demographic and psychological factors. Additionally, investigations could examine how educational institutions can create environments that encourage beneficial cyberloafing behaviors, such as integrating technology in ways that allow for both relaxation and learning. By addressing these gaps, future studies can provide valuable insights into optimising student engagement and promoting a balanced approach to technology use in educational settings. Understanding this phenomenon is crucial for fostering an environment conducive to learning and student success.



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#### 4. METHODOLOGY

Discussing the current state of research on cyberloafing in educational institutions relevant empirical and theoretical literary papers are gathered from notable publishing houses like Journal of Human Resources, International Journal of Academic, Global Journal of Business and Social Sciences Review, European Journal of Cultural Studies, SAGE, JSTOR, and Springer Taylor and Francis, as well as from Emerald, Elsevier, and Journal of Emerging Technologies. A variety of focused keywords, such as "Cyberloafing", "educational institutions", "Personality traits", "Cognitive absorption", "social well-being", "self-control", "smartphone addiction" and "Fear of missing out (FOMO)" are utilized to find appropriate resources. In total, 70 papers were reviewed, with 40 selected for in-depth analysis based on relevance to the topic. Additionally, references from these studies were manually examined to identify supplementary sources

#### 5. CONCLUSION

One of the most challenging issues facing the educational system is student cyberloafing, a relatively recent occurrence in education. Demographic factors, the Big Five personality traits, self-control, level of work engagement, work/family duties, social norms, attitudes, perceived behavioral control, and emotional intentions are important predictors of cyberloafing (Mashal, 2020). The study by Nweke (2024) identified academic stress, fatigue, and self-control as significant factors influencing university students' cyberloafing behaviors (Nweke et al., 2024). The investigation has found that cognitive absorption has a significant positive relationship with social well-being (Magistarina et al., 2024). The study by (Rana et al., 2019) found that lack of attention, apathy towards course material, and distraction by others significantly influence students' attitudes towards cyberslacking in class (Rana et al., 2019).

In conclusion, this study reveals that students' cyberloafing significantly impacts academic performance and psychological well-being. While it can provide necessary breaks and opportunities for skill development, the risks associated with excessive internet use during academic hours are substantial. Educational institutions must develop comprehensive strategies to monitor and guide internet usage effectively. Future research should explore the long-term effects of cyberloafing and its relationship with various demographic and psychological factors. Understanding this phenomenon is crucial for fostering an environment conducive to learning and student success.

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