The Influence of Digital Burnout, Screen Time, and Self Control on the Mental Health of Gen Z in the Digital Age among Students of the Faculty of Economics and Business at the Universitas Negeri Jakarta

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Abstract. The rapid development of digital technology has brought both opportunities and challenges to Generation Z, particularly university students who are constantly engaged in screen based academic and social activities. This study aims to analyze the influence of digital burnout and screen time on the mental health of Generation Z students, with stress acting as a mediating variable. A quantitative research approach was employed, involving 100 undergraduate students from the Faculty of Economics and Business, Universitas Negeri Jakarta. Data were collected using a structured questionnaire and analyzed through Structural Equation Modeling (SEM) with Partial Least Squares (PLS) using SmartPLS 3.0 software. The findings indicate that both digital burnout and screen time have significant direct effects on mental health. Furthermore, stress was found to significantly mediate the relationship between these digital factors and mental health outcomes. Among the variables, screen time showed the strongest total effect when considering both direct and indirect paths. These results highlight the psychological impact of digital lifestyles on young students and emphasize the need for integrated interventions that promote mental wellness in academic settings. Educational institutions are encouraged to develop comprehensive strategies, including digital behavior education and stress management programs, to support students' psychological resilience in the digital era.

Keywords: Digital Burnout; Screen Time; Stress; Mental Health; Generation Z; University Students; Digital Lifestyle; Higher Education

Introduction

The rapid development of digital technology in the 21st century has significantly changed the way individuals live, interact, and work, especially among Generation Z, a group born in the era of smartphones, social media, and constant connectivity. As a digital generation, Gen Z individuals are very familiar with technology, often spending hours each day interacting with screens for academic, social, or entertainment purposes (Montag & Elhai, 2020). While digital tools offer convenience and efficiency, excessive and prolonged use has sparked new forms of psychological stress and mental fatigue, raising concerns among educators, psychologists, and public health experts (Dhir et al., 2021).

One of the main phenomena emerging from this digital lifestyle is digital fatigue, a state of emotional, mental, and physical exhaustion caused by continuous interaction with digital platforms. Unlike traditional forms of fatigue, digital fatigue is characterized by symptoms such as irritability, cognitive overload, sleep disturbances, reduced motivation, and even

aversion to digital technology (Mheidly et al., 2020). Students who are constantly exposed to virtual classes, assignments, and online social interactions are particularly vulnerable to this condition (Putra & Yuniarti, 2022). This phenomenon becomes even more concerning when combined with prolonged screen time, which has been linked to various negative health impacts including eye strain, sedentary behavior, circadian rhythm disruptions, and reduced emotional regulation.

Beyond technological stressors, psychological stress remains a widespread challenge among university students. The pressure to excel academically, maintain social relationships, and prepare for an uncertain job market has been exacerbated by a digital ecosystem that fuels constant comparison and information overload. For Gen Z students, this pressure is no longer episodic but chronic, affecting not only productivity but also mental well being (Keles et al., 2020).

In Indonesia, awareness of mental health has increased significantly in recent years, but many young people still lack access to effective support systems or the vocabulary to express their psychological struggles (Komalasari & Setiawan, 2023). National surveys and academic studies indicate that mental health issues among university students are on the rise, often manifesting as anxiety, depression, emotional exhaustion, and feelings of disconnection (Setiawati & Gunawan, 2022). Unfortunately, these symptoms are often dismissed as part of the "normal experience" of being a student and left untreated (Yuliani & Arsyad, 2020). Although research interest in mental health and digital behavior is growing, most studies to date have only analyzed variables such as digital fatigue, screen time, and stress in isolation (Montag & Elhai, 2020). Little attention has been given to the combined influence of these variables on the mental health of Generation Z, particularly in the context of rapid digitalization and academic culture in Indonesia (Saputra & Lestari, 2023). This represents a critical gap in the literature that needs to be addressed, as these variables are not mutually exclusive but interact synergistically to influence psychological outcomes.

This study aims to fill this gap by analyzing the influence of digital fatigue, screen time, and stress on the mental health of Generation Z in the era of digitalization. Focusing on students at the Faculty of Economics, University of Jakarta, who are a high risk group due to intense digital engagement and academic pressure, this research aims to provide empirical insights that can support mental health interventions, digital well being programs, and policy development in higher education institutions.

The objective of this research is to provide a comprehensive understanding of how digital lifestyles, shaped by excessive screen exposure and psychological stress, influence mental health outcomes among Generation
Z. Through a quantitative approach, this study aims to uncover significant correlations among these variables while offering recommendations for more integrative and preventive strategies to support student well being in the digital age.

Methods

This study uses a quantitative research design with a survey method to examine the influence of digital burnout, screen time, and self control on the mental health of Gen Z in the digital age. This approach is designed to test the causal relationship between these variables using Structural Equation Modeling (SEM) with Partial Least.

Participants

Titled "The Influence of Digital Burnout, Screen Time, and Self Control on the Mental Health of Gen Z in the Digital Age among Students of the Faculty of Economics and Business at the State University of Jakarta," this study specifically targets students of the Faculty of Economics and Business at the State University of Jakarta who experience digital burnout, high screen time, and psychological pressure (stress) that impacts their mental health. Given the

competitive academic environment and high expectations for academic performance, students in this population are a relevant subject for examining the dynamics between digital factors and their psychological conditions. Due to the large population size, sampling techniques were applied, involving a total of 100 respondents. The primary objective of selecting these participants is to gain a comprehensive understanding of how digital burnout, screen time, and stress interact and influence the mental health of Gen Z students, particularly within the context of a massively digitized academic environment.

Research Instrument & Procedure

Research Title

The Influence of Digital Burnout, Screen Time, and Self Control on the Mental Health of Gen Z in the Digital Age among Students of the Faculty of Economics and Business at the State University of Jakarta

Instrument and Procedure

The main research instrument was a structured questionnaire developed by the researcher, distributed online via Google Forms. The questionnaire was designed to measure four constructs: digital burnout (X1), screen time (X2), stress (Z), and mental health (Y). Items were measured using a 5 point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The instrument underwent expert validation and a pilot test, which confirmed its reliability with Cronbach's Alpha values exceeding 0.70 for all constructs.

Data Analysis

Data were analyzed using Structural Equation Modeling with the SmartPLS 3.0 software. The analysis included tests for convergent validity (outer loading), construct reliability (Cronbach's Alpha and Composite Reliability), and discriminant validity (Fornell–Larcker criterion). The structural model was then tested to examine direct and indirect effects among variables, particularly focusing on the mediating role of academic awareness.

Result

Submitted responses revealed valuable insights into respondent characteristics. First, analysis was initiated by examining the answers submitted for each question. In the initial segment, respondents were asked to provide demographic information, including their gender. This demographic breakdown is essential to understanding the distribution of respondents, which may influence levels of stress and mental health, particularly in the context of digital lifestyle factors.

A total of 100 responses were collected via an online questionnaire distributed through Google Forms. Among the demographic indicators analyzed, gender was one of the key aspects. The results showed that the majority of respondents were female. The following section presents the detailed distribution of respondents based on gender:

Table 1: Table of respondents by gender

Gender	Number of respondents	Presentage (%)
Laki-laki	12	12%
Perempuan	88	88%

The dominance of female respondents in this study may reflect the composition of students in the study program, which generally has more female students. In addition, this finding is relevant to previous studies showing that female students tend to report higher levels of

psychological stress and emotional sensitivity, which may influence the outcomes of mental health studies.

In addition to gender, another characteristic analyzed in this study is the semester or level of study of students. This analysis is important to understand at what stage students begin to face more complex academic and digital demands, including exposure to screen based activities that may contribute to stress and burnout. The following is the distribution of respondents by semester of study:

Table 2: Table of respondents based on semester

Semester	Number of respondents	Presentage (%)
Semester 2	27	27%
Semester 4	69	69%
Semester 6	4	4%

Based on data from the questionnaire, the majority of respondents were in semester 4 (69%), followed by semester 2 (27%), and a small portion in semester 6 (4%). Students in semester 4 are typically in the phase of increasing academic intensity, with multiple assignments, deadlines, and digital coursework, which aligns with the heightened risk of digital burnout and psychological stress. The composition of this sample strengthens the contextual relevance of this study in understanding how digital demands affect Gen Z's mental health.

Result

Measurement Model Test (Outer Model)

Table 3: Convergent Validity by measuring the outer loadings value

Construct	Indicator	*Outer Loading* Value	Conclusion
tal Burnout (X1)	X1.1	0.777	Valid
	X1.2	0.765	Valid
	X1.5	0.838	Valid
Screen Time(X2)	X2.1	0.793	Valid
	X2.2	0.826	Valid
	X2.3	0.841	Valid
	X2.4	0.805	Valid
	X2.5	0.723	Valid
ıtal Health (Y)	Y1	0.845	Valid
	Y2	0.883	Valid
	Y4	0.894	Valid
	Y5	0.826	Valid
Stress (Z)	Z1	0.807	Valid
	Z2	0.748	Valid
	Z4	0.76	Valid
	Z5	0.807	Valid

All indicators within constructs X1, X2, Y, and Z demonstrated outer loading values above the threshold of 0.70, indicating strong convergent validity. This confirms that each item reliably

reflects its intended construct. The consistently high loadings suggest that the measurement model is robust and well structured, with no indicators falling below acceptable limits.

These findings support the adequacy of the instrument in capturing the constructs of digital burnout, screen time, stress, and mental health. With convergent validity established, the model is well positioned for further analysis, including construct reliability and discriminant validity testing. The results strengthen the methodological foundation of the study, ensuring that subsequent interpretations of structural relationships can be made with confidence.

Table 4: Reliability Test

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
X1.	0.711	0.732	0.836	0.630
X2.	0.857	0.864	0.898	0.638
Y	0.885	0.888	0.921	0.744
Z	0.787	0.790	0.862	0.610

Reliability testing confirmed that all constructs in the measurement model demonstrate strong internal consistency. Indicators such as Cronbach's Alpha, Composite Reliability (rho_A and rho_C), and Average Variance Extracted (AVE) all exceeded the commonly accepted thresholds, supporting the robustness of the instrument.

Although one construct (X1) approached the lower boundary for Cronbach's Alpha, its values remained within acceptable limits, indicating reliable measurement. Notably, the highest reliability was observed in construct Y, reflecting a particularly strong alignment between indicators and the latent variable. Similarly, AVE values above 0.50 across all constructs confirmed that a substantial proportion of variance in indicators is explained by their respective constructs.

These results strengthen confidence in the instrument's consistency and its ability to capture the intended dimensions. With both validity and reliability established, the model is considered fit for further structural analysis, ensuring that subsequent conclusions drawn from the data rest on a sound measurement foundation.

Hypothesis Test

Table 5: Table of Hypothesis Test of Direct Influence

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
X1. -> Y	0.283	0.284	0.076	3.711	0.000
X1. -> Z	0.316	0.314	0.082	3.872	0.000
X2. -> Y	0.312	0.311	0.106	2.938	0.003
X2. -> Z	0.567	0.572	0.067	8.466	0.000
Z -> Y	0.376	0.379	0.114	3.305	0.001

The results of the direct effect hypothesis testing indicate that all proposed paths in the structural model are statistically significant. This is supported by T statistics exceeding the

critical value of 1.96 at a 5% significance level and p values below 0.05—most even below 0.001—demonstrating robust support for the hypothesized relationships.
Notably, both digital burnout (X1) and screen time (X2) have significant direct effects on mental health (Y) and on stress (Z), with screen time (X2) showing the strongest direct effect on stress. Additionally, stress (Z) significantly affects mental health (Y), reinforcing its role as a mediating variable in this model.
These findings validate the structural model and highlight the interconnected influence of digital burnout, screen time, and stress on students' mental health. The significance of each path supports strategic implications for mental health awareness, particularly in the digital academic environment faced by Gen Z students.

Table 6: Table of Hypothesis Test of Indirect Influence

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
X1. -> Z -> Y	0.119	0.120	0.050	2.368	0.018
X2. -> Z -> Y	0.213	0.215	0.067	3.195	0.001

The results of the indirect effect analysis confirm that both digital burnout and screen time significantly influence mental health through the mediating variable stress. The mediation effect of stress is statistically significant in both pathways, with a stronger influence observed in the screen time → stress → mental health pathway.

These findings highlight the important role of stress as a mediator in strengthening the relationship between digital burnout, screen time, and mental health among Gen Z students. While the indirect effect of digital burnout is moderate, the indirect influence of screen time is more pronounced. This suggests that prolonged screen exposure may contribute to mental health problems more substantially when stress is elevated.

Overall, the validated mediation effects support the structural integrity of the model and suggest that interventions targeting stress reduction may amplify the effectiveness of digital wellness efforts and mental health support programs.

Discussion

The findings of this study indicate that digital burnout and screen time significantly contribute to mental health outcomes among Generation Z students, particularly when mediated through the presence of psychological stress. However, the impact of these factors cannot be evaluated solely based on their existence, but rather on how they are internalized, managed, and experienced by students in their daily academic routines.

First, digital burnout does not merely represent temporary tiredness but reflects deeper emotional exhaustion caused by the overuse of digital technologies. Students exposed to repetitive online classes, deadlines, and digital multitasking are prone to losing focus, motivation, and psychological resilience. Although digital tools are intended to enhance productivity, their excessive use may lead to the opposite—reducing engagement and elevating stress levels.

Second, screen time was shown to significantly predict both stress and mental health issues. The amount of time students spend online, whether for academic, social, or entertainment purposes, may blur personal boundaries and disrupt rest, sleep, and emotional regulation. This aligns with research highlighting the negative effects of prolonged screen use on cognitive and emotional functioning.

The mediating role of stress is central to understanding the full impact of digital behavior. Students who experience high levels of burnout and screen exposure are more likely to feel overwhelmed, anxious, and emotionally fatigued. These stress symptoms, in turn, are strongly associated with declining mental well being. Stress thus acts as the psychological channel through which digital lifestyle factors affect mental health. Furthermore, the findings suggest that mental health interventions in academic settings should not only focus on reducing screen time or managing academic workload in isolation. Instead, universities need to adopt a holistic digital wellness strategy that includes education on healthy screen habits, stress management techniques, and mental health literacy. Programs that foster emotional resilience, coping mechanisms, and balance in digital engagement may offer more sustainable impacts.

In conclusion, this study affirms the multifaceted nature of digital stressors and the importance of addressing their psychological consequences. A balanced approach that combines digital literacy, time management, and mental health support will be essential in promoting psychological well being among Gen Z students in the digital academic era.

Conclusion

This study investigated the influence of digital burnout and screen time on the mental health of Generation Z students, with stress acting as a mediating variable. The research was driven by increasing concerns over the psychological impact of digital lifestyles in higher education, particularly among young students who experience high levels of academic and screen based engagement.

Using a quantitative correlational approach, this study surveyed 100 undergraduate students from the Faculty of Economics and Business at Universitas Negeri Jakarta. The instrument measured four constructs digital burnout, screen time, stress, and mental health and was validated for reliability and consistency. Data analysis was conducted using path analysis via SmartPLS, which enabled testing of both direct and indirect effects.
Findings revealed that digital burnout and screen time both have significant direct effects on students' mental health. Additionally, stress was shown to significantly mediate the relationship between these digital lifestyle factors and mental health outcomes. Screen time, in particular, had the strongest overall effect when considering both direct and mediated influences.

In conclusion, digital behavior patterns especially excessive screen exposure and burnout are closely tied to student mental health. The presence of stress as a mediating factor highlights the need for preventive and supportive interventions. Therefore, universities must not only raise awareness about healthy digital usage but also implement mental health programs that include stress management, digital detox strategies, and emotional support services. A holistic approach will be essential in sustaining mental wellness among Generation Z students navigating a fully digital academic environment.

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