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"A Study on Digital Burnout and Its Impact on Students Academic Performance and Motivation"

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Abstract

The rapid increase in digital learning has heightened students' exposure to screens, often resulting in digital burnout. This study explores the extent of digital burnout among students and evaluates its influence on academic performance and motivation. Using data collected from 132 respondents, the study assesses levels of digital fatigue and its academic consequences. Results show that a majority of students frequently feel mentally exhausted after prolonged use of digital devices, indicating a high prevalence of burnout. Correlation analysis further reveals that digital burnout is significantly associated with reduced academic performance (r = 0.27) and lower academic motivation (r = 0.28). These findings demonstrate that digital fatigue negatively affects students' ability to concentrate, complete academic tasks efficiently, and stay motivated. The study highlights the importance of addressing digital burnout through balanced digital-use habits and supportive academic practices to enhance student well-being and learning outcomes.

Keywords: *Digital Burnout, Academic Performance, Academic Motivation, Digital Fatigue, Screen Time, Student Well-being, Technostress, Digital Learning.*

1. Introduction:

Technology has transformed education by increasing access to information, enabling virtual learning, and supporting interactive academic tasks. However, students today spend long hours online for classes, assignments, entertainment, and social communication. This constant digital exposure has created an environment where many students experience mental exhaustion caused by digital activity, commonly referred to as digital burnout.

Digital burnout affects students' emotional stability, motivation to learn, and ability to achieve academically. Although digital tools are essential, their excessive use can weaken students' cognitive abilities, reduce productivity, and harm overall academic engagement. This study explores the relationship between digital burnout, academic performance, and student motivation.

2. Review of Literature:

Upadhyaya and Vrinda conducted a large-scale study on technostress among university students and found that techno-overload and techno-invasion significantly hinder academic productivity. Their work provides one of the most reliable validated instruments for measuring academic technostress in India. The study deeply explores the psychological mechanisms linking digital overload to exhaustion and reduced academic

engagement. For the present study, this research serves as foundational background supporting the conceptualization of digital burnout and its measurable dimensions **(Upadhyaya, 2021)**.

Tarafdar and colleagues present an influential theoretical framework distinguishing beneficial and harmful digital stress. Their "Technostress Trifecta" is useful for interpreting student responses to digital learning environments. The study emphasizes design-level solutions, such as simplifying digital systems to reduce stress. This theoretical grounding strengthens the conceptual framework of the current survey **(Tarafdar, 2019)**.

Durmus and others assessed digital burnout among nursing students and found significant associations between screen time, physical fatigue, and emotional exhaustion. The findings extend beyond psychological fatigue by including physiological consequences such as eye strain and headaches. These insights help justify including health-related items in the current survey instrument **(Serpil Çelik Durmuş, 2022)**.

Kumar's comprehensive review synthesizes technostress literature and highlights protective factors such as digital literacy and support systems. This annotation justifies investigating moderating variables—such as student digital habits in the proposed study **(Kumar, 2024)**.

Patel's and others study links excessive screen time with reduced academic achievement among Indian adolescents. Though not exclusively focused on burnout, the findings substantiate the cognitive risks of excessive digital exposure. This reinforces the need for measuring screen time patterns in the current research **(Meena Patel, 2022)**.

Xuedi Li and others longitudinal research demonstrates that higher screen exposure predicts lower academic achievement in reading and mathematics. Although the population studied was younger, the strong longitudinal design provides compelling evidence that excessive digital exposure harms cognitive outcomes. This supports the current study's hypothesis linking digital burnout to academic performance **(Xuedi Li, Charles D. Keown-Stoneman, & Jessica A. Omand, 2025)**.

Ibrahim and colleagues studied digital burnout among nursing students and reported significant associations between prolonged online learning, emotional exhaustion, and academic stress. The paper emphasizes how clinical training demands plus extended screen exposure uniquely strain nursing students' well-being, and it suggests structured breaks and institutional policies to manage screen workload in healthcare education programs **(Rasha Kadri Ibrahim, 2025)**.

Fatma Azizoglu and others in their recent paper synthesizes empirical evidence and reports that digital burnout correlates with time-on-device, multitasking, and poor break practices. The study reiterates that institutional scheduling, workload coordination, and digital-wellness programs can significantly reduce student digital fatigue providing applied recommendations for universities **(Fatma Azizoglu, 2025)**.

3. Research Methodology:

Research Problem:

Students today are highly dependent on digital devices for learning . However, this extended use comes with negative consequences. Many learners report digital fatigue, difficulty focusing, reduced motivation, and lower academic performance. The problem is growing, yet it is not fully addressed in educational institutions. This study aims to explore how digital burnout affects academic performance and motivation among students.

Research Objectives:

- To examine the level of digital burnout among students.
- To analyse the impact of digital burnout on students' academic performance.
- To study the effect of digital burnout on students' motivation.

Hypotheses:

$H1_1$: Students experience a significantly high level of digital burnout
$H1_0$: Students do not experience a significantly high level of digital burnout.

$H2_1$: Digital burnout has a significant negative impact on students' academic performance.
$H2_0$: Digital burnout has no significant impact on students' academic performance.
$H3_1$: Higher levels of digital burnout significantly reduce students' academic motivation.
$H3_0$: Digital burnout has no significant effect on students' academic motivation.

Research Design:

This study adopts a descriptive survey research design to explore the level of digital burnout among students and its effects on academic performance and motivation. The survey method is suitable for gathering self-reported information on students' experiences, habits, and perceptions regarding digital usage. By using structured questionnaires, the study aims to identify patterns and relationships between digital burnout and academic outcomes.

Population and Sample:

The population of this study includes students from high schools and colleges who regularly use digital devices for academic purposes. A sample of 132 students will be selected using simple random sampling, ensuring that all participants have an equal chance of selection. This sample size is manageable and sufficient to provide reliable results while reflecting diverse experiences across age groups, courses, and academic levels.

Limitations of the Study:

- The study is based on self-reported data, which may be influenced by personal bias.
- Findings may not be generalized beyond the sampled schools and colleges.
- Factors such as internet speed, device type, and family environment are not considered in this study.

4. Data Analysis & Interpretation:

Hypothesis - 1

Students feel mentally tired after using digital devices for long periods

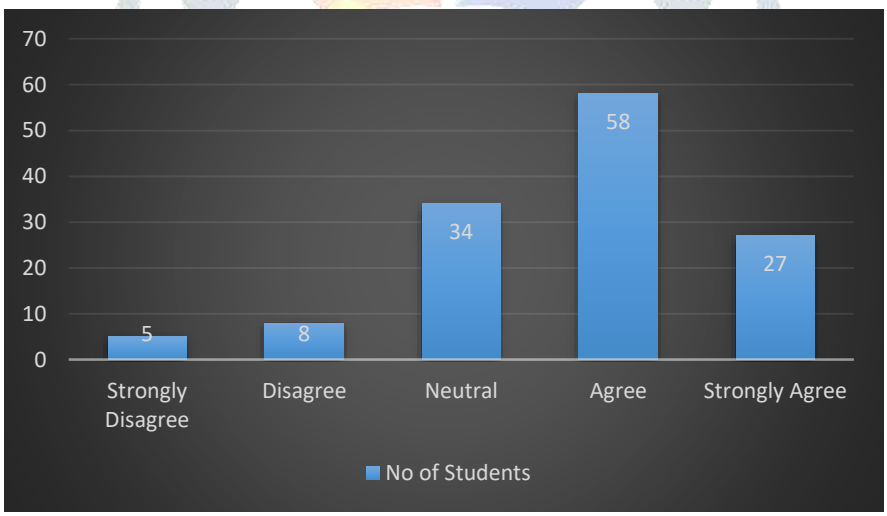

Figure 4.1

The results indicate that most students feel mentally tired after using digital devices for extended periods. A substantial majority 58 Students who agreed and 27 Students who strongly agreed reported experiencing digital fatigue. 34 students remained neutral, while only a few (8 disagreeing and 5 strongly disagreeing) denied feeling such tiredness. Overall, the findings suggest that **mental fatigue due to prolonged digital device use is common among students**.

Hypothesis Testing

$H1_1$: Students experience a significantly high level of digital burnout
$H1_0$: Students do not experience a significantly high level of digital burnout.

Descriptive Majority Test:
If more than 50% of students agree/strongly agree, we consider the burnout level significantly high.

Result % Agree + Strongly Agree = 64.4%, which is well above 50%. Only 9.8% disagreed Decision:
Since a clear majority (64.4%) report mental fatigue, the evidence supports the presence of high digital burnout.
Conclusion:
✓ H_1 is accepted. ✗ H_0 is rejected.
Students experience a significantly high level of digital burnout based on the response distribution.

Hypothesis - 2

Correlation	Digital Burnout	Academic Performance
Digital Burnout	1	0.271699123
Academic Performance	0.271699123	1

Table 4.2

The correlation analysis examined the relationship between **Digital Burnout** and **Academic Performance**. The results show a correlation coefficient of **r = 0.2717** between the two variables.

This value indicates a **weak positive correlation**, meaning that as **digital burnout increases, academic difficulties also tend to increase**. In other words, students who report higher levels of digital burnout also tend to experience declines in their academic performance. Although the relationship is not strong, it is still meaningful and suggests that **digital burnout has a negative influence on students' academic functioning**.

Thus, the data supports the view that **digital burnout and academic performance are related**, with burnout contributing to academic challenges.

Hypothesis Testing

$H2_1$: Digital burnout has a significant negative impact on students' academic performance.
$H2_0$: Digital burnout has no significant impact on students' academic performance.

Pearson's Correlation Test:

Correlation coefficient (**r**) = **0.271699123**
Sample size (**n**) = **132**
Degrees of freedom (**df**) = **n – 2 = 130**

t = 3.219 (This value indicates the strength of the relationship.)

p-value = 0.00162

p = 0.00162 < 0.05
Therefore:
✗ Reject $H2_0$
✓ Accept $H2_1$
The correlation between digital burnout and academic performance (r = 0.27) is statistically significant at the 0.05 level. This means that higher levels of digital burnout are associated with lower academic performance. Thus, the hypothesis that digital burnout has a significant negative impact on students' academic performance is supported by the data.
Hypothesis - 3

Correlation	Digital Burnout	Academic Motivation
Digital Burnout	1	0.278458895
Academic Motivation	0.278458895	1

Table 4.3

The correlation coefficient between **Digital Burnout** and **Academic Motivation** is **r = 0.2785**, indicating a **weak positive correlation**. This suggests that as students experience higher levels of digital burnout, their **academic motivation tends to decrease**.

Although the strength of the relationship is modest, it still shows a meaningful connection: students who feel digitally exhausted or overwhelmed are more likely to report lower interest, drive, and willingness to engage in academic activities. Overall, the results imply that **digital burnout negatively influences students' academic motivation**, even if the impact is not very strong.

Hypothesis Testing

$H3_1$: Higher levels of digital burnout significantly reduce students' academic motivation.
$H3_0$: Digital burnout has no significant effect on students' academic motivation.

Pearson's Correlation Test:

Correlation coefficient (**r**) = **0.278458895**
Sample size (**n**) = **132**
Degrees of freedom (**df**) = **n – 2 = 130**

t = 3.310
p-value = 0.0012
p = 0.0012 < 0.05
Therefore:

✗ **Reject $H3_0$**

✓ **Accept $H3_1$**

The correlation between digital burnout and academic motivation is **statistically significant**. This means that **higher digital burnout is associated with lower academic motivation** among students. Therefore, the hypothesis that digital burnout significantly reduces academic motivation is supported by the data.

5. Findings:

- Most students (64.4%) reported feeling mentally tired after prolonged digital device use, indicating a high level of digital burnout.
- Digital burnout showed a weak but significant negative relationship with academic performance (r = 0.27, p = 0.00162).
- Students with higher burnout experienced more academic difficulties such as reduced concentration and slower task completion.
- Digital burnout also had a weak but significant negative impact on academic motivation (r = 0.28, p = 0.0012).
- Students with greater burnout reported lower motivation, interest, and willingness to study.
- Overall, digital burnout is common among students and significantly reduces both academic performance and motivation.

6. Conclusion:

The study clearly shows that digital burnout is a prevalent issue among students, with a majority experiencing mental fatigue due to prolonged use of digital devices. The findings further confirm that digital burnout has a significant negative impact on students' academic functioning. Higher levels of digital burnout are associated with reduced academic performance and decreased academic motivation. Although the correlations are moderate, they are statistically significant, indicating that digital fatigue meaningfully affects students' ability to concentrate, complete academic tasks efficiently, and stay motivated. Overall, the study concludes that digital burnout is a critical factor influencing students' academic success and well-being, highlighting the need for balanced digital use and effective strategies to manage digital fatigue.

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7. Suggestions and Recommendations:

- Encourage regular breaks and healthy digital habits to reduce fatigue.
- Limit unnecessary screen time and promote digital time-management skills.
- Introduce digital detox practices to improve focus and well-being.
- Balance online and offline academic tasks to avoid excessive digital workload.
- Use engaging and varied teaching methods to maintain student motivation.
- Provide counselling or support services for students experiencing digital burnout.
- Promote proper study ergonomics and healthy lifestyle routines.
- Conduct awareness programs on digital well-being and burnout prevention.

8. Scope for Future Study:

- Future research can use larger and more diverse samples to improve generalization.
- Long-term studies can track how digital burnout affects academic outcomes over time.
- Additional factors such as sleep, mental health, and coping strategies can be explored.
- Intervention-based studies can test methods to reduce digital burnout.
- Comparative studies across online, hybrid, and offline learning modes can provide deeper insights.

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