SMARTPHONE ENGAGEMENT AND ACADEMIC PERFORMANCE AMONG HIGH SCHOOL STUDENTS

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Abstract

In everyday life, technology is very prominent one to access all area especially; Smartphones become an essential part for adolescents, offering quick access to information, communication, and entertainment. However, excessive smartphone use may interfere with students' learning and academic achievement. Researcher investigated the relationship between smartphone usage and academic performance among 9thstandard high school students. From population, a purposive sampling technique was used to drawn the sample. It consisted of 180 students (90 boys and 90 girls) aged 14–15 years from diverse backgrounds - English and Tamil medium schools, urban and rural settings and nuclear and joint families. The study employs the school examination scores and Smartphone Engagement Scale (SOS) for analysis. Output revealed a negative relationship between smartphone Engagement and academic performance, and based on the t test, there is a significant difference between Smartphone Engagement and academic performance with respect to rural-urban, English- Tamil medium, and nuclear- joint family students, it exhibiting higher smartphone usage and lower academic performance compared to their rural, Tamil-medium, and joint family counterparts. The findings pointed high influence of environmental and social factors on digital habits and academic outcomes. These insights highlight the pressing necessity for focussed initiatives by parents, educators, and policymakers to engage responsible usage of smartphones and foster environment that enhance the academic performance. In this world, digital is more important and all should balance using technology to improve students' health and performance of students.

***Keywords*:** Smartphone Engagement, Smartphone Overuse, Academic Performance, Adolescents, Digital.

Introduction

Smartphones have completely changed the way students learn, especially high school students who have easily added them to their daily lives. Smartphones are great because they make it easy for people to get information, they encourage people to work together, and they help people learn with a wide range of educational apps. However, there growing concern about the widespread use of smartphone. Increasing evidence suggests that excessive smartphone use can negatively affect the study pattern, sleep pattern, and relaxation, ultimately impacting student's academic Performance and overall well-being.

As adolescents undergo rapid mental and emotional growth, understand digital dependency has become increasingly important. This study explores the link between

excessive smartphone use and academic performance among high school students by examining how often and in what ways they use their smartphones, as well as the related academic and psychological effects. The findings aim to offer useful insights for educators, parents, teachers and policy makers who are seeking ways to encourage healthier and more balanced technology use that supports both learning and overall well-being.

Review of Related Literature

Lepp et al. (2015) carried out a study in the United States to explore the association between cell phone use, academic performance, anxiety, and life satisfaction among college students. The findings indicated that increased smartphone usage was strongly linked to poorer academic performance and higher levels of anxiety, suggesting that excessive smartphone use may negatively affects students' academic success and overall well-being.

In a similar vein, Prabhavathi et al. (2021) examine the influence of smartphone use on the academic performance of Indian adolescents and found that students who spent longer hours on smartphones showed a significant declined in academic standards, along with problems such as reduced concentration and disturbed sleep. These findings highlight the importance of awareness and timely intervention to encourage health smartphone habits among young learners. To identify the existing research gap, the study target on the relationship between smartphone overuse and academic performance among 9th standard students.

Need and Significance of the Study

This research seeks to examine the relationship between smartphone engagement and academic performance among high school students, especially is driven by the extensive use of smartphones in this age group of 14 – 15 years. Students are spending more time on their devices, this leads to access the internet, social media, and other entertainment. The transition raises concerns about chance of distractions from curricular responsibilities and the impact on learning, focusing and overall academic achievement.

For educators, parents and members from the society who are all want to establish a balanced learning environment, it is vital to recognize this connection. Insight from such research can be used to design guidelines and interventions that encourage healthy technology habits, ensuring that smartphone use supports rather than hinders students' academic progress. Furthermore, it helps to identify the students who may be facing risk of declining academic performance due to excessive usage of smartphone, enable them in timely support and guidance.

Gaining insight into this relationship is important for educators, parents and policymakers who strive to create a balanced educational environment. This research results can support the development of guidelines and interventions that enhance healthy

technology habits, ensuring that smartphones enhancement rather than interferes with students' curricular progress. In addition, such understanding helps to identify students who may at risk of academic decline due to excessive smartphone use, allowing for timely guidance and support.

Furthermore, this research contributes to the ongoing conservation surrounding digital literacy and responsible technology use among adolescents. By exploring how smartphone engagement may influence the academic outcomes, the research gives a foundation efforts focused on improving students' well-being and academic success in a digital learning environment.

Objectives of the Study

1. To examine the relationship between smartphone Engagement and academic performance.
2. To compare smartphone Engagement and academic performance across medium of instruction (English vs. Tamil).
3. To compare smartphone Engagement and academic performance across locality (Urban vs. Rural).
4. To compare smartphone Engagement and academic performance across type of family (Nuclear vs. Joint).

Methodology

A survey-based method was adopted for this research. The sample consisted of 180 students from 9thstandard students, aged 14–15 years (90 boys and 90 girls), this sample was selected by using purposive sampling techniques to ensure equitable representation from English-medium and Tamil-medium schools, urban and rural areas, and also nuclear and joint families. The tool employed comprised the Smartphone Engagement Scale (SOS) for evaluating smartphone Engagement levels, while academic performance was quantified through students' average marks from school term examinations. The reliability value for SOS is 0.87 which is good to execute further, and construct validity procedures were used to make sure the tool was right for the study. The researcher followed the rule of Data gathering, scoring, and statistical evaluations were performed in accordance with established research protocols.

Results and its Interpretation

Table 1 Relationship between Smartphone Engagement and Academic Performance of Higher Secondary Students

Variables	R value	P value
Smartphone Engagement vs. Academic Performance	–0.39**	0.001**

Note: ** Significant at 1% level S-Significant

There is a negative correlation between Smartphone Engagement and Academic Performance of Higher Secondary Students, Engagement of smartphones distracts students from their studies and reduces their focus on academic tasks. This often results in lower standards and poorer academic performance.

Table 2 Mean and Standard Deviation of Smartphone Engagement and Academic Performance Scores of High school Students With Regard to Locality

Variable	Group	N	Mean	SD	t value	P value	Level of Significance
Smartphone Overuse	Urban	90	31.8	7.1	2.87	0.005**	S
	Rural	90	25.6	6.2			
Academic Performance	Urban	90	65.0	8.4	3.12	0.002**	S
	Rural	90	72.4	7.6			

Note: ** Significant at 1% level S-Significant

From above table, p-value is less than 0.01, it is rejected at the 1% level. Therefore, there is a significant difference between urban and rural 9th standard students with respect **Smartphone Engagement and Academic Performance**. Urban student highlighted more smartphone usage and rural students have high in Academic Performance, Urban students use smartphones more due to better access to technology and internet services, which can lead to distractions. In contrast, rural students have fewer digital distractions and tend to focus more on their studies, resulting in higher academic performance.

Table 3 Mean and Standard Deviation of Smartphone Engagement and Academic Performance of High School Students With Regard to Medium of Instruction

Variables	Group	N	Mean	SD	t value	P value	Level of Significance
Smartphone Overuse	English Medium	90	32.4	6.8	2.54	0.012*	S
	Tamil Medium	90	26.9	5.9			

Academic Performance	English Medium	90	64.2	8.1	2.76	0.007**	S
	Tamil Medium	90	71.5	7.9			

Note: ** Significant at 1% level S-Significant

From above table, p-value is less than 0.01, it is rejected at the 1% level. Therefore, there is a significant difference between English and Tamil medium of 9th standard students with respect **Smartphone Engagement and Academic Performance**. English medium students are more smartphone usage and the Tamil medium students have high Academic Performance, English medium students often have greater access to smartphones and digital resources, leading to higher usage. Tamil medium students may focus more on academics with fewer digital distractions, resulting in better academic performance.

Table 4 Mean and Standard Deviation of Smartphone Engagement and Academic Performance of Higher Secondary School Students With Regard to Type of Family

Variable	Group	N	Mean	SD	t	P value	Level of Significance
Smartphone Overuse	Nuclear	100	30.8	6.5	2.13	0.035*	S
	Joint	80	27.2	6.0			
Academic Performance	Nuclear	100	66.1	8.3	2.02	0.045*	S
	Joint	80	70.3	7.7			

Note: ** Significant at 1% level S-Significant

From above table, p-value is less than 0.01, it is rejected at the 1% level. Therefore, there is a significant difference between Nuclear and Joint families of 9th standard students with respect **Smartphone Engagement and Academic Performance**. Nuclear family students are more smartphone usage and the joint family students have high Academic Performance, Students from nuclear families often use smartphones more due to less supervision and fewer family interactions. Joint family students benefit from a supportive environment with more guidance, helping them achieve better academic performance.

Discussion

The study clearly shows that high school students who use their smartphones too much do worse in school. Students who use their smartphones a lot often lose focus on their schoolwork, which can lead to lower standards. The data backs up this trend, which shows that students who use their smartphones more often tend to do worse in school.

A more in-depth look at different groups of students shows that there are important differences. Students who live in cities, speak English, and come from nuclear families tend to use smartphones more often because they have better access to technology, are exposed to digital resources, and have less supervision at home. These things make it more likely that students will get distracted by digital things, which can hurt their studies and cause them to do worse in school. On the other hand, students who live in rural areas, speak Tamil, or come from joint families often have less access to smartphones and more supportive environments, which help them stay focused on their studies.

The results show that both environmental and social factors are very important in determining how people use smartphones and how well they do in school. Students can do better in school if they stop using their smartphones so much and create supportive environments at home and school. Schools and families should work together to promote a healthy balance of digital use and put academic success first.

Conclusion

This study presents compelling evidence that excessive smartphone usage significantly detracts from academic performance among high school students, with pronounced disparities evident across various demographic groups. The way students use technology and their academic success are strongly influenced by factors such as access to technology, the language of instruction, and family structure. These results highlighted the needs for thoughtful strategies – both at school and at home, to enhance responsible of digital habits and create surroundings that prioritize academic performance. Ultimately, fostering a manageable approach to technology habits which is very core aspects for helping kids to develop the focus and discipline needed to success in their academic potential in an effective digital world.

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