



FROM SCREEN TO SCORE:

ADOLESCENT'S MOBILE PHONE USAGE AND THEIR ACADEMIC PERFORMANCE

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Abstract: This revised article has been undertaken to find out a correlation between adolescent's mobile phone usage and its impact on their academic performance. After reviewing many related study's, the author concluded that it has shown negative impact on academic performance with a correlation coefficient of $r = -0.10$ for overall usage duration. The author also explains about the aftermaths of excessive use of mobile phones on academic performance as well as guidelines to improve their academic performance.

INTRODUCTION TO THE TOPIC

The widespread adoption of mobile phones has transformed the way adolescents communicate, access information, and navigate their daily lives. Mobile phones have become an indispensable tool for adolescents, providing a sense of connection, identity, and autonomy. However, excessive mobile phone usage has raised concerns among parents, educators, and healthcare professionals, who worry about the potential impact on adolescents' physical, emotional, and social well-being. (Pew Research Center, 2020).

Finding effective ways to integrate mobile technology into the learning environment may empower students to leverage their devices as tools for research, collaboration, and enhanced engagement in educational activities. As schools increasingly adopt blended learning models, it becomes essential to establish guidelines that promote responsible mobile phone usage, ensuring that students can benefit from technology without compromising their academic performance. (Beland & Murphy, 2016)

WHAT IS ACADEMIC PERFORMANCE?

Academic performance refers to a student's achievement and success in their educational endeavors, typically measured by grades, test scores, and overall academic accomplishments (Wikipedia). It also includes students' ability to learn, understand, skill, applying knowledge. The academic performance may be measured by test score, grade system, GPA method etc. The academic performance of student may be influenced by his or her study habits, time management, family support, own skills, learning and understanding capacity or motivational system.

ADOLESCENT'S USAGE OF MOBILE PHONE AND THEIR ACADEMIC PERFORMANCE

There are many activities which can be performed with smart phone like, communication, assessing internet, social interactions, getting worldwide news in a moment, health monitoring, study. The use of mobile phone also raises concern of excessive use which may have impact on peoples here we are talking about adolescent who are in potential risk on negative consequences of it specially on academic point of view. There were many studies who shows their data and concern about mobile phone usage and academic performance associated with it

According to this study a significant negative correlation exists between mobile phone addiction and academic achievement, indicating that increased mobile phone use is associated with lower academic performance (*Psychol Res Behav Manag.* 2024).

According to some research data adolescents are prevalent to staggering 96% of adolescents aged 13-17 own a mobile phone, with 54% of teens aged 13-17 saying they spend too much time on their cell phone (Pew Research Center, 2020).

Furthermore, their Frequency on mobile, Adolescents spend an average of 4-6 hours per day on their mobile phones, with 60% of teens reporting that they use their phones "almost constantly" (Common Sense Media, 2019).

And the most common activities adolescents engage in on their mobile phones include texting (95%), social media (70%), and online gaming (60%) (Pew Research Center, 2020).

Research has shown that excessive mobile phone usage can lead to distractions, impacting students' focus and ultimately affecting their grades and overall academic success. This phenomenon raises important questions about the balance between technology use and educational achievement, prompting educators and parents to explore strategies that can help mitigate these negative effects while harnessing the potential benefits of mobile devices for learning. (Duncan et al., 2012)



S.NO.	RESEARCH TITLE, RESEARCHER AND YEAR	METHODOLOGY USED	RESULT	SUMMARY	IMPLICATIONS
1.	A meta-analysis of the relationship between digital device use and academic performance in adolescents <i>(Wang et al., 2024)</i>	Systematic review and meta-analysis of 48 studies from 2001 to 2022. Utilized Comprehensive Meta-Analysis 3.0 software.	The paper indicates a negative correlation between excessive digital device use and academic performance ($r = -0.10$). Specifically, when mobile phones are used for entertainment or socializing, the correlation is even more pronounced ($r = -0.10$; $r = -0.16$).	Positive correlation between digital device use and academic performance. Duration of use negatively impacts academic performance.	Use digital devices for educational purposes to improve performance. Limit entertainment use to enhance academic outcomes.
2.	Smartphone addiction and its correlation with academic performance in high school adolescents: An observational study. <i>(Kumar et al., 2024)</i>	Cross-sectional observational study with 331 students aged 12–17. Data collected via self-administered questionnaires and statistical analysis.	Negative correlation exists between excessive smartphone usage and academic performance among adolescents, with a correlation coefficient of $r = -0.198$ ($P < 0.000$), indicating that increased time spent on smartphones is associated with lower academic marks	While smartphone addiction is prevalent among adolescents, it does not significantly correlate with academic performance. However, excessive smartphone usage negatively affects academic marks, indicating a need for effective management strategies.	The findings of the study suggest that educators and policymakers should develop strategies to address smartphone usage in schools.
3.	Impact of Elevated Screen Time on School-Age Adolescents During the COVID-19	Cross-sectional study conducted July-August 2022. 221 adolescents assessed through	The study found a significant link between increased screen time, particularly from mobile phones, and reduced	Increased screen time linked to reduced physical activity and academic decline.	Researcher suggested that practical implications of this study underscore the importance of balanced digital use, promoting physical

	Pandemic: An Analytical Study. <i>(Manuja et al., 2024)</i>	questionnaires and statistical analysis.	academic performance among adolescents. This correlation highlights the negative impact of excessive digital device use on educational outcomes during the COVID-19 pandemic.	Need for balanced digital use and further research.	activity, and supporting academic performance among adolescents during and beyond the pandemic.
4.	Addictive phone use and academic performance in adolescents <i>(Domoff et al., 2020)</i>	Sample of 641 adolescents assessed for addictive phone use. Used self-report measures and linear regression analysis.	The study found that addictive phone use significantly correlates with poorer academic performance in adolescents, independent of hours spent on social media during school days, indicating that dependence on smartphones is a distinct risk factor for academic decline.	Addictive phone use linked to poorer academic performance. Further research is needed for directionality and generalizability.	Monitor adolescents' smartphone uses to improve academic performance. Educating parents on smartphone addiction risks for youth.
5.	Prolonged Mobile Phone Use Is Associated with Poor Academic Performance in Adolescents. Researcher- <i>(Liu et al., 2020)</i>	sample size: 11,831 adolescents studied. Method: Examined associations between MPU and academic performance.	Prolonged mobile phone use (MPU) is associated with poor academic performance in adolescents, as indicated by the study examining 11,831 participants. The findings suggest that excessive MPU negatively impacts academic outcomes among Chinese adolescents.	Prolonged mobile phone use affects academic performance negatively. Study focused on Chinese adolescents' academic outcomes.	Limit mobile phone use to improve academic performance. Encourage balanced technology use among adolescents.
6.	The influence of mobile phone addiction on academic	Quantitative study with secondary school students aged 13-17 with 200 sample size	The study found a clear negative correlation between mobile phone usage and academic	The study concludes that mobile phone addiction is detrimental to the academic performance	The authors recommend that conducting comparative studies across different schools to better understand the

	<p>performance among teenagers <i>(Rashid et al., 2020)</i></p>	<p>Purposive sampling of secondary school students in Shah Alam.</p>	<p>performance. As the frequency of mobile phone use increased, students' academic performance tended to decline. This suggests that higher addiction levels to mobile phones can detract from students' focus on their studies.</p>	<p>of teenagers, emphasizing the need for awareness and potential interventions to mitigate this issue.</p>	<p>relationship between mobile phone addiction and academic outcomes.</p>
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Table: above table shows article review with different variables.



RESULT

Excessive mobile phone usage among adolescents has been linked to decreased academic performance, with various studies highlighting the nuances of this relationship. While some digital device use can be beneficial for educational purposes, excessive engagement, particularly for entertainment and socializing, tends to correlate negatively with academic outcomes. The following sections elaborate on key findings from above research.

Correlation Between Usage and Performance

Negative Impact of Excessive Use: Studies indicate that prolonged mobile phone use is associated with poorer academic performance, with a correlation coefficient of $r = -0.10$ for overall usage duration (*Wang et al., 2024*)

- **Addictive Patterns:** Adolescents exhibiting addictive phone use patterns show significantly lower academic performance, independent of social media multitasking during homework (*Domoff et al., 2020*).
- **Screen Time Guidelines:** Many adolescents exceed the recommended screen time limits, which correlates with reduced physical activity and academic decline (*Manuja et al., 2024*).

Variability in Effects

Purpose of Use: The impact of mobile phone usage varies based on its purpose; educational use has a positive correlation ($r = 0.12$), while entertainment use shows negative correlations ($r = -0.10$ to $r = -0.16$) (*Wang et al., 2024*).

Demographic Factors: Gender, age, and academic measurement tools significantly influence the relationship between mobile phone use and academic performance (*Wang et al., 2024*).

Despite the evidence linking excessive mobile phone use to academic decline, some studies suggest that moderate use for educational purposes can enhance learning outcomes. This highlights the need for balanced digital habits among adolescents.

AFTERMATH ON ACADEMIC PERFORMANCE OF ADOLESCENTS ASSOCIATED WITH MOBILE PHONE USAGE

1. Academic achievement suffers: Excessive mobile phone usage has been linked to lower grades, reduced academic motivation, and decreased academic self-efficacy which leads to poor academic performance by adolescents.
2. Cognitive skills are impaired: Adolescents thinking processes become slower due to Excessive mobile phone usage. Which have potentially shown impaired cognitive skills, including attention, memory, and problem-solving.
3. Decreased attention span: The constant stream of notifications, texts, and social media updates can lead to decreased attention span and reduced ability to focus on academic tasks.
4. Decreased critical thinking: Adolescents lose problem solving skills, deep thinking and critical analysis because they basically depend on mobile phones to resolve their issues.
5. Decreased intellectual curiosity: Intellectual curiosity is a vital component of academic success and lifelong learning. It drives individuals to explore new ideas, ask questions, and seek knowledge. Basically adolescent are busy to make videos, reels and clicking photographs which gives satisfaction. They do not aware about future consequences. However, excessive mobile phone usage has been linked to a decline in intellectual curiosity among adolescents.
6. Poor time management: Excessive mobile phone usage can lead to poor time management skills, as adolescents spend more time scrolling through their phones than completing homework or studying.
7. Lower productivity: Excessive mobile phone use can lead to reduced study time, decreased focus, and lower academic performance which reduces the academic productivity of adolescents.

8. Impact on schoolwork: due to busy calls, notification, social media etc adolescents spend much time on mobile phones and the lack of time management is unable to compile schoolwork and assignment on due time which leads to poor academic grades.
9. Reduced study time: displacement of study time to mobile phone usage leads to a decrease in study time by adolescents as they pay more attention to scroll screen, notification and playing games.
10. Decreased attention: Mobile phone notifications and distractions can decrease focus and attention span, making it more difficult for students to concentrate on their studies.
11. Negative impact on cognitive function: Mobile phone addiction has been linked to a range of cognitive deficits, including attention, memory, and processing speed. Excessive mobile phone usage can lead to changes in brain structure and function, particularly in regions responsible for attention, impulse control, and reward processing.
12. Decrease in motivation: Excessive mobile phone usage can lead to a decrease in motivation to learn and explore new ideas.

OTHER POTENTIAL RISKS ALIGNED WITH ADOLESCENT MOBILE PHONE USAGE

The maximum use of mobile phones among adolescents are more potential to decreased academic performance. Apart from the above issues adolescents may develop following issues including physical, mental, social, and cognitive.

1. Sleep Disturbances: Exposure to screens and notifications before bedtime can disrupt sleep patterns, leading to sleep deprivation and related health issues.
2. Mental Health Concerns: Excessive mobile phone usage has been linked to increased symptoms of anxiety, depression, and loneliness among adolescents.
3. Social Isolation: Spending excessive time on mobile phones can lead to social isolation, decreased face-to-face interaction, and reduced empathy.
4. Increased stress and anxiety: The pressure to constantly check and respond to messages, as well as the fear of missing out (FOMO), can lead to increased stress and anxiety levels.
5. Cyberbullying: Mobile phones can facilitate cyberbullying, harassment, and online hate speech, which can have serious consequences for adolescents' mental health and well-being. This issue is a specially increased suicide issue also.

PRACTICAL IMPLICATION TO IMPROVE ACADEMIC PERFORMANCE

By understanding the cognitive costs of mobile phone usage adolescents must implement strategies to mitigate its effects, so they can protect their cognitive function, improve their mental health, and promote overall well-being to achieve academic goals. And the individual must have a strong sense of responsibility and control over their emotions. Some strategies of practical implementation are as follows:

1. mobile phone free zone: creating mobile free zone is a healthy practice toward healthy use of mobile phone usage, like avoid mobile while eating, bathing, meetings, peer meetings, family time, study time. Set some boundaries and strictly follow them and promote others to do the same.
2. Make and use policies: to avoid phone calls during study every adolescent should make policy, like dividing the time of study with mobile and without mobile in this digital age of learning. Focus on self-practice and self-study which leads to strong critical thinking and improv cognitive skills.
3. Sense of Academic Control: Adolescents with a strong sense of academic control are better ideas to manage their mobile phone use and mitigate its negative effects on academic performance.
4. Use apps to improve productivity only: adolescents should use apps which are related to study and educational awareness, it can provide opportunity to learn from mobile phone the new updates and news. This is a better version to use mobile phone in place of spending time on notification, social media and games.
5. Encourage physical activity: Promoting physical activity and outdoor play to reduce sedentary behavior and improve socialization and reduce loneliness.

6. Lower screen time: lower screen time like 20-20 formula is better to use to reduce complications with usage of mobile phone like eye stain, neck pain, back pain, hearing loss etc. this is the best way to reduce mobile phone usage and focus on study.
7. Monitor mobile phone usage: Tracking mobile phone usage to identify areas for reduction and setting realistic goals. You can monitor it by focus on time several time while using mobile, it will give you idea how much time you spend on mobile phone and so adolescent may develop guilt on it that they spent their valuable time on mobile phone rather than studying.
8. Digital detox: Digital detox is the term which focuses on to do work by themselves and avoid phone for activities which can improve cognitive skills improve memory, mental ability, sleep pattern, reduce stress and deep thinking. For this, individuals need a strong sense of self-control, set goals and plans.
9. Fostering face-to-face interaction: Encouraging face-to-face interaction and socializing to reduce social isolation and screen time.
10. Priority to sleep and rest giving priority of sleep and rest gives fresh feelings and improve focus, so it is the good mitigation to improve their study time rather than use mobile phone to feel themselves free and fresh.

CONCLUSION

The relationship between mobile phone usage and academic performance among adolescents is complex and multifaceted. While mobile phones offer numerous benefits, including access to information and educational resources, excessive usage can have negative consequences on academic performance. By understanding the relationship between mobile phone usage and academic performance, we can work towards creating a healthier and more balanced digital environment that supports the well-being and academic success of adolescents.

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