



## **Mobile Phone Use and Academic Procrastination and their Effects on Academic Performance**

Matthew Buccinna

### **Abstract**

With the widespread use of smartphones among adolescents, concerns have grown about the impact of screen time on academic behaviors, particularly procrastination. Previous research links excessive phone use to academic procrastination and reduced performance, but more exploration is needed on its effects on students' self-control, school participation, and achievement. This study asked: How does screen time correlate with procrastination and academic achievement among high school students? Using a quantitative cross-sectional design, data was collected from 208 high school students via an anonymous online survey. Descriptive statistics and Spearman's Rho correlation were used to assess relationships among screen time, procrastination, and self-reported academic performance. Findings revealed that 37% of students checked their phones a few times daily, while 40% checked every hour or more. Although 18% believed smartphone use improved academic performance, 52% reported it negatively impacted their ability to study or complete homework. Most students spent 3–4 hours or more per day on their phones. A significant positive correlation was found between screen time and procrastination, indicating that more time on smartphones is linked to increased delays in schoolwork. However, there was no significant correlation between screen time and students' perceptions of their academic performance or actual grades. Despite 60% of students reporting no perceived academic impact, many acknowledged increased distractions and procrastination tied to phone use. These results support earlier findings that mobile phone overuse can increase the likelihood of academic procrastination among adolescents.



## Introduction

Over the last decade, cell phones have become a major part of an adolescent's life, including phone calls, text messaging, looking up information, entertainment, and connecting with friends through social media (Radesky et al., 2023). One of the drawbacks of smartphone use is procrastination. According to van Eerde (2003), procrastination happens when a person delays a task despite knowing that there is the possibility of negative consequences with that delay. The negative impacts of increased cell phone time use among teenagers include procrastination and students' ability to learn (Erdoğan et al., 2013). Another concern is that cellphone use can become addictive for students, which may lead to increased academic procrastination which therefore could impact their performance in school and overall well-being (Erdoğan et al., 2013; Yang et al. 2019).

There are limited studies regarding the amount of time spent on cell phones and its link to procrastination in adolescents. An older study by Erdoğan et al. (2013), showed that phone addiction, daily use, and gender variables were predictors of students' academic procrastination behavior. At this time, there needs to be a better understanding of the current patterns and behaviors regarding mobile phone use in adolescents including the exact amount of screen time and mobile phone use and how it is impacting their amount of procrastination, self-control, focus, and ability to participate in school and complete schoolwork. This leads to the question: How does the amount of screen time correlate with procrastination and academic achievement among high school students in recent years, and what effects does screen time have on their procrastination habits and grades, as surveyed from their personal experience?

## The Literature Review

In the literature review to follow, academic procrastination, increased screen time, and the effect of increased screen time and procrastination on academic performance will be discussed. Examining the relationship between procrastination, the overuse of mobile phones, and increased screen time is essential for understanding how these factors together impact academic performance. Ultimately, both academic procrastination and screen time have an overarching influence on adolescents' academic performance. First, examining how procrastination occurs inside and outside of a school setting will help develop strategies to prevent this delay of work. Second, understanding why mobile phones are so addictive and why adolescents use them for lengthy periods can help find a solution to stop overuse. Finally, the examination of how screen time affects adolescents' procrastination and distraction will enlighten the impact of increased screen time on academics.

## Academic Procrastination

Academic procrastination consists of students putting off completing academic activities that include homework, classwork, finishing projects, or prepping for exams (Erdogan et al., 2013; Yang et al., 2019). Academic procrastination is a mix of behavioral, cognitive, and affective components where there is an inconsistency between intention and actual behavior and causes negative effects in the procrastinator, it is not just difficulty with time management (Erdoğan et al., 2013). Likewise, Thakker (2009) examined many theories on why students academically procrastinate which include fear of failure, self-regulatory failures, and low self-efficacy. However, recent research says these theories do not account for task aversiveness or the discounting of time. Thakkar (2009) states the Temporal Motivation Theory incorporates the self-regulatory and self-efficacy theories and how adolescents put off time on working on tasks. Senecal et al. (1995), as cited in Thakkar, (2009), stated that self-regulation theory claims that intrinsic regulation is autonomous, and individuals control their own behavior through self-discipline. Self-efficacy refers to a person's belief in his or her ability to achieve a task at hand, and students with low self-efficacy may procrastinate if they perceive the work to be difficult which leads to poor time management (Bandura, 1997, as cited in Thakkar, 2009). Procrastination in students is caused by their lack of determination to do the task they need to get done which requires little effort, resulting in poor time management (Thakkar, 2009). Additionally, Kağan (2009) emphasized that academic procrastination can stem from a combination of psychological factors and an individual's personal time management and motivation. Psychological processes such as fear of failure, perfectionism, risk taking, and resistance to control contribute to procrastination among adolescents (Kağan, 2009). Similarly, Rahardjo et al, (2013) studied the impact of computer technology on academic procrastination, revealing that both the use of technology and academic stress can exacerbate procrastination. Their study found that when new innovative technology was introduced, students with less comprehension on how to use it or experience struggled to use it effectively, led to increased anxiety and more academic procrastination, while those more comfortable with the technology faced fewer challenges (Rahardjo et al., 2013).

Comparatively, Cakir et al. (2014), studied the link between academic procrastination and burn out in school. The results found there was a highly positive significance between procrastination and study burnout, burnout caused by the family, and boredom with teacher's behavior. There were also negative relationships between academic procrastination and independent learning style, dependent learning style, and competitive learning styles. Students with more passive learning styles or those who have trouble keeping up with the work tend to procrastinate more. Challenging work affects the students' desire to complete the work which leads to them procrastinating (Çakir et al., 2014). An additional reason for academic procrastination is presented by Jung and Han (2014) who focused on the effects of time perspective, self-control, and mobile phone addiction. Their study found a partial relation between cellular phone usage and procrastination. They explained how mobile phones are highly addictive for students, diverting time away from schoolwork, and contributing to an increase in screen time. Additionally, they discovered that mobile phone addiction partially

mediates the relationship between adolescent's self-control and academic procrastination. Lastly, Hong et al. (2021) found that academic procrastination preceded problematic mobile phone use and interventions for academic procrastination may be effective in reducing maladaptive thinking associated with mobile phone use and prevent increased phone use.

### **Increased Screen Time and Academic Procrastination**

A major concern in the 21<sup>st</sup> century is the rise in mobile phone use and digital technology, which has led to a significant increase in screen time among adolescents and how it can impact them. In fact, the dependency on screens has shown lower academic engagement among adolescents and are a mediating role of inattention, decreased academic persistence, and procrastination (Zhen, 2020). Similarly, studies have shown the dependency on mobile phones can change an adolescent's knowledge and academic practices. Students who spend more time on their mobile phone have a higher chance of putting off academic practices than those with lower screen time (Patel et al., 2022; Sheikh et al., 2021). Additionally, a meta-analysis of multiple research studies found that mobile phones had a negative impact on academic performance and learning in students, and the skills and cognitive abilities students needed for academic success are negatively affected by excessive phone use (Sunday, 2021). Furthermore, Muppalla et al. (2023) found that the excessive use of mobile phones and higher screen times can also affect a child's social development and affect a child's future social interactions as they mature. The overuse of mobiles can affect adolescents socially and physically. Studies have found that the problematic overuse of mobile phones can also hinder an adolescent's ability to fall asleep and affect sleep quality (Bozkurt, 2024).

The use of cell phones not only affects procrastination in academics, but also influences the student's behavior in school, including how they react to their academic performance. Students' behaviors can impact their motivation to learn and how they respond to poor academic performance. According to Zhou et al. (2022) adolescents with mobile phone addictions tend to have higher procrastination rates. Among different groups of adolescents, students in higher grade levels had higher procrastination rates because they spent more time on their screens, which negatively impacted their academic performance. (Zhou et al., 2022). Similarly, Gökalp et al. (2023) studied the connection between multi-screen addiction and academic procrastination in students. They discovered a positive relationship between the two, with students frequently postponing tasks which lead to negative academic outcomes.

The detrimental effects of problematic smartphone use go beyond procrastination, influencing students' overall academic behavior and mental health. Research has shown that excessive smartphone use can hinder academic behavior and decrease the mental health and well-being of students, including addiction and low self-esteem (Wacks & Weinstein, 2021; Yang et al., 2019). As a result, some schools have implemented policies to restrict mobile phone use, aiming to reduce procrastination levels and improve academic behavior. Erdoğan et al. (2013) found that students who extensively used mobile phones and social media like Facebook, had

lower GPAs, spent less time studying and more time procrastinating with their schoolwork. Similarly, Patel et al. (2022) discovered that adolescents who spent over three hours per day on their screens or mobile phones tended to perform poorly in school. It was also found that adolescents who came from poorer backgrounds tended to spend more time on their mobile phones, procrastinate heavier, and have poorer academic outcomes compared to other students (Patel et al., 2022). These results showed that adolescents that spend more time on their mobile phones and come from a less fortunate background have trouble performing well academically. Procrastination is also linked to a students' self-control and their ability to efficiently work hard and perform well in their academics (Gökalp et al., 2023). Moreover, Meier (2022) found that both mobile connectivity and frequent phone checking habits account for procrastination. The more connected students were and the more they checked their phones; the more time was wasted on procrastination. This excessive procrastination negatively affected the students' academic performance and caused them to perform poorly (Meier, 2022). Furthermore, Chen and Lyu (2024) found a link between mobile phone use and academic procrastination and pinned it under the theory of Compensatory Internet Use. This theory suggests that overuse of mobile phones and social media can affect other areas of life, including academics, leading to poor performance as students become distracted by mobile phones and increase their screen time (Chen & Lyu, 2024). Both the Temporal Motivation Theory and Compensatory Internet Use theory highlight how external factors such as self-efficacy or screen addiction can contribute to procrastination, but they do so from different perspectives. One focuses on internal factors and the other focuses on the impact of external distractions (Chen & Lyu, 2024; Thakkar, 2009).

## Summary

This study aims to find how much time adolescents spend on their mobile phones and how it correlates with the amount of time they spend procrastinating and how both affect their academic performance. There has been no specific evidence found on the exact number of hours spent on mobile phones and there is only a general overview of the screen time, procrastination, and academic performance correlations. Past research focused on the increased screen time in adolescents and how it causes academic procrastination as previously discussed throughout the literature review. It was seen that adolescents have high screen time rates, which have different effects on academic performance and the time spent procrastinating.

## Methods

To conduct this study, a quantitative cross sectional survey design was used in which data was collected from high school students on the following self-reported variables: screen time use, procrastination habits, and academic performance. The survey consisted of 15 multiple choice questions and 11 Likert scale questions. The survey included sections on demographics (age, gender, grade level and race/ethnicity), screen time technology use and access (device type, frequency of use, most active applications, and amount of use), procrastination habits (smartphone use and self-reported procrastination) and technology use

on academic performance (perceptions of smartphone use and self-reported grades). Once the survey was developed, the next step was getting the survey approved by school officials before distribution.

Once approved, student participants from a high school located in the northeastern United States enrolled in all classroom course levels, grades 9-12, were recruited and enlisted voluntarily through announcements made by their teachers and an online platform, Schoology. The students took the survey on their own time or during class. The resulting sample size was 208 students. The survey was administered online and included an informed consent for participation, using a secure survey platform, Microsoft Forms, with student participants given a unique link to access the survey to ensure anonymity and confidentiality.

The sample was comprised of 51% female (N=106), 47% male (N=97), and 2% identifying as other (N=5). Participants' ages ranged from 13-17 years, with a mean age of 15.10 years (SD = 0.99). In terms of grade level, 42% were 9<sup>th</sup> graders, (N=88), 35% were 10<sup>th</sup> graders (N=72), 18% were 11<sup>th</sup> graders (N=38), and 5% were 12<sup>th</sup> graders (N=10). Additionally, most students reported owning a smartphone with internet access (99%, N= 206).

Once the data collection period ended, the collected data was stored in a password protected Microsoft Forms spreadsheet. Data was then downloaded into a Microsoft Excel spreadsheet and converted into numerical values. The data was then run via JASP (Jeffery's Amazing Statistical Program) which is a statistical analysis program that produces a Spearman's Rho coefficient. The Spearman's Rho coefficient was used to correlate the independent variables of the data with the dependent variables ( $r$ ) and the significance level ( $p$ ). The Spearman's Rho coefficient is commonly used for data analysis which follows curvilinear, monotonic relationships, and ordinal data which is what was found from this study. It was chosen over other correlation coefficients like Pearson  $r$  correlation because the Pearson  $r$  does not always model the data adequately and does not capture the entire relationship between the independent variables and the dependent variables where the Spearman's Rho coefficient does.

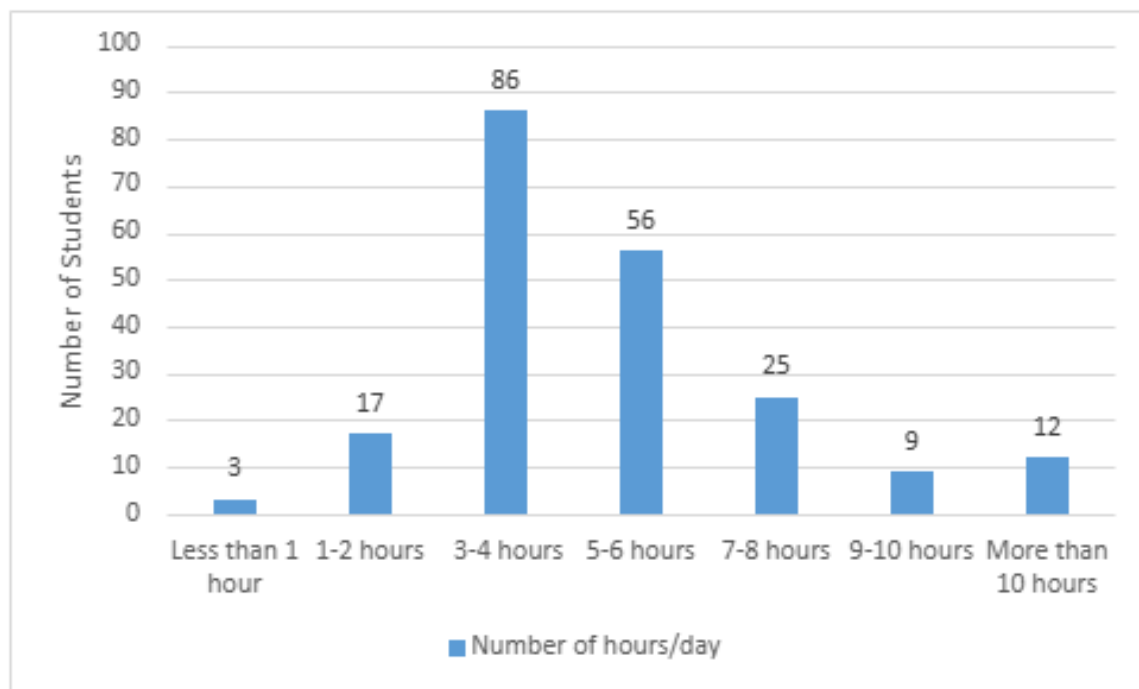
Subsequently, correlations analysis was used to examine the relationships and associations between variables which included self-reported screen time amounts and procrastination levels, overall screen time with academic performance, and comparing procrastination habits with academic performance. Each of these variables were also correlated to the demographic data. The survey design and correlation analysis were similar to an exploration study of smartphone use by Yang et al. (2019). This study explored the prevalence of problematic smartphone use among students and its relationship with several variables that included academic procrastination, anxiety, elf regulation and life satisfaction. Correlation analysis was used to correlate the relationships positively and negatively.

## Results

### Descriptive Statistics

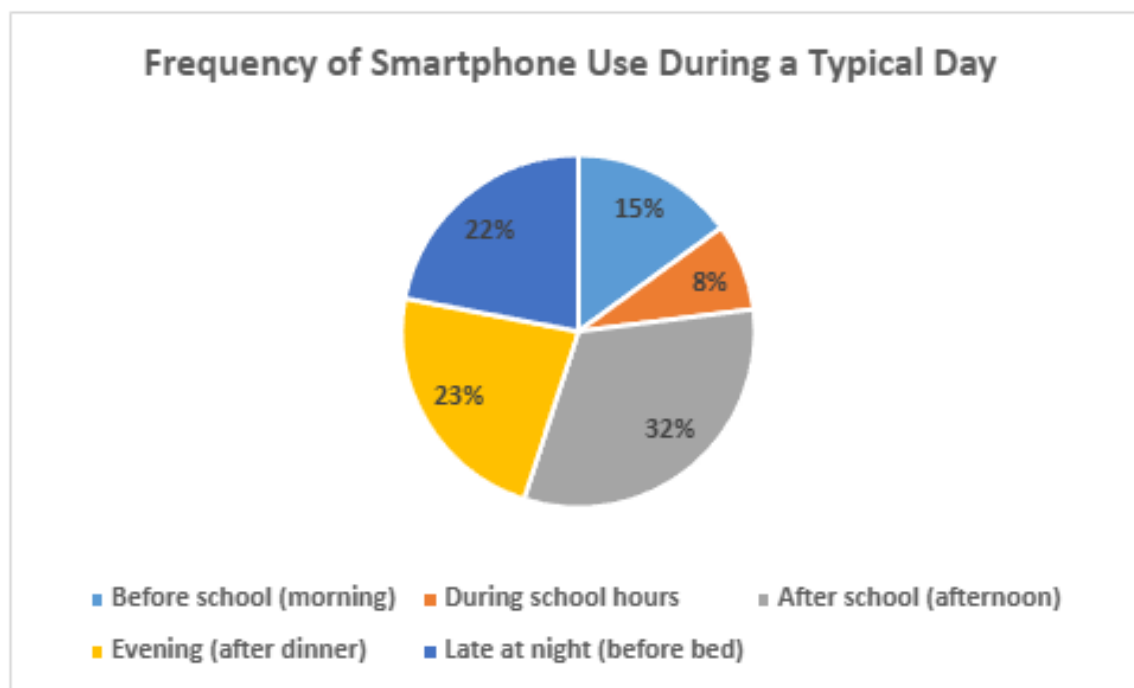


The survey resulted in all 208 high school students who completed the survey having their own smartphone device with internet access. Students were asked to report their average smartphone use in a typical day and the results are reported in Figure 1.



*Figure 1. Average amount of reported hours of smartphone use in a typical day.*

In a typical school day, 37% of students reported checking their smartphone a few times a day, 15% reported checking their smartphone every hour, 16% reported checking every 30 minutes, and 15% reported checking every 15 minutes or less. Student participants also reported using their smartphone frequently throughout the day and the percentages of the time of day are shown in Figure 2.



*Figure 2.* Reported frequency of smartphone use during a typical day.

When asked if smartphone use affects academic performance, 18% report it improves academic performance, 60% report no impact and 22% report a negative impact on academic performance. Students were surveyed how often they are distracted by smartphones while doing homework and studying and 39% stated they are distracted a few times a week, 25% state rarely, and 22% report often or always. The time of days students use their phone was analyzed. Students reported predominantly using smartphones after school hours, 32% after school, 23% in the evenings, and 23% late at night. On a typical school day, 37% of students report they check their phones a few times a day, and 15% check every hour, while 16% reported checking every 30 minutes and 15% of students check every 15 minutes or less,

Students were asked to rank different smartphone activities on a Likert Scale based on how much they used them. Students reported using their smartphones most often or always for social media (78.9%), messaging (74.6%), watching videos (54.8%), and listening to music (88.0%). They reported using their smartphones sometimes for doing schoolwork/homework (29.8%), and online shopping (28.8%). They reported using their smartphones rarely or never for playing games (35.6%) and reading news, articles, or books (63.9%). Students were also asked to report their cumulative weighted averages for correlation purposes. See Figure 3 for results.



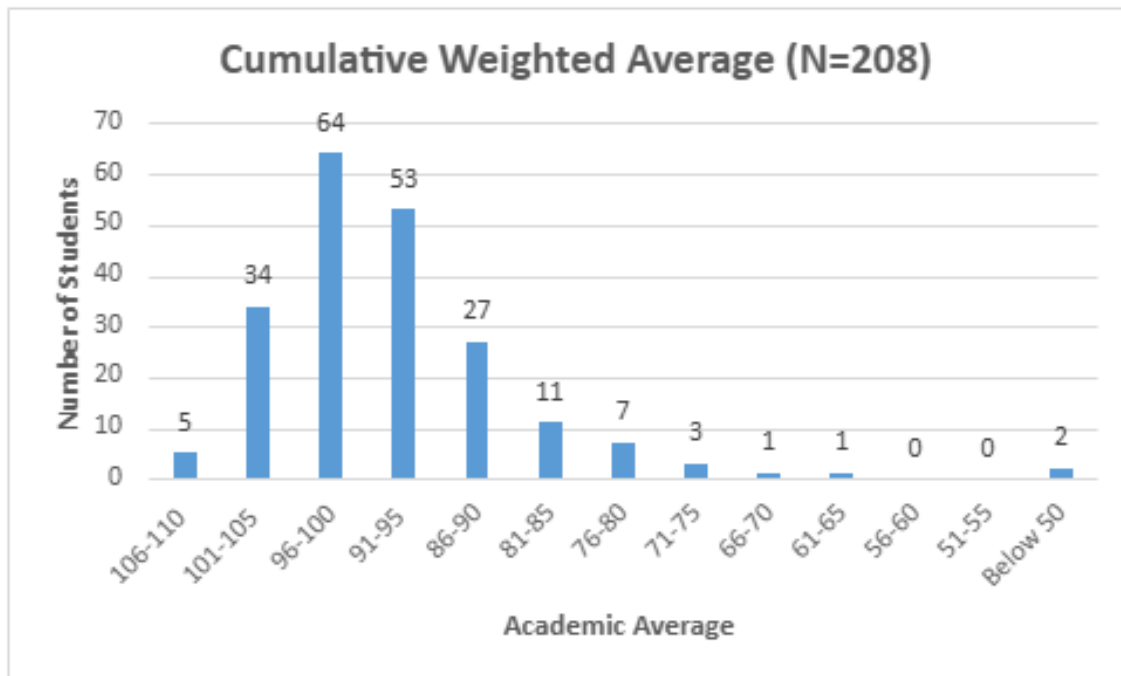


Figure 3. Students reported cumulative academic weighted average.

### Correlations

The Spearman Rho's correlation was run to determine the correlation between students' screen time amount and the amount of reported procrastination of schoolwork. There were significant positive correlations as seen in Table 1. However, there was no significant correlation between a student's screen time and their academic achievement reported through their cumulative weighted average,  $R_s = -.091$ ,  $p = 0.191$ .

**Table 1**

*Correlation Between Amount of Screentime with Procrastination (n = 208)*

Variable	Hours	Check_Sm artphone2	Procratinat e_school	Delay assignment s	Continue Use	Why_Procr astinate
Hours	- -					
Check_Sm artphone2	0.313*** < .001	- -				
Procratinat e_school	0.213** 0.002	0.403*** < .001	- -			
Delay assignment s	0.275***< .001	0.465*** < .001	.713*** < .001	- -		
Continue Use	.252** < .001	0.436*** < .001	0.685*** < .001	0.701*** < .001	- -	
Why_Procr astinate	0.223** 0.001	.386*** < .001	0.551*** < .001	0.578*** < .001	0.564*** < .001	- -

Note. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

The Spearman's Rho correlations were also conducted to determine if there were significant relationships between students' amount of screen time and academic performance factors which include smartphone use in school, effects on academic performance, missing schoolwork deadlines, prioritizing smartphone use over homework, and homework distractions from smartphone use. There were significant positive correlations as seen in Table 2.

**Table 2***Correlation Between Amount of Screentime and Academic Performance (n = 208)*

Variable	Hours	Use_school	Affect_ Perform ance	Miss_ deadlines	Prioritize_ smartphone	Distract_ homework
Hours	- -					
Use_school	0.305***< .001	- -				
Affect_ Performanc e	-	-	- -			
Miss_ deadlines	0.213** 0.002	0.159* 0.022	-	- -		
Prioritize_ smartphone	0.266***< .001	0.160* 0.021	0.245*** < .001	0.385*** < .001	- -	
Distract_ homework	0.209** 0.002	-	0.381*** < .001	0.346*** < .001	0.389*** < .001	- -

*Note.* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ 

In summary, this study aimed to explore the correlation between the amount of high school students' amount of time spent on their screen with procrastination and academic achievement. This study revealed that high school students spend 3-4 hours a day, or more, on their cell phones. The data revealed a significant positive correlation between the number of hours students spend on their phones with the amount of time they spend procrastinating and delaying their school assignments. On the contrary, there was no significant correlation with the number of hours students spend on their phones and their self-perception on how their smartphones use affects their academic performance and actual grades.

## Discussion and Conclusion

This analysis of high school students' self-perceptions of smartphone use through this study provides a distinct understanding of how smart phone use affects students' level of procrastination, and overall academic performance. Although 60% of students did not think smartphone use affected their overall academic performance, many students reported increased distractions and procrastination in their schoolwork due to smartphone use. This study revealed a statistically significant high positive correlation between each variable, meaning procrastination on academic assignments is correlated with increased mobile phone screen time use. This further supports studies showing mobile phone dependency and increased mobile phone screen time can change an adolescent's knowledge and their higher chances of putting off academic practices than those who have a lower screen time (Patel et al., 2022; Sheikh et al., 2021). The study results also relate to a similar study by Jung and Hang (2014) who found a partial relation between cellular phone usage and procrastination. They described the relationship between smartphone addiction and increased screen time diverts students away from schoolwork and they discovered that mobile phone addiction partially mediates the relationship between adolescent's self-control and academic procrastination.

Another important aspect of this study was that the results of students' screen time use were correlated with their academic performance. There was a statistically significant positive correlation seen with students who prioritized their smartphone use and the negative effects on their academic performance including missing deadlines. These correlations were similar to Gökalp et al. (2023), who studied the connection between multi-screen addiction and academic procrastination in students. This study also found a positive relationship between the two, with students frequently postponing tasks which lead to negative academic outcomes. Similarly, these results are supported by Patel et al. (2022) who discovered that adolescents who spent over three hours per day on their screens or mobile phones tended to perform poorly in school.

This study also found an additional high positive correlation was seen between the increase in smartphone distractibility and effect on students' academic performance, increasing missed deadlines, and prioritizing their smartphone over schoolwork. This further supports the work by Erdoğan et al. (2013) who found that students who extensively used mobile phones and were distracted with social media like Facebook, had lower grade point averages (GPAs), spent less time studying and more time procrastinating with their schoolwork.

Lastly, the increased time spent on the smartphone also correlated highly with missing deadlines, prioritizing smartphone use, and increased distractions from homework. This supports a study by Meier (2022), who found that both mobile connectivity and frequent phone checking habits accounted for increased procrastination among students. The results of this study also demonstrate both the Temporal Motivation Theory and Compensatory Internet Use theories and how they highlight how external factors such as self-efficacy or screen addiction can contribute to procrastination, but they do so from different perspectives. One focuses on internal factors and the other focuses on the impact of external distractions (Chen & Lyu, 2024; Thakkar, 2009). The internal factors studied include self-perceptions, motivation, and



distractibility, as were external factors like causes of smartphone use and smartphone activities. Although self-efficacy may be a key factor in affecting procrastination, it is not the only main factor. Another important factor is screen time and phone use, which prior to this study, was not clearly understood in terms of their effects on a students' procrastination, self-control, focus, and ability to participate and complete schoolwork. The results of this study provide a new understanding of the effects of smartphones on students' academic abilities and clearly show the impact it has on students' everyday life including procrastination and distractions from schoolwork.

### **Implications**

This study demonstrates the effects of smartphone use among highschoolers and the negative impact on academic performance and student procrastination habits. Although many students may believe smartphone use does not affect their overall academic performance, they may not be aware of the actual negative implications of smartphone use. There could be long-term consequences of smartphone use and dependency which correlate with student procrastination. This procrastination seen in students was also seen in recent studies where students that spent more time on their mobile phones had a higher chance of putting off academic tasks than those who have a lower screen time use (Patel et al., 2022; Sheikh et al., 2021).

Further studies can be done on academic performance and long-term smartphone use and distractibility. School districts and communities can use these results and begin to limit smartphone use during the school day. It is important for students and families to be educated and aware of the negative effects of smartphone dependency and its correlation with negative academic behaviors, increased distractibility, and procrastination. Educating parents and families on the negative effects of problematic smartphone use at school and during after school homework hours can make an impact on students overall academic behavior and mental health. This aligns with recommendations made by Hong et al. (2021) where interventions for academic procrastination may be effective in reducing maladaptive cognitions associated with increased mobile phone behaviors. Studies have shown that excessive smartphone use can negatively impact students' academic behavior and contribute to a decline in their mental health and well-being (Yang et al. 2019). As a result, some schools may want to implement stricter policies to restrict mobile phone use, aiming to reduce procrastination behavior to improve academic performance and outcomes.

### **Limitations and Future Research**

This study has several limitations when considering its findings. Firstly, one limitation was the small sample size and convenient sample of participants from one Northeastern suburban high school, which was not equally distributed among all grades, and potentially lacked adequate representation of all demographics of all high school students nationally. The survey was sent to all students, but the majority of respondents were 9<sup>th</sup> graders, who are



developmentally younger and may have different perceptions than older students. A large portion of older students (11<sup>th</sup> and 12<sup>th</sup> graders) were not represented. Additionally, the answers from 9<sup>th</sup> grade students could be biased due to varying levels of academic work and demands compared to the workload of higher academic grades. Questions were reflective of student perceptions, and there could be self-report bias, where students may not have been truthful, and they may have felt they needed to respond in a socially desirable way. Despite these limitations, the study provided good data on screen time use in high school students and their perceptions of academics and procrastination.

Through further research, larger sample sizes from various regions across the country would provide a more representative sample of the general adolescent population. This would help ensure that all the findings are more generalizable and reflect diverse demographics and educational systems. Additionally, to further investigate procrastination habits, research could include additional questions about the specific causes of procrastination could be asked. Tracking daily smartphone use using objective measures such as screen time reports on cell phones, instead of relying on students' self-reported perceptions of time spent on devices could provide more accurate and reliable data.

## References

- Bandura, A. (1997). *Self-efficacy: The exercise of control*. Macmillan.
- Bozkurt, A., Demirdöğen, E. Y., & Akıncı, M. A. (2024). The association between bedtime procrastination, sleep quality, and problematic smartphone use in adolescents: A mediation analysis. *The Eurasian Journal of Medicine*, 56(1), 69. <https://doi.org/10.5152/eurasianjmed.2024.23379>
- Çakır, S., Akça, F., Kodaz, A. F., & Tulgarer, S. (2014). The survey of academic procrastination on high school students with in terms of school burn-out and learning styles. *Procedia-Social and Behavioral Sciences*, 114, 654-662. <https://doi.org/10.1016/j.sbspro.2013.12.763>
- Chen, G., & Lyu, C. (2024). The relationship between smartphone addiction and procrastination among students: A systematic review and meta-analysis. *Personality and Individual Differences*, 224, 112652. <https://doi.org/10.1016/j.paid.2024.112652>
- Erdoğan, U., Pamuk, M., Eren-Yürük, S., & Pamuk, K. (2013). Academic procrastination and mobile phone. In *International Academic Conference on Education, Teaching and E-learning* (pp. 17-18).
- Gökalp, Z. Ş., Saritepeci, M., & Durak, H. Y. (2023). The relationship between self-control and procrastination among adolescent: The mediating role of multi-screen addiction. *Current Psychology*, 42(15), 13192-13203. <https://doi.org/10.1007/s12144-021-02472-2>
- Hong, W., Liu, R. D., Ding, Y., Jiang, S., Yang, X., & Sheng, X. (2021). Academic procrastination precedes problematic mobile phone use in Chinese adolescents: A longitudinal mediation model of distraction cognitions. *Addictive behaviors*, 121, 106993. <https://doi.org/10.1016/j.addbeh.2021.106993>
- Jung, E. J., & Han, Y. J. (2014). The effect of adolescents' time perspective and self-control on academic procrastination: The mediating effect of cellular phone addiction. *Korean Journal of Child Studies*, 35(1), 119-133. <https://doi.org/10.5723/KJCS.2014.35.1.119>
- Kağan, M. (2009). Determining the variables which explain the behavior of academic procrastination in university students. *Ankara University Journal of Faculty of Educational Sciences (JFES)*, 42(2), 113-128. [https://doi.org/10.1501/Egifak\\_0000001179](https://doi.org/10.1501/Egifak_0000001179)
- Meier, A. (2022). Studying problems, not problematic usage: Do mobile checking habits increase procrastination and decrease well-being? *Mobile Media & Communication*, 10(2), 272-293. <https://doi.org/10.1177/20501579211029326>
- Muppalla, S. K., Vuppalapati, S., Pulliahgaru, A. R., Sreenivasulu, H., & Muppalla, S. K. (2023). Effects of excessive screen time on child development: an updated review and strategies for management. *Cureus*, 15(6), e40608. <https://doi.org/10.7759/cureus.40608>
- Patel, M., Patel, S. K., Suresh, S., Vishwakarma, K., & Singh, S. (2022). Relationship between screen time and academic performance in adolescents. *Caspian Journal of Pediatrics*, 8(2), 739-747. <http://caspijanjp.ir/article-1-198-en.html>



- Radesky, J., Weeks, H. M., Schaller, A., Robb, M., Mann, S., & Lenhart, A. (2023). Constant companion: A week in the life of a young person's smartphone use. In Common Sense.
- Rahardjo, W., Juneman, J., & Setiani, Y. (2013). Computer anxiety, academic stress, and academic procrastination on college students. *Journal of Education and Learning (EduLearn)*, 7(3), 147-152.
- Senecal, C., Koestner, R., & Vallerand, R. (1995). Self-regulation and academic procrastination. *Journal of Social Psychology*, 135(5), 607–619.  
<https://doi.org/10.1080/00224545.1995.9712234>
- Sheikh, M. N., Baig, L. A., & Ahmer, Z. (2021). The dilemma of mobile phone overuse: Findings from a quasi-experimental study on a cohort of Pakistani adolescents. *Journal of the Dow University of Health Sciences (JDUHS)*, 15(2), 64–69.  
<https://doi.org/10.36570/jduhs.2021.2.1138>
- Sunday, O. J., Adesope, O. O., & Maarhuis, P. L. (2021). The effects of smartphone addiction on learning: A meta-analysis. *Computers in Human Behavior Reports*, 4, 100114.  
<https://doi.org/10.1016/j.chbr.2021.100114>
- Thakkar, N. (2009). Why procrastinate: An investigation of the root causes behind procrastination. *Lethbridge Undergraduate Research Journal*, 4, 1-12.  
<https://hdl.handle.net/10133/1241>
- Van Eerde, W. (2003). A meta-analytically derived nomological network of procrastination. *Personality and Individual Differences*, 35(6), 1401-1418.  
[https://doi.org/10.1016/S0191-8869\(02\)00358-6](https://doi.org/10.1016/S0191-8869(02)00358-6)
- Wacks, Y., & Weinstein, A. M. (2021). Excessive smartphone use is associated with health problems in adolescents and young adults. *Frontiers in Psychiatry*, 12, 669042.  
<https://doi.org/10.3389/fpsy.2021.669042>
- Yang, Z., Asbury, K., & Griffiths, M. D. (2019). An exploration of problematic smartphone use among Chinese university students: Associations with academic anxiety, academic procrastination, self-regulation and subjective wellbeing. *International Journal of Mental Health and Addiction*, 17, 596-614. <https://doi.org/10.1007/s11469-018-9961-1>
- Zhen, R., Li, L., Ding, Y., Hong, W., & Liu, R. D. (2020). How does mobile phone dependency impair academic engagement among Chinese left-behind children? *Children and Youth Services Review*, 116, 105169. <https://doi.org/10.1016/j.childyouth.2020.105169>
- Zhou, X., Yang, F., Chen, Y., & Gao, Y. (2024). The correlation between mobile phone addiction and procrastination in students: A meta-analysis. *Journal of affective disorders*, 346, 317-328. <https://doi.org/10.1016/j.jad.2023.11.020>



## Appendix

### A. Full Copy of Distributed Survey:

Mobile Phone Use and Academic Procrastination and their Effects on Academic Performance

#### INFORMED CONSENT STATEMENT FORM

I would like to thank you for your participation with this survey.

The purpose of this survey is to: Find the exact amount of screen time that effects academic procrastination and how it affects academic performance in students.

Please know that:

1. Your interview responses, along with the responses of other interviewees, will be used to help me complete a research study that correlation of the amount of screen time and academic correlation and how it affects academic performance. Also, your responses will help provide information regarding the effects of screen time and on overall academic performance. Some of the questions may be repetitive in order to establish context for upcoming questions or to ensure consistent responses.
2. The interviewer and researcher is an AP Research student enrolled in AP Capstone program.
3. Your participation in this survey is completely voluntary. You may choose to stop the survey at any time if you feel uncomfortable, and there will be no penalty whatsoever for choosing to do so.
4. All responses are confidential and deidentified and no information directly associating your name with your responses will be reported to anyone. Typically, findings are reported in group form, so no individual is identifiable.
5. There are no direct benefits to you anticipated from your participation. We believe there are no known risks associated with this study.
6. The data collected from this interview will be destroyed upon the publication of the researcher's academic paper.
7. A discussion of findings from this study will be available to all participants after April 30th.
8. If you have questions about this research study or any research related problems, you may contact the faculty advisor.

Participant Agreement:



I have read the information provided above. By completing and submitting the survey, I voluntarily agree to participate in this research study.

Demographics:

These questions ask about your personal information.

1.What is your age in years?

13

14

15

16

17

18

19+

2.What grade are you currently in?

9th grade

10th grade

11th grade

12th grade

3.What gender do you identify as?

Male

Female

Non-binary

Prefer not to say

4.How do you identify your race/ethnicity?

Asian



Black or African American  
Hispanic or Latino  
Native American or Alaska Native  
Native Hawaiian or Pacific Islander  
White  
Multiracial

5.What is your primary language you speak at home?

English  
Spanish  
French  
Portuguese  
Chinese

6.What is the highest level of education completed by your parent(s) or guardian(s)? (Select the highest level)

Less than high school  
High school diploma or GED  
Some college or vocational training  
Bachelor's degree  
Graduate or professional degree  
Not sure

7.Who do you live with most of the time?

Both parents  
One parent  
Other relatives (like grandparents or aunts/uncles)  
Foster care/guardian



---

8.Do you participate in any extracurricular activities at school or outside of school? (Select all that apply)

Sports

Music/Band/Orchestra/Chorus

Drama/Theater

Clubs (like Model UN, Honor Societies, Key Club, etc.)

Community service/volunteering

Job/employment

None

9.What type of classes do you primarily take?

Regular

Honors

AP

10.What is your current Cumulative Weighted Average?

106-110

101-105

96-100

91-95

86-90

81-85

76-80

71-75

66-70

61-65

56-60

51-55

Below 50



---

### Technology Use & Access:

These questions will ask about your technology use.

11. Do you have access to a device (laptop, tablet, or computer) for schoolwork at home?

Yes, I have my own device

Yes, but I share a device with others

Yes, but it is a school-issued device

No, I do not have access to a device

12. Do you have a smartphone (cell phone with internet access)?

Yes, I have my own smartphone

Yes, but I share a smartphone with others

No, I do not have a smartphone

13. How often do you use your smartphone on a typical day?

Less than 1 hour

1-2 hours

3-4 hours

5-6 hours

7-8 hours

9-10 hours

More than 10 hours

14. At what times of the day do you use your smartphone most often? (Select all that apply)

Before school (morning)

During school hours

After school (afternoon)

Evening (after dinner)

Late at night (before bed)



15. On a typical school day, how often do you check your smartphone?

Every 15 minutes or less

Every 30 minutes

Every hour

A few times per day

Rarely or only when needed

16. How often do you use your smartphone for the following activities?

Never, Rarely, Sometimes, Often, Always

Social Media (e.g., Instagram, TikTok, Snapchat, etc.)

Messaging (e.g., text messages, WhatsApp, etc.)

Watching videos (e.g., YouTube, streaming apps)

Playing games

Doing schoolwork/ homework

Listening to music or podcasts

Reading news, articles, or books

Online shopping or browsing products

17. How often do you use your smartphone during school hours?

Never

Rarely (only during breaks)

Sometimes (during class with permission)

Often (during class without permission)

Always (used throughout the day)

Technology Use on Academic Performance:

These questions ask about how your technology use affects your academic performance.





18.How do you think smartphone use affects your academic performance?

It improves my academic performance

It has no impact on my academic performance

It somewhat negatively affects my academic performance

It significantly negatively affects my academic performance

19.Do you believe your smartphone use has caused you to miss deadlines for assignments or homework?

Never

Rarely (once or twice a semester)

Sometimes (a few times a month)

Often (a few times a week)

Always (almost every day)

20.How often do you prioritize smartphone activities (e.g., social media, games, videos, etc.) over schoolwork?

Never

Rarely (a few times a month)

Sometimes (a few times a week)

Often (almost every day)

Always (every day)

21.How often does your smartphone distract you while doing homework or studying?

Never

Rarely (only in emergencies)

Sometimes (a few times a week)

Often (almost every day)

Always (every time I do homework)

22.When working on assignments, how often do you stop to check your smartphone (for texts, notifications, social media, etc.)?



Never

Rarely (once or twice during a session)

Sometimes (every 15-30 minutes)

Often (every 10-15 minutes)

Always (constantly checking)

Smartphone Use and Procrastination:

These questions will ask you about how smartphones cause you to procrastinate.

23.Do you think using your smartphone causes you to procrastinate on school assignments or homework?

No, never

Rarely

Sometimes

Yes, often

Yes, always

24.How often do you delay starting assignments or homework because you are using your smartphone?

Never

Rarely (once or twice a month)

Sometimes (a few times a week)

Often (almost every day)

Always (every day)

25.How often do you continue using your smartphone even when you know you should be doing schoolwork?

Never

Rarely (only in emergencies)

Sometimes (a few times a week)



Often (almost every day)

Always (every day)

26. Which of the following best describes why you procrastinate schoolwork because of your smartphone?

I lose track of time while using it

I feel unmotivated to start schoolwork

I tell myself, "just 5 more minutes" and keep using it

I find the activities on my smartphone more fun than schoolwork

I don't think about the deadlines until it's too late