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Addiction in the Digital Age: Exploring Problematic Mobile Phone Use

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Abstract:

Aim: The main aim of this study was to examine patterns of recreational mobile phone use across different age groups and evaluate the possibility of mobile phone addiction, known as Problematic Mobile Phone Use (PMPU) (chatgpt).

Methods: The study was conducted as an online survey, with the help of google forms. It consisted of 106 participants aged 13 to 59+. Of these, the majority (61.3%) were females. Data was collected on the time participants spent on their phones, the most frequently used apps, and when the participants received their first mobile phone.

Results: The largest group of participants (50.9%) were from 23-29 age category, with (67.9%) reporting spending more time on their phones than intended. Social media apps (83%) and YouTube (60.4%) were the most commonly used apps, with an average of 3-4 hours per day. Despite excessive use, (53.8%) of participants reported not taking any steps to reduce their screen time.

Conclusion: This study reveals that many participants do not recognize the signs of problematic mobile phone use (PMPU) and highlights the need to spread more awareness regarding it among the general population.

Keywords: Problematic mobile phone use, Addiction, Mental Health.

Introduction:

In this digital age, almost everyone has their own personal mobile phone. It is undoubtedly one of the most useful inventions in recent history, but it has not come without a price. The device that had the primary purpose of connecting us with a person far away from us in the physical space has now started to pull us away from our close family and friends, the very people we live with.

People are getting exposed to this new technology at a younger and younger age with each passing decade. Children and teenagers are the most vulnerable as their brains are not fully developed. Brain regions such as the prefrontal cortex and limbic system are still developing in adolescents. These key areas are responsible for impulse control, self-regulation, planning, risk assessment, reward processing and positive reinforcement (Davis, 2024).

A study found that adolescents under 20, i.e., teenagers, are the most likely to get addicted to their cell phones, as they are also the ones most likely to struggle with behavioural problems like depression, anxiety, low self-esteem, etc., which are known to increase the risk factors for any addiction. (Gutiérrez, 2016)

Our brain releases certain neurotransmitters like endorphins etc… when we are exposed to pleasurable stimulation like food, sex etc… This gives us a normal high. When we expose ourselves to substances that

release disproportionately high amounts of these neurotransmitters or do so more quickly and easily compared to natural pleasures, we tend to develop an addiction. Dopamine is another crucial neurotransmitter that is also released during pleasurable activities; this neurotransmitter helps in the reinforcement of a behavior and makes it into a habit. A high surge of dopamine that is released in response to certain substances like alcohol or activities like gambling is unlikely to be released in response to normal pleasures, this strongly reinforces the pattern of repeating that behaviour in the future and makes them much more addictive compared to everyday pleasures. (Volkow, 2011). Similarly, the novel information through social media apps and the like releases a surge of these neurotransmitters. It takes little to no effort to scroll social media, but it releases pleasure-causing neurotransmitters; this is much easier and quicker compared to many of the natural pleasures like exercise, cooking and eating food, having sex with your partner, socializing with your friends, etc.… Hence, they are more likely to become addictive.

There are some stark similarities between excessive cell phone use and addictions like compulsive gambling. They include: -

- Inability to control the behaviour
- Difficulty in stopping the behaviour
- The need to engage in the behaviour more often or for longer periods of time to get the same high, known as tolerance
- The negative impact of the behaviour on different areas of life
- Experiencing withdrawal symptoms like irritability, anxiety and frustration when trying to cut down the behaviour
- Falling back into the habit of excessive use after a period of successful avoidance known as Relapse (Stanborough, 2019)

It's no secret that the big tech giants have designed their apps to be more and more addictive so that people spend more time than intended, exposing themselves to information that has no real use in their lives, which eventually takes time away from more important tasks. Tristan Harris, a former Google design ethicist, said this: "The app engineers employ various techniques to attract and hold a user's attention. The strategies they use are similar to those used in a casino, where casinos lack clocks, social feeds lack bottoms, and If I take the bottom out of the glass, you don't know when to stop drinking." He also talks about the "refresh" feature, which may or may not reward the user with new and interesting information in the Instagram or YouTube feed. The underlying mechanism here is similar to what's used in gambling, known as the intermittent reward system. When a person is rewarded at random intermittent intervals after performing an action, it builds uncertainty and anticipation, which causes bigger dopamine spikes than on actually receiving the reward, i.e., winning money in gambling. This frequent higher-than-usual dopamine release increases the likelihood of addiction from that activity. Similarly, while refreshing social media apps, the novel content may or may not be interesting for the user. This builds uncertainty and anticipation, causing the person to scroll compulsively and refresh. (Wood, 2021).

There have been some studies indicating excessive phone usage to be an emerging mental health disorder known as (PMPU) 'Problematic Mobile Phone Use' (Meagher, 2017).

Hence there's need for more research and awareness regarding this critical issue and its potential to cause addiction.

Aim:

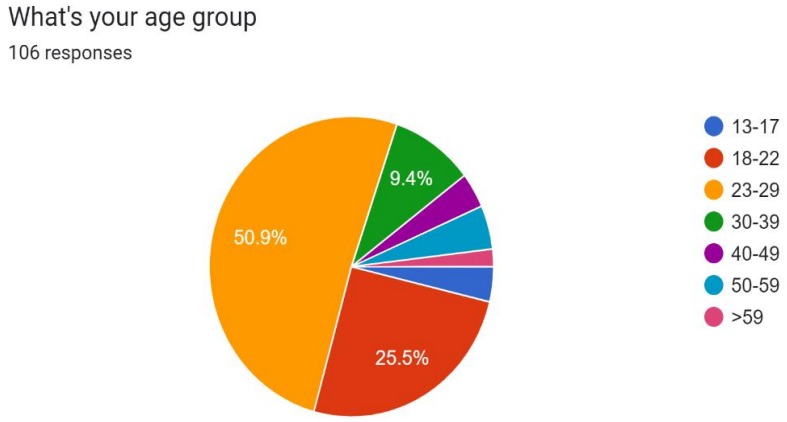
To determine recreational mobile phone usage patterns in different age groups.

Methodology:

106 people from Hyderabad (India) participated in this research.
The age group chosen for this study was between (13-59+ and) years old.
(61.3%) subjects were female and the rest (38.7%) were males.
The study was conducted as an online survey with the help of Google Forms.

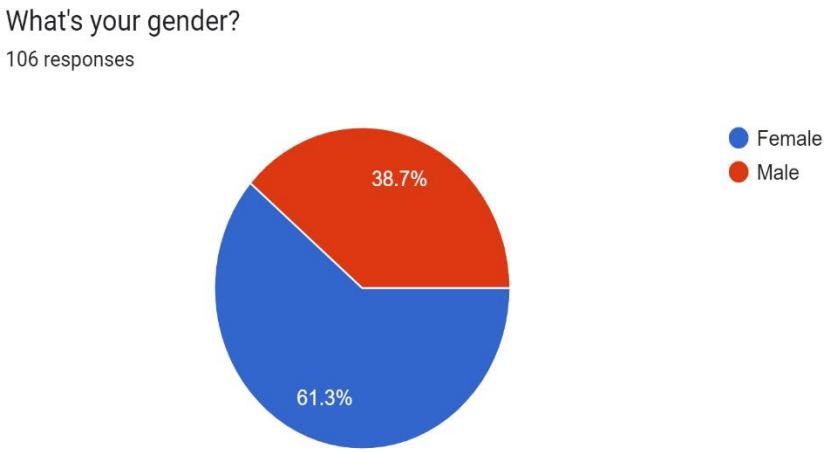
Results & Discussion

Figure 1: Age Group



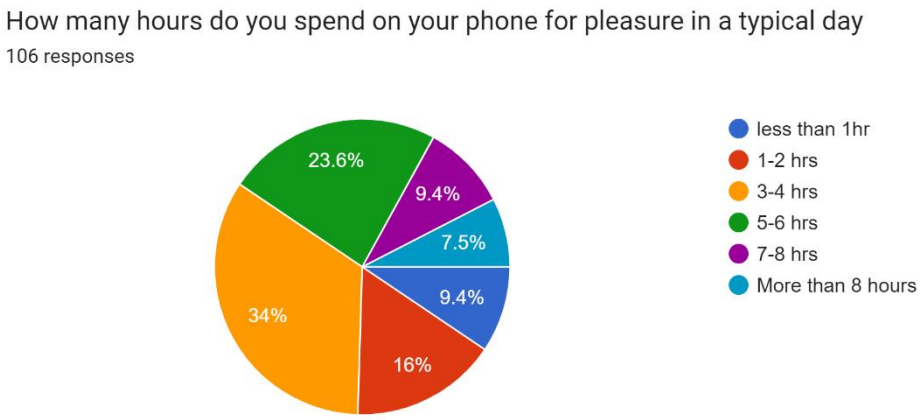
The majority of the participants in this study belonged to the age category of 23-29yrs about (50.9%), followed by 18–22yr olds comprising (25.5%) subjects, (9.4%) in the 30-39yr old class, (4.7%) in the 50-59yr old category, (3.8%) in the 13-17yr olds and 40-49yr olds and (1.9%) above 59yrs of age

Figure 2: Gender



The overwhelming majority (61.3%) of the study participants were females, and the rest (38.7%) were males.

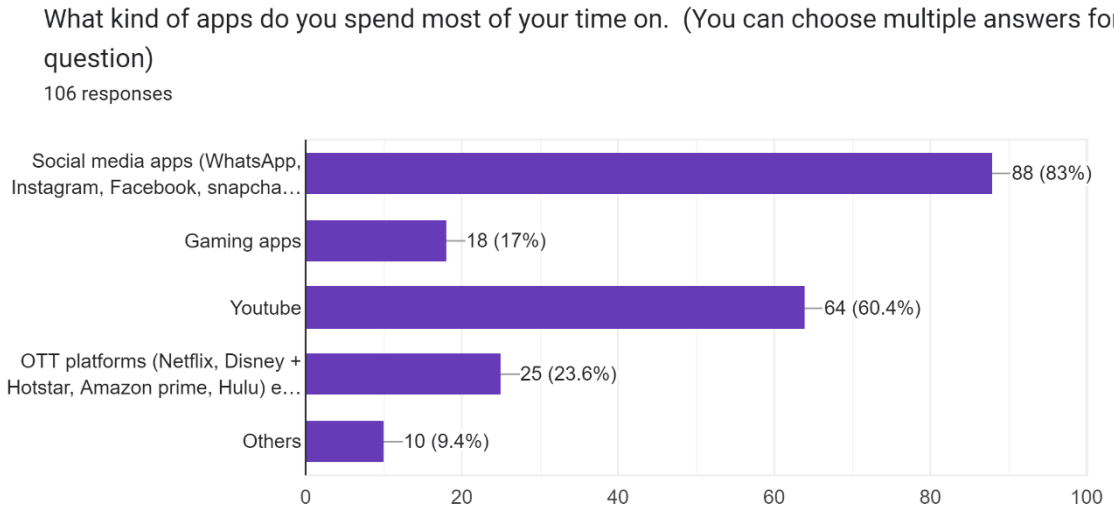
Figure 3: Time Spent on Mobile Phone in a Typical Day



This study also revealed that the majority of the people (34%) spent about 3-4hrs each day on their phone, followed by (23.6%) who spent between 5-6hrs in a day, (16%) spending around 1-2hrs, (9.4%) people spent less than an hour and another (9.4%) spent between 7-8hrs. Shockingly, (7.5%) of people spend over 8 hours in a day.

According to statistics published by Data Reportal, globally, an average person is now spending around 6hrs 31mins on the internet, and (95.9%) of those users access the internet through mobile phones. (Data reportal)

Figure 4: Most Used Apps on the Mobile Phone

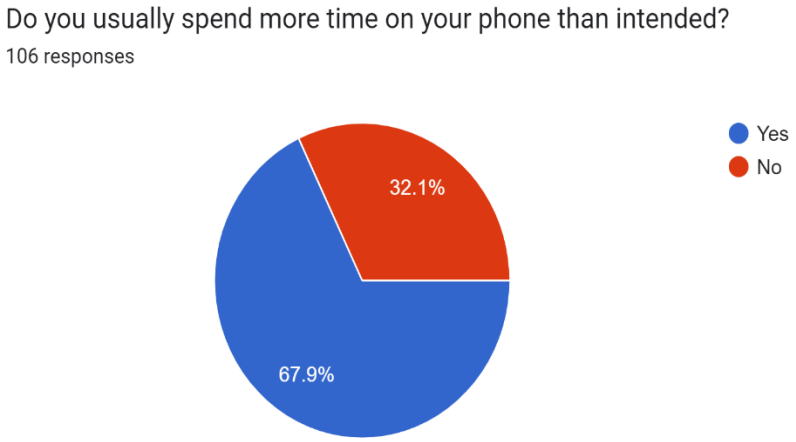


Participants chose multiple answers for this question. The top two most used apps were social media apps (83%), including WhatsApp, Instagram, Snapchat, Facebook, etc., and YouTube (60.4%).

A relatively small percentage of people spent the most time on OTT platforms (23.6%) and gaming apps (17%), while only a handful (9.4%) chose ‘others’ as the most used apps.

Similar results were reported in a research done by Simform, the most used apps for (58%) of their participants were social media apps, followed by gaming and communication apps. (Kataria, 2021)

Figure 5: Do People Spend More Time on their Phones than Intended?

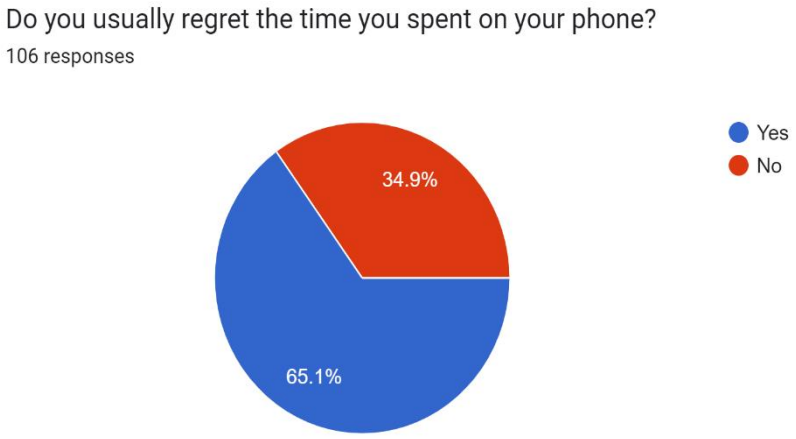


(67.9%) people reported spending more time on their phone than intended. On the contrary, only 32.1% believe they have their phone usage under control.

This is not surprising, considering that tech giants design their platforms to be addictive. As a result, people spend more and more time on their platforms, which often turns out to be much more than they intend.

A study highlighted that 43% of Americans believe they spend too much time on their smartphones (Harmony Healthcare IT, 2024)

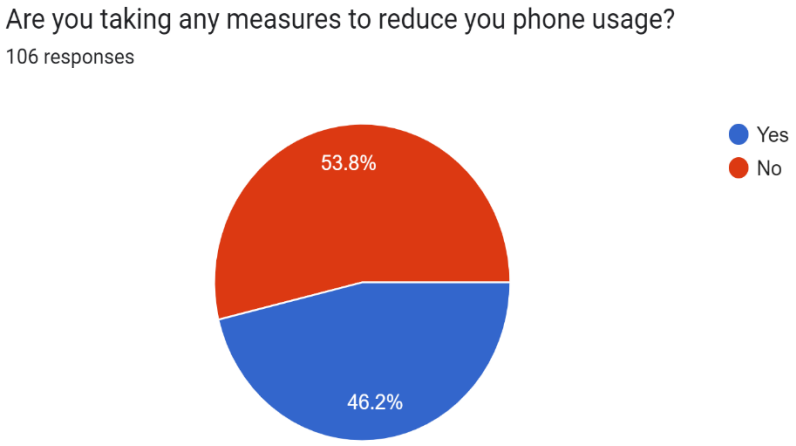
Figure 6: Do People Usually Regret the Time Spent on their Phone



65.1% of people accept that they often regret the time spent on their phones.

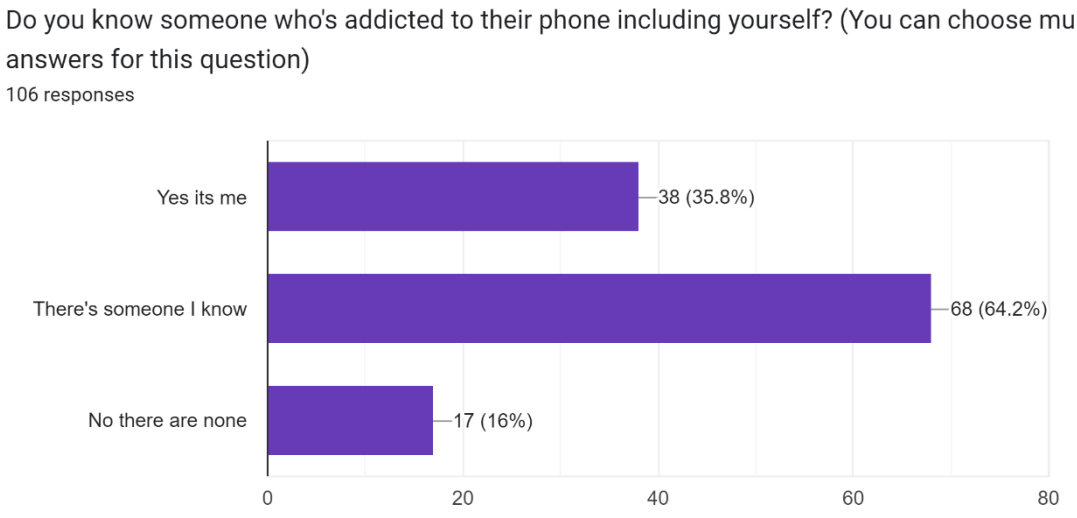
A study published in PLOS ONE found that participants often regretted their mobile phone use, especially when they noticed its negative effects on their memory, attention etc. Surprisingly, female participants were more likely to spend longer periods on their phones and experience more regret. (Tanil, 2020)

Figure 7: Are People Taking any Measures to Curb their Phone Usage?



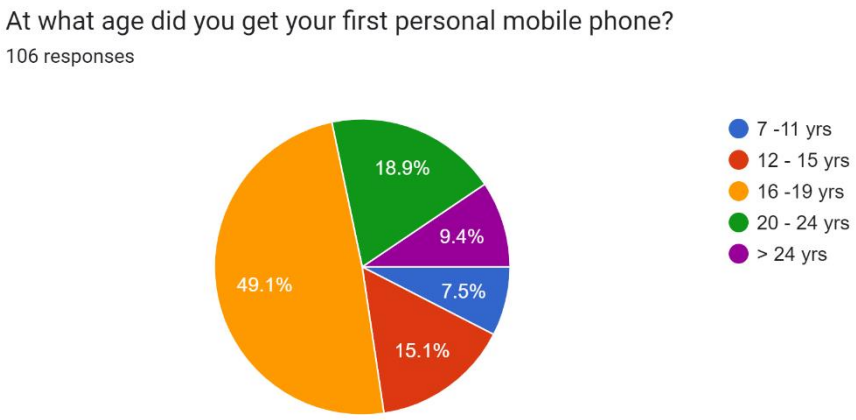
Even though most participants spend more time on their phones than intended and often regret it, most people (53.8%) are currently taking no measures to curb their phone usage.
The (46.2%) who do take some measure to reduce their screen-time often fail. This can be said from the fact that most people use their phone for longer than intended (67.9%) and often regret it (65.1%), indicating that despite trying, most people failed to curb their phone usage.
A study showed that 40% of Americans aim to cut down their phone usage, but (27%) don't think they'll be successful. (Harmony Healthcare IT, 2024)

Figure 8: Do People Believe if They or Others Around them are Addicted to their Phone?



(16%) people do not see themselves or others as addicted to their phones. Still, most people (64.2%) believe someone they know is addicted to their phone, but only (35.8%) include themselves in that category, even though most people admit to using their mobile phones for longer than intended and often regret it. This could also explain why most people are not taking any measures to reduce their phone usage; it might be because they don't think they are addicted. This lack of insight causes them not to take any action.

Figure 9: The Age at Most Participants got Their First Mobile Phone



Most participants (49.1%) received their first personal mobile phone at the ages of 16–19yrs, followed by (18.9%) in the age group of 20-24yrs, while (15.1%) got their first phone in the age category of 12-15yrs, only around (9.4%) people received their first phone after 24yrs. Shockingly (7.5%) people got their first phone between 7-11yrs.

A recent study in the US showed that, on average, most children get their smartphone at 11.6yrs of age (Digitale, 2022)

Conclusion

Most people who participated in this research were in the age group of 23- 29 years, of which the majority got their first personal mobile phone between 16-19 years old (49.1%). Also, the dominant gender in this study (61.3%) was female. The most popular apps were Social media apps (83%) and YouTube (60.4%); on average, a participant spent 3-4 hours on these apps daily. Most participants (67.9%) in the study admitted to have used their mobile phone for longer than they intended and (65.1%) often regretted it. Despite this, most people do not believe they are addicted to their phones and do not take any measures to curb their usage (53.8%). Some participants who do take some measure (46.2%) to reduce their screen time often fail.

The fact that most people are using a substance (mobile phone) for longer than they intended, often regret using it and usually fail in trying to cut it down are hallmark signs of any addiction.

Limitations

1. **Self-report reliability:** This study was based on the participants' self-report, which is not always reliable due to limitations of human memory and susceptibility to different biases, like social desirability bias.
2. **Gender disparity: -** This research consisted a disproportionate number of female participants (61.3%), which can skew the results.
3. **Limited addiction parameters:-** This study only included some addiction parameters like regret after excessive use and inability to cut down usage.
4. **Lack of interventions:** This study focused on patterns of excessive phone usage but did not examine any interventions to reduce screen time.

Scope for further research

1. **Accurate Measurement of Screen Time**: Future studies could use objective tools to measure screen time like tracking apps (chatgpt).
2. **More Diverse sample size**: Future studies can include a more diverse and balanced sample size in terms of gender, age, socioeconomic status, and demographics
3. **More Addiction Indicators**: Future research could account for additional parameters of addiction such as compulsive behaviour, emotional dependency, withdrawal symptoms, and impact on different life areas
4. **Focus on Interventions**: Further research can focus on interventions like using apps that limit screen time, practicing meditation, minimizing environmental triggers etc. and can then evaluate their performance in curbing excessive phone usage.

References

1. Dr. Brendan Maegher, "Problematic Mobile Phone Use: An Emerging Disorder;" Australian Psychological Society, October 2017, Psych vol 39, Issue 5. https://psychology.org.au/formembers/publications/inpsych/2017/oct/problematic-mobile-phone-use-an-emerging-disorder
2. Sarah Bentley, "Understanding the Limitations of Survey-based Studies," Essay freelance writers, October 2023. https://essayfreelancewriters.com/blog/understanding-the-limitations-of-survey-based-studies/
3. Nora D Volkow; "Drugs, Brains and Behaviour: The Science of Addiction," National Institute on Drug Abuse, July 2011. https://nida.nih.gov/research-topics/addiction-science/drugs-brain-behavior-science-of-addiction
4. José De-Sola Gutiérrez et al, "Cell-Phone Addiction: A review," Front Psychiatry, National Library of Medicine, October 24, 2016, 7:175. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5076301/
5. Rebecca joy Stanborough (MFA), "How to Tell if You Could be Addicted to Your Phone," Healthline, October 17, 2019. https://www.healthline.com/health/mental-health/cell-phone-addiction
6. Charlie wood, "How Smartphones Hijack the Brain," BrainFacts.org, January 8, 2021. https://www.brainfacts.org/neuroscience-in-society/tech-and-the-brain/2021/how-smartphones-hijack-the-brain-010821#:~:text=Largely%20by%20design%2C%20the%20features,brain's%20reward%20and%20attention%20systems.
7. Austin Davis, "Understanding Teen Phone Addiction," Clearfork Academy, Jun 18, 2024. https://clearforkacademy.com/blog/teen-phone-addiction/#:~:text=Although%20anyone%20with%20a%20mobile,risk%2C%20especially%20without%20parental%20supervision
8. Data reportal, Digital Around the World. https://datareportal.com/global-digital-overview
9. Maitrik Kataria, "App Usage Statistics 2022 that'll Surprise You," Simform, January 5, 2021. https://www.simform.com/blog/the-state-of-mobile-app-usage/
10. Josh Howarth, "Time Spent Using Smartphones 2024 Statistics," Exploding topics, June 4, 2024. https://explodingtopics.com/blog/smartphone-usage-stats#smartphone-use-effects
11. Clarissa Theodora Tanil et al, "Mobile Phones: The Effect of its Presence on Learning and Memory," Plos one, Aug 13, 2020.

https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0219233
12. Harmony healthcare IT staff, "Black Mirror or Black Hole: American Phone Screen Time Statistics" www.harmonyhit.com, January 8, 2024. https://www.harmonyhit.com/phone-screen-timestatistics/?clreqid=a5b99b78-5919-4ddd-a2d7-5cb3c4e66e6d&kbid=58587
13. Erin Digitale, "Age that Kids Acquire Cell Phone not Linked to Well Being", Stanford medicine, Nov 21, 2022. https://med.stanford.edu/news/all-news/2022/11/children-mobile-phone- age.html?tab=proxy
14. Open AI, (2024). Chatgpt (4 o mini). https://chatgpt.com/