

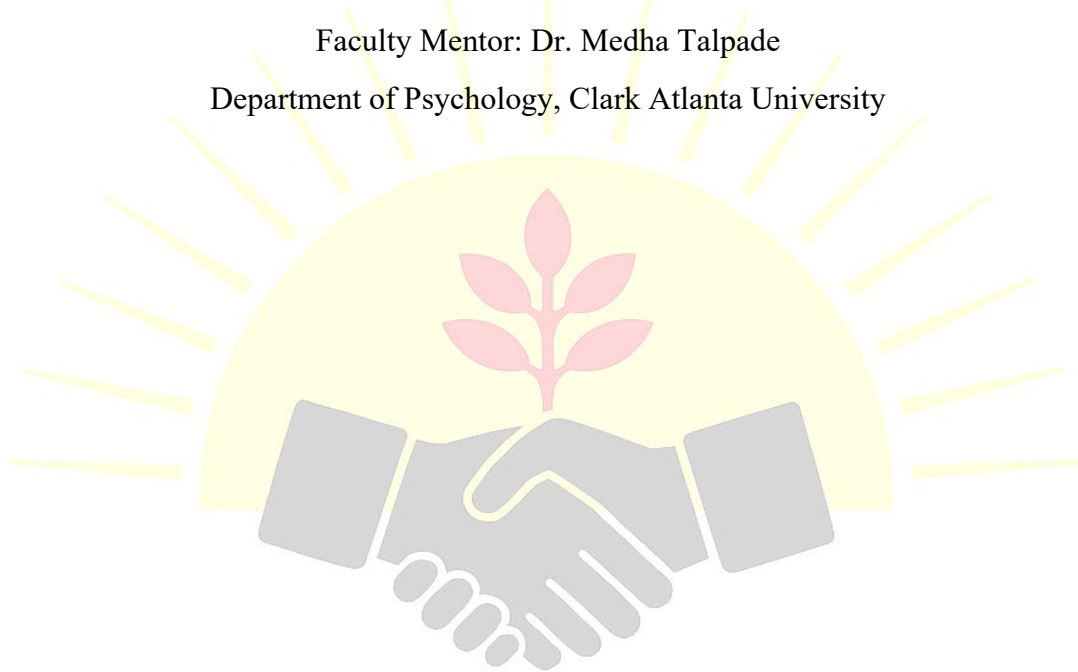
Impact of Screen Time on Children's Psychosocial and Academic Outcomes

Queinasia Henry

Jamilyah Wilson

Faculty Mentor: Dr. Medha Talpade

Department of Psychology, Clark Atlanta University



JOURNAL OF
FACULTY-STUDENT
UNDERGRADUATE RESEARCH

Abstract

Excessive screen time among children and adolescents has become a growing global concern, with many youths spending more than 7 hours per day engaged in digital activities such as social media, video games, and streaming content. These trends have coincided with documented declines in academic performance, motivation, and social engagement among children (Paulich et al., 2021; Tiraboschi et al., 2025). If left unexamined, excessive screen time may detrimentally affect children's cognitive development, emotional well-being, and interpersonal functioning. Social learning theory (Bandura, 1977) provides a framework for understanding these patterns by suggesting that children learn from and mimic reinforced behaviors in their environment. Digital platforms provide constant models and immediate rewards—such as likes, achievements, and notifications—which may encourage prolonged usage and potentially maladaptive habits. Although prior research has demonstrated relationships between excessive digital media use and challenges in attention, learning, and social connection, many existing studies rely on international samples or younger children, leaving a gap in literature concerning U.S. adolescents in community settings. The present study investigates the impact of screen time on cognitive functioning, social interaction, academic motivation, and well-being among adolescents ages 13–17 attending a Boys and Girls Club in the southeastern United States. We examined how the duration of screen use (e.g., social media, gaming, academic work), gender, and duration of daily screen engagement relate to adolescent study habits, peer relationships, focus, and perceived well-being after screen use. We hypothesized that there will be a significant relationship between screen time use and academic outcomes, social interaction, distraction, and feelings of well-being, among adolescents. Parental consent and participant assent were obtained from members at a community center. Participants ($n = 34$) completed a survey assessing daily screen time hours, typical media usage, study time, frequency of in-person peer interaction, emotional states following prolonged screen use, cognitive distractions (such as forgetting tasks), and whether screen time is perceived as helpful/harmful for learning, with open ended questions about career interests and required skills. Correlational analyses between screen time and psychosocial and academic outcomes revealed non-significant results. Chi-square analyses indicated significantly more interest in non-STEM fields but with alignment of skills with their future career goals. Analyses were conducted with gender as a predictor, results indicated that in the context of screen time, males reported higher sense of well-being than females. A marginally significant negative relationship between screen time and time spent studying, was revealed. Students reported spending about 3-4 hours a week studying based on their time spent on social media. These findings contribute to a growing body of literature by focusing on a specific U.S. adolescent population within a community center environment. While early trends indicate potential gender-based differences in the cognitive impact of screen time, it remains clear that digital media consumption is a pervasive and influential component of youth culture. Understanding how digital environments shape children's behaviors, attention, and academic efforts and career goals is essential to developing effective prevention strategies and guidance regarding healthy media use for optimal academic outcomes.

Keywords: screen time, adolescents, academic work

Impact of Screen Time on Children's Psychosocial and Academic Outcomes

Excessive screen time among children and adolescents has become a global concern, with studies showing that youth often spend more than seven hours daily on digital media, a trend linked to lower academic performance, weaker social skills, and heightened psychological stress (Paulich et al., 2021; Tiraboschi et al., 2025). If left unexamined, excessive screen time may undermine children's long-term cognitive, emotional, and social development. This study is guided by social learning theory, which posits that children learn behaviors through observation, imitation, and reinforcement (Bandura, 1977). Digital platforms, such as video games and social media, provide constant models and immediate rewards that can reinforce maladaptive patterns of excessive screen time use. Past research supports this framework, showing that gaming predicts declines in academic motivation (Tiraboschi et al., 2025), social media addiction contributes to burnout through alienation (Wenkai et al., 2023), and smartphone addiction worsens the effects of academic stress (Shen et al., 2021). However, much of the literature relies on cross-sectional data, younger samples, or specific cultural contexts (e.g., China, Canada), limiting understanding of how these processes unfold in U.S. adolescents. The current study extends this work by examining black 13–17-year-olds in a community center setting using surveys, to study the impact of screen time on cognitive functioning, social interactions, academic tasks, and well-being, offering a culturally grounded and developmentally specific contribution to the field.

Literature Review

In this section, research related to the variable screen time will be introduced and examined in relation to biopsychosocial outcomes among children and adolescents. Screen usage is a central feature of modern childhood and researchers have progressively investigated both its risks and its potential neutral or moderate effects. This study fills a gap in the literature by identifying the relationships between reports of screen time usage, and cognitive functioning, social interactions, academic outcomes, well-being, among black adolescents in the U.S.

Impact of Screen Time on Academic and Biopsychosocial Outcomes

Studies have investigated the nature of screen time use through activities such as gaming, social media use, recreational or purposeful use of online sources on academic outcomes and/or psychosocial outcomes. For example, Tiraboschi et al. (2025) used a longitudinal design with 1,631 children. Data from the Quebec Longitudinal Study of Child Development, on gaming and academic motivation were collected repeatedly at ages 7, 8, and 10 year olds to determine the association between gaming and academic motivation, finding that excessive gaming predicted decreased motivation for school. Correspondingly, Wenkai et al. (2023) found in a sample of Chinese students that social media addiction was positively linked to academic burnout, brought by interpersonal alienation. The authors surveyed 2095 junior high school students in Zhuhai, China through a web-based questionnaire survey. Shen et al. (2021) studied 1,028 adolescents and also found that smartphone addiction and academic stress reinforce each other. Expanding on the topic, Yang, et al. (2023) used a large dataset, to collect information for the 9,449 students in China, for the study. The authors compared physical activity and academic performance,

showing that meeting activity guidelines predicted better school achievement, indirectly suggesting that steady screen use may interfere with performance.

Overall, these findings suggest a consistent negative relationship between excessive screen use and academic achievement. Tiraboschi et al., (2025), Wenkai et al., (2023), Shen et al., (2021), and Yang et al., (2023) all had found significant relationships between social media use and academic performance. Academic related variables studied included academic motivation, academic burnout, academic stress, and academic burnout. Research thus concurred that screen time had a negative impact on children's academics. Shen et al. (2021) examined over 900 Chinese adolescents and found that academic stress predicted smartphone addiction, which in turn harmed psychological well-being and academic outcomes. Wenkai et al. (2023) and Shen et al., (2021) used a correlational design while Tiraboschi et al. (2025) used a longitudinal design. Yang et al. (2023) analyzed a large dataset to conduct their research.

Researchers (Kerai et al., 2022; Paulich et al., 2021), when uncovering developmental outcomes of excessive screen time (more than one hour of daily screen time) identified a negative impact on five developmental health domains: physical health and wellbeing, social competence, emotional, language and cognitive development and communication skills compared to children reporting up to one hour of screen time/day. Paulich et al. (2021), using data from over 11,800 children, ages 9 to 10 years old in the ABCD study, found that heavy recreational screen time was linked to poorer mental health and weaker social relationships. Kerai et al. (2022), conducted a study which consisted of 2,983 children in British Columbia, Canada, who had entered kindergarten. Findings indicated that children who had more than one hour daily screen time were more vulnerable for developmental health risks than kids who had just one hour of screen time. Thus, the researchers linked high screen exposure to weaker developmental outcomes across social-emotional, physical, and communication domains.

Another screen time study included the use of smartphone by children. Ricoy et al. (2022) examined the impact of smartphone usage among children. Their research did show how it can cause academic stress as well, but it also showcased how it can cause psychological and psychosocial distress. The researchers provided a qualitative social overview of teenage smartphone use, showing that while phones facilitated peer interaction, overuse often displaced meaningful in-person interactions. Oprescu (2024) and Oswald et al. (2020) examined the impact of screen time on psychosocial outcomes among children. Oswald et al., (2020) evaluated 'green time' which is time spent in natural environments, and Les et al. (2020) studied the impact of screen time on recreational activities. Oprescu (2024) used a focus-group approach to capture youths' outlook on social media use. To conduct the research, a focus group and individual interviews that consisted of 12 participants were used. The findings of this study included pros reported by children, such as being able to socialize on social media, keep up with topics that they are interested in, and have access to useful information. Oprescu (2024) interpreted the interview data, finding concerns about mental health, self-image, and social comparison. Oswald et al. (2020), in a systematic scoping review, compared the effects of 'screen time' with 'green time', showing that screen exposure correlated with anxiety and depressive symptoms, while outdoor activity served as a protective factor. Studies in the review included participants who were children ages 5-11 years, 12-14 years, 15-18 years. While there were 186 studies used, the median sample size was 969 participants. The results of this study showed that screen time is associated generally with more psychological issues like depression, stress, and anxiety. While 'green time' is associated with more positive psychological outcomes like having a better mood

and having better cognitive functions. Thus, the study showed that ‘green time’ may mediate the negative psychological impacts on individuals who engage in excessive screen time.

Lees et al. (2020), analyzing ABCD data, offered a counterpoint by demonstrating that screen media activity did not necessarily displace other recreational activities in 9- to 10-year-olds, suggesting that screen use is not always harmful if balanced with other pursuits. Lees et al. examined the non-educational screen time and recreational activity among 9–10-year-olds when accounting for individual, interpersonal, and sociodemographic characteristics. A total of 9,254 participants participated in this study. Factors such as screen time, cognition, psychopathology, and social environment were included as variables in the study. The results of the study indicated that screen media wasn't significantly related to activity engagement. Przybylski and Weinstein (2019) analyzed data from 19,957 telephone interviews with parents of 2- to 5-year-olds. Variables included digital screen use, psychological well-being in terms of caregiver attachment, resilience, curiosity, and positive emotions. Results did not support implementing limits (< 1 or < 2 hr/day) as recommended by the American Academy of Pediatrics, and small effects between screen time to attachment and positive emotions were found. Yan et al. (2024) addressed the impact of screen time on somatic symptoms. Yan et al. (2024) found that problematic gaming predicted somatic complaints among 9616 adolescents, ages 11-19 years, though strong social connectedness buffered these effects. These findings consistently point to social skills being compromised by excessive screen time but moderated by supportive peer connections. These mixed findings suggest that sociopsychological as well as physical health outcomes may depend less on total screen hours and more on content, context, and balance.

Thus, majority of the past current research has included participants from Canada and China. The results of past research inform the present study by indicating consistent connections between screen time and children's academic, and biopsychosocial outcomes. Studies show that excessive engagement with screen time, through video games, smartphones, and social media is associated with lower academic performance, and negative biopsychosocial outcomes. This present research extends past research on the impact of screen time by evaluating academic and psychosocial outcomes among black adolescents in the U.S. ages 13-17 years.

Research Questions and Hypotheses

The present study seeks to answer the research question: *How does increased screen time impact children's academic performance and psychosocial variables?* To address this question, the study will test the following hypotheses: the null hypothesis (H_0) was that increased screen time will have no significant effect on children's cognitive functioning, social interactions, academic tasks, or well-being, as reported by the children; while the directional research hypothesis (H_1) was that increased screen time will negatively impact children's cognitive functioning, social interactions, academic tasks, and well-being. Data for this study will be analyzed SPSS 30.0.

Method

Participants

The present study included 34 adolescents (17 males, 17 females) between the ages of 13 and 17 who attended a Boys and Girls Club in Kentucky. Convenience sampling of adolescents at the community center was conducted by researchers. The inclusion criteria were, adolescents ages 13-17 years, attending the community center, who had parental permission and provided

assent to participate in the study. Majority of the participants were black. The independent variables of the study were screen time, defined by survey items related to daily screen time duration, purpose of screen use (e.g., social media, gaming, academic work). Survey items also were constructed to measure the psychosocial dependent variables which were cognitive functioning, social interactions, academic tasks, and well-being.

Descriptive statistics indicated that study time was identical across genders (males: $M = 3.18$, $SD = 1.07$; females: $M = 3.18$, $SD = 0.53$), suggesting no meaningful gender difference in reported study behavior. However, differences emerged in other areas. Females reported higher levels of social interaction with friends ($M = 1.88$, $SD = 0.78$) compared to males ($M = 1.53$, $SD = 0.87$), as well as stronger emotional responses to screen use (females: $M = 2.76$, $SD = 1.25$; males: $M = 1.88$, $SD = 1.27$). Additionally, females slightly exceeded males in reported distraction (forgetfulness) related to screen time (females: $M = 2.41$, $SD = 0.87$; males: $M = 2.18$, $SD = 1.07$). In contrast, males reported slightly higher agreement that screen use helps them ($M = 2.24$, $SD = 1.09$) compared to females ($M = 2.00$, $SD = 0.87$).

Measures

Participants completed a survey composed of items adapted for the purpose of assessing digital media use, academic motivation, and social connectedness. Survey questions were worded for the age group and kept simple to meet the constraints of the site and time. Survey items gauged screen time, well-being, academic tasks, social interactions, cognitive functioning. For example, survey items such as: *On average, how many hours a day do you spend on your phone, computer, or TV?*; *After using screens for a long time, how do you usually feel?*; *Do you have enough time to study during the day?*; *Does being on phone/watching TV interfere with playing with your friends?*; *Do you ever forget things (like assignments or tasks) because of being distracted by using your phone or watching TV?* were used to assess screen time, well-being, academic tasks, social interactions, cognitive functioning, on a likert type scale, respectively. A total of 9 likert response items followed by 2 open ended questions were administered to the participants (see Appendix A).

Procedure

Participants were recruited through announcements and flyers distributed by staff at the Boys and Girls Club. After obtaining the consent from the director of the community center, parental consent and adolescent assent were obtained prior to participation. Surveys were administered in person at the community center in a classroom during after-school program hours. Participants completed the survey individually on paper, taking approximately 10–15 minutes to finish. No identifying information was collected, and responses were kept confidential. After data collection, responses were entered into Excel and analyzed using SPSS 30.0.

Results

The primary variables examined were screen time, well-being, academic tasks, social interactions, cognitive functioning. Additionally, data were analyzed as a function of gender. To test the relationship between screen time and cognitive functioning, social interactions, academic

tasks, and well-being, a correlational analysis was conducted. Results indicated a marginally significant negative relationship ($r(32) = -.327, p = .059$); between time spent on screens and time spent studying, with students reporting only about 3–4 hours of study time per week as social media use increased. No other significant relationships were found. A power analyses with a conservative effect size (.30) indicated a power of .874 for the data. Data were then analyzed as a function of gender. A between groups One-Way ANOVA revealed significant impact of gender on well-being reports. The effect size for well-being was .12 which is a moderately large effect size. Males reported a higher sense of well-being in the context of screen time than females (see Appendix B).

Results of the open-ended questions intended to gauge motivation, were coded into STEM vs non-STEM careers children identified as aspiring to be when they grew up. Examples of STEM careers were doctor, pediatrician, biomedical engineer. Non-STEM careers examples were basketball player, train driver, game creator, nail technician. Reports of skills needed to achieve their career goals were coded into aligned versus nonaligned. Aligned codes were attributed to skills that were relevant to the career of their choice. A chi-square analyses were conducted on the number of STEM versus non-STEM careers identified, and if the skills were aligned or not aligned with the identified career goals. Results indicated non-significant differences between choice of STEM and non-STEM careers ($n = 12$ STEM; $n = 16$ non-STEM, $n = 3$ undecided). Results related to the alignment of skills with the career choice, aligned ($n = 25$) versus those that were not aligned ($n = 3$), indicated significant more alignment of needed skills with career of choice, $\chi^2(1, N = 28) = 17.28, p < .001$.

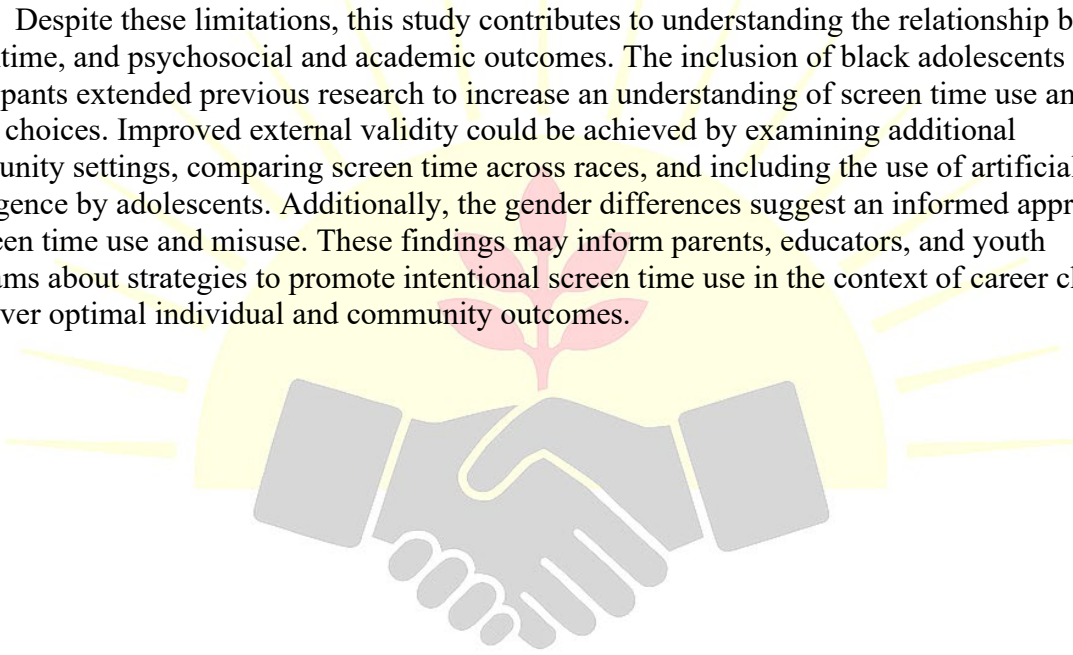
Discussion

The results do not provide support for the hypothesis that increased screen time negatively affects adolescents' psychosocial and academic outcomes. These results are supported by other researchers (Lees et al., 2020; Przybylski & Weinstein, 2019). It may be important to understand these results in the context of adolescent age, race, and gender. In this study race and age were held constant, but results did indicate significant differences in well-being as a function of gender. The observed gender differences may be attributed to varying patterns of media use, differences in multitasking tendencies, or distinct emotional responses to digital environments. Results by Chang (2025) support these findings. Chang (2025) conducted the study with adolescents in the UK. Variables included screen time, well-being among adolescents. Although the study included different types of screen activity, results indicated that any form of screen time usage was associated with lower reports of well-being among girls compared to boys. More screen time was worse for girls happiness with their looks than boys. These findings highlight the importance of considering both the benefits and drawbacks of screen use as a function of gender, and consider the marginally significant relationship between screen time and study time. Results as per the National Science Foundation 2024 report, related to career interest in non-STEM careers more frequently than STEM are representative of the current lack of engagement of black students in STEM careers (8 % black versus 59% white).

There are several limitations that should be considered within this study. First, the reliance on the self-reported survey responses with simplified survey questions may have introduced response bias and limited reliability, in addition to the small sample size. Secondly, the use of a cross-sectional research design limited the ability to establish cause-and-effect relationships since the data was collected at a single point in time. Furthermore, the sample

consisted solely of adolescents from one Boys and Girls Club location, which may restrict the generalizability of the findings to youth from different communities, educational settings, and cultural backgrounds. Future research should address these limitations by incorporating larger and more diverse samples drawn from multiple communities in order to enhance the generalizability of findings. Additionally, longitudinal designs are needed to effectively examine the cause-and-effect relationship between screen time and developmental outcomes over time. Future research should also incorporate objective measures of screen use to minimize reliance on self-reported data and to provide more precise insights into the effects of screen time on adolescents' cognitive, social, and academic development.

Despite these limitations, this study contributes to understanding the relationship between screentime, and psychosocial and academic outcomes. The inclusion of black adolescents as participants extended previous research to increase an understanding of screen time use and also career choices. Improved external validity could be achieved by examining additional community settings, comparing screen time across races, and including the use of artificial intelligence by adolescents. Additionally, the gender differences suggest an informed approach to screen time use and misuse. These findings may inform parents, educators, and youth programs about strategies to promote intentional screen time use in the context of career choices to deliver optimal individual and community outcomes.

A large, stylized graphic of two hands shaking in a firm grip. The hands are rendered in a light gray color with white outlines for the fingers and palms. The background behind the hands is a bright yellow circle with several yellow rays emanating from it, resembling a sun. A pink flower with three petals is positioned above the handshake.

JOURNAL OF
FACULTY-STUDENT
UNDERGRADUATE RESEARCH

References

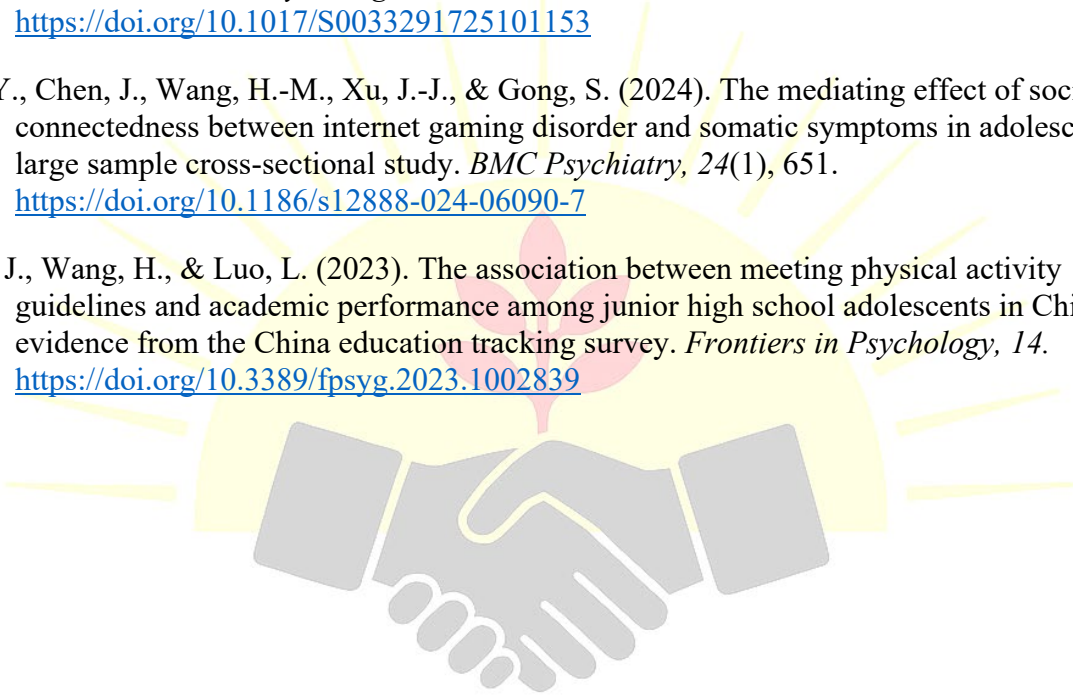
- Chang, G. (2025). Types of adolescent screen use and positive wellbeing: Gender and parental education influences. *Journal of Happiness Studies*, 26 (4), 62.
<https://doi.org/10.1007/s10902-025-00884-6>
- Kerai, S., Almas, A., Guhn, M., Forer, B., & Oberle, E. (2022). Screen time and developmental health: results from an early childhood study in Canada. *BMC Public Health*, 22(1).
<https://doi.org/10.1186/s12889-022-12701-3>
- Lees, B., Squeglia, L. M., Breslin, F. J., Thompson, W. K., Tapert, S. F., & Paulus, M. P. (2020). Screen media activity does not displace other recreational activities among 9–10 year-old youth: a cross-sectional ABCD study®. *BMC Public Health*, 20(1), 1783.
<https://doi.org/10.1186/s12889-020-09894-w>
- National Science Foundation. (2024). *Workers, by occupational group, sex, and race and ethnicity: 2024*. The State of U.S. Science and Engineering.
<https://ncses.nsf.gov/pubs/nsbsep20261/stem-talent-education-training-and-workforce-2#the-stem-workforce>
- Oprescu, C.M. (2024). Addressing social media impact on youth mental health in a comprehensive focus-group based research approach. *Bulletin of the Transilvania University of Brasov: Series VII: Social Sciences, Law*, 17(66)(Special Issue), 219-228 . <https://doi.org/10.31926/but.ssl.2024.17.66.4.21>
- Oswald, T. K., Rumbold, A. R., Kedzior, S. G. E., & Moore, V. M. (2020). Psychological impacts of “screen time” and “green time” for children and adolescents: A systematic scoping review. *PloS One*, 15(9), e0237725.
<https://doi.org/10.1371/journal.pone.0237725>
- Paulich, K. N., Ross, J. M., Lessem, J. M., & Hewitt, J. K. (2021). Screen time and early adolescent mental health, academic, and social outcomes in 9- and 10-year-old children: Utilizing the Adolescent Brain Cognitive DevelopmentSM (ABCD) Study. *PloS One*, 16(9), e0256591. <https://doi.org/10.1371/journal.pone.0256591>
- Przybylski, A.K. & Weinstein, N. (2019). Digital screen time limits and young children's psychological well-being: Evidence from a population-based study. *Child Development*, 90(1), e56-e65. <https://pubmed.ncbi.nlm.nih.gov/29235663/>
- Ricoy, M.-C., Martínez-Carrera, S., & Martínez-Carrera, I. (2022). Social overview of smartphone use by teenagers. *International Journal of Environmental Research and Public Health*, 19(22). <https://doi.org/10.3390/ijerph192215068>
- Shen, B., Wang, F., Wenkai, S., & Liu, Y. (2021). Chinese adolescents' academic stress and smartphone addiction: A moderated-mediation model. *Journal of Broadcasting & Electronic Media*, 65(5), 724–740.
<https://doi.org/10.1080/08838151.2021.2014842>

Wenkai, S., Xiaohong, W., Huiwen, X., Huishi, L., Liao, S., & Fei, H. (2023). The role of interpersonal alienation in the relationship between social media addiction and learning burnout among Chinese secondary school students. *Children's Health Care*, 52(2), 196–219. <https://doi.org/10.1080/02739615.2022.2068552>

Tiraboschi, G. A., Garon-Carrier, G., Madigan, S., Smith, J., Surprenant, R., & Fitzpatrick, C. (2025). Longitudinal associations between gaming and academic motivation during middle childhood. *Psychological Medicine*, 55. <https://doi.org/10.1017/S0033291725101153>

Yan, Y., Chen, J., Wang, H.-M., Xu, J.-J., & Gong, S. (2024). The mediating effect of social connectedness between internet gaming disorder and somatic symptoms in adolescents: A large sample cross-sectional study. *BMC Psychiatry*, 24(1), 651. <https://doi.org/10.1186/s12888-024-06090-7>

Yang, J., Wang, H., & Luo, L. (2023). The association between meeting physical activity guidelines and academic performance among junior high school adolescents in China—evidence from the China education tracking survey. *Frontiers in Psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1002839>



JOURNAL OF
FACULTY-STUDENT
UNDERGRADUATE RESEARCH

Appendix A

Survey Questions

Demographic Questions

Age: _____

Gender: _____

Grade: _____

Screen Time

1. On average, how many hours a day do you spend on your phone, computer, or TV?
Less than 2 hours
2–4 hours
5–7 hours
More than 7 hours
2. What do you mainly use screens for?
Social media
Gaming
Schoolwork
Watching videos/TV
Other
3. Do you use screens right before going to bed?
Yes
No

Well-being

4. After using screens for a long time, how do you usually feel?
Happy/relaxed
Bored
Stressed/anxious
Tired

Academic

5. Do you have enough time to study during the day?
Not at all
A little
Sometimes
A lot

Cognitive

6. Do you ever forget things (like assignments or tasks) because of being distracted by using your phone or watching TV?
Yes, often
Yes, sometimes

Rarely
Never

7. Do you feel that screen time helps you learn new things or hurts your focus?

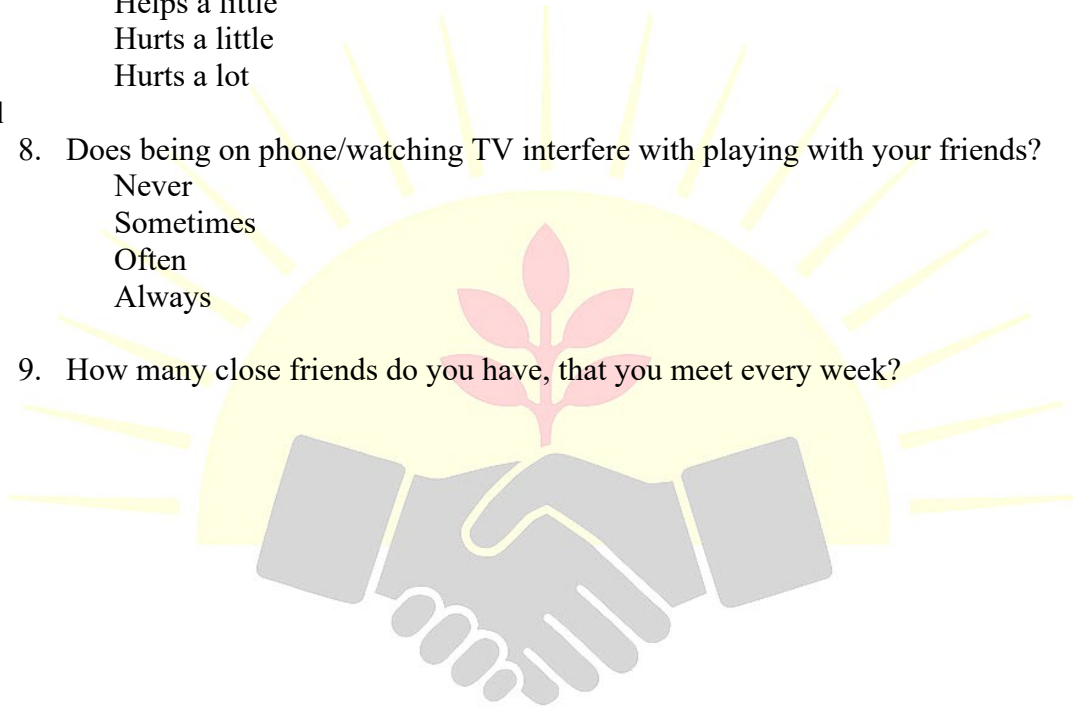
Helps a lot
Helps a little
Hurts a little
Hurts a lot

Social

8. Does being on phone/watching TV interfere with playing with your friends?

Never
Sometimes
Often
Always

9. How many close friends do you have, that you meet every week?



JOURNAL OF
FACULTY-STUDENT
UNDERGRADUATE RESEARCH

Appendix B

Table 1

Means, Standard Deviation, and One-Way Analyses of Variance of Feeling (Sense of Well-being) as a function of Gender

Measure ¹	Male		Female		<i>F</i> (1, 33)	η^2
	M	SD	M	SD		
Study	3.18	1.07	3.18	.52	.000	.000
Friends	1.53	.87	1.88	.78	1.54	.046
Feeling	1.88	1.26	2.76	1.25	4.17*	.115
Forget	2.18	1.07	2.41	.87	.49	.015
Helpful	2.24	1.09	2.00	.86	.48	.015

**p* = .050

*Note*¹: Survey items for the measures are below. Responses were on a likert scale

Study: On average, how many hours a day do you spend on your phone, computer, or TV?

Friends: How many close friends do you have, that you meet every week?

Feeling: After using screens for a long time, how do you usually feel?

Forget: Do you ever forget things (like assignments or tasks) because of being distracted by using your phone or watching TV?

Helpful: Do you feel that screen time helps you learn new things or hurts your focus?