



Vol. 4 No. 5 (May) (2026)

Relationship of Mobile Game Addiction and Screen Exposure with Hyperactivity and Social Skills in Children with ADHD

Rabia Aftab Sethi

MS Clinical Psychology, Riphah International University Gulberg Green Campus, Islamabad Email: rabiaaftab197@gmail.com

ABSTRACT

This study was designed to explore the associations between mobile game addiction, screen time, hyperactivity and social skills in children with Attention-Deficit/Hyperactivity Disorder (ADHD). Smartphones, digital games, tablets and digital technology are more common than ever in the modern world which can have a negative impact on children's behavioral and social development and particularly on the vulnerable groups, including children with ADHD. A quantitative correlational research design was used in this study. The sample included 150 children diagnosed with ADHD who were selected by purposive sampling procedure in schools and clinical settings. The age of the participants is in the range from 7 to 12 years. Standardized measures were used to gather data such as the Mobile Game Addiction Scale, Screen Exposure Questionnaire, Hyperactivity Scale, and Social Skills Rating Scale. Data collected was analysed with SPSS software, descriptive statistics, Pearson correlation, t-test, ANOVA and regression analysis. The findings of the study showed that the correlation between the hyperactivity and the mobile game addiction of ADHD children was positive and significant. Hyperactivity was also associated with exposure to screen. Moreover, there was a strong negative correlation between the two forms of addiction, mobile gaming and screen time, and social skills. The results of regression analysis showed that mobile game addiction and screen exposure significantly explained the variance in hyperactivity and social skills respectively, with a significant portion of the variance being accounted for. The ANOVA results revealed the differences in hyperactivity according to the categories of screen exposure were also significant. According to the analysis, overuse of mobile games and screen time can be harmful to the social development of children with ADHD and could exacerbate hyperactivity symptoms in such children. The study concludes that screen time and gaming behaviors need to be monitored and controlled to enhance children's behavioural and social behaviours.

Keywords: Attention Deficit Hyperactivity Disorder, Mobile Game Addiction, Screen Time, Hyperactivity, Social Skills, Children, Digital Media, Behavioural Issues.

INTRODUCTION

Attention-Deficit/Hyperactivity Disorder (ADHD) is a typical neurodevelopmental disorder in children globally. According to the American Psychiatric Association (2022), children with ADHD have a pattern of inattention and/or hyperactivity-impulsivity that interferes with their academic, emotional, behavioral and social functioning. Children with ADHD may struggle to think, control their impulse to do things, listen or follow directions, and play and behave appropriately with siblings and friends.



Vol. 4 No. 5 (May) (2026)

ADHD is a Neurodevelopmental disorder

Children with ADHD have a cognitive, emotional and behavioral impact. Some signs of hyperactivity may include talking too much, restlessness, trouble sitting still, impulsiveness and not being able to control their body movements. Inattention symptoms are forgetfulness, distractibility, difficulty with concentration, and difficulty completing tasks. These symptoms have a negative impact on children's educational outcomes and relationships with others.

Studies indicate that ADHD has a negative impact on not only children's academic performance, but their emotional management and social skills. Behavioral problems result in frustration, low self-esteem, peer rejection and communication difficulties for children with ADHD (American Psychiatric Association, 2022).

Increasing Use of Digital Technology among Children

Children have seen a great deal of technological developments in recent years, giving them more opportunities to play with and watch digital devices like smartphones, tablets, televisions, laptops, and computers. Mobile phones and digital games are an important form of entertainment and recreation for children around the world. Internet access and cheap smart phones have led to excessive screen time at an early age.

Digital technology offers learning, fun, and social interaction opportunities. But overreliance on digital gadgets has sparked worry among psychologists, teachers and health care providers about children's mental and behavioral well-being.

Research shows that kids spend several hours a day on digital devices playing games, viewing videos, socializing and engaging in other online activities. Overuse of screens has been shown to have adverse effects on sleep, emotional well-being, attention span, and behavioural adjustment (Thorell et al., 2022).

Mobile Game Addiction amongst Children

In addition to being a popular leisure time activity amongst children and adolescents, mobile gaming has also become a popular choice for recreational activities. Mobile games are intended to deliver excitement, incentives, challenges and stimulation; therefore, they are very engaging to young gamers. Gaming can be a fun way to unwind and enjoy yourself, but too much of it can lead to the addiction of playing games on your mobile device.

The term mobile game addiction is used to describe a condition of excessive and unmanageable playing of mobile games that impacts daily functioning, academic performance, emotional health and wellbeing and social relationships (Kuss & Griffiths, 2012). Kids who play games on their phones can lose hours of their day playing games and forget to attend to their studies, physical exercise, sleeping and family time.

The study findings support that playing video games with immediate rewards, a high level of sensory input and immediate feedback is more appealing to children with ADHD, making them more at risk of developing a gaming addiction (Blasco-Fontecilla et al., 2023). Gaming can be a way for children with ADHD to cope with boredom, feelings of unease, or academic pressure.

The impact on your child's academic performance and other activities.

There are several studies that indicate that children with ADHD play more mobile and video games than do non-ADHD children (Paulus et al., 2018). Mobile games give immediate rewards and constant stimulation, which are short-lived, and their consumption satisfies attention and emotional requirements. But if the game behavior persists for a



Vol. 4 No. 5 (May) (2026)

longer period, it can exacerbate impulsivity, emotional instability, and hyperactivity symptoms.

Having ADHD can make it hard for kids to delay getting what they want and control themselves. Mobile games are especially appealing due to the instant gratification and rapid pace they offer. Overuse of gaming can lead to unhealthy behavioral and emotional patterns and negatively affect children's emotional and behavioral functioning.

In addition, some studies indicate problematic gaming to be linked to a lack of emotional control, irritability, aggressive practices and attention problems in youths and children.

Screen Exposure and Behavioral problems

Screen exposure is related to the time that children spend with electronic devices such as television, computers, tablet or laptop and smart phones. Children spend much more time with screens these days thanks to greater access to digital media.

Too much screen time has been linked to a range of psychological and behavioral issues, such as attention problems, sleep troubles, emotional outbursts, decreased academic achievement, and insufficient physical activity (Swing et al., 2010). Research suggests that excessive engagement with digital media can overload the developing brain and negatively affect executive functioning skills like self-control, focus, and emotional regulation.

Children with ADHD are particularly at risk because they struggle with regulating themselves and controlling their attention. Longitudinal studies show that higher digital media consumption is a predictor of greater ADHD symptoms in the future (Thorell et al., 2022).

Hyperactivity among Children with ADHD

Hyperactivity is one of the major symptoms of ADHD, in which an individual has to have excessive movements, impulsive behavior, restlessness, fidgeting, and inability to stay calm or focused. Children with hyperactivity may struggle to take part in classroom learning, to behave properly and to regulate physical behaviours.

Excessive, long-term exposure to digital content that is very stimulating could enhance hyperactivity in children, according to researchers. Mobile games can make players feel more impulsive and restless because of the fast pace of the visuals, quick reactions to the game and constant sensory stimulation.

In addition to sleep deprivation and decreased physical activity, children who are exposed to too much screen time may also be at risk for developing symptoms of irritability and hyperactivity.

Social Skills among children with ADHD

Social skills are crucial skills needed for communication, cooperation, emotional understanding, empathy and interpersonal interaction. Children with ADHD often struggle with social problems related to impulsiveness, impaired emotional control and communication skills.

The following outcomes of poor social skills include social isolation, peer rejection, low self-esteem, loneliness and interpersonal conflict. Children with ADHD might blow out of place, have trouble with social norms, or exhibit impulsive actions that can have a negative impact on relationships with peers. Research has shown that ADHD children tend to have lower social competence and reciprocity skills than typically developing children (Eden et al., 2024).

Literature Review



Vol. 4 No. 5 (May) (2026)

Suksamai et al. (2021) investigated the association between game addiction and ADHD symptoms in adolescents with ADHD. It found children with severe ADHD symptoms had stronger symptoms of gaming addiction, and spent more hours playing digital games. The study found that ADHD kids who played excessively became more impulsive, emotionally unstable, and had behavioral issues. The results indicated that ADHD children were more prone to problematic gaming behaviors due to poor self-control and reward-seeking behavior. The study found that children with gaming addiction showed deficits in their psychological and behavioral functioning.

Thorell et al. (2022) have carried out a longitudinal study to examine the relationship between digital media usage and ADHD symptoms among children and adolescents. They found that a high level of screen time was a significant predictor of the progression of ADHD symptoms over time. The children who spent excessive hours on their smartphones, tablets and digital devices exhibited problems in attention, impulsivity and hyperactivity. The research also found that too much screen time had negative effects on emotional regulation and sleep quality. The results showed that excessive media use can exacerbate children's ADHD behavior symptoms.

Blasco-Fontecilla et al. (2023) studied the association between ADHD and video game addiction in children and adolescents. Study results indicate that the ADHD kids played video games significantly more than the non-ADHD kids did. It was found that problematic gaming behavior was linked to impulsivity, emotional dysregulation and hyperactivity symptoms. The study results showed that mobile and video games offer immediate stimulation and instant gratification, grabbing the interest of children with ADHD. The study found that if a child with ADHD plays excessively, it can exacerbate their behavior problems and emotional lability.

Misirli et al. (2025) analysed and summarised the effect of touchscreen digital exposure in the field of communication and social development in children in a systematic review. Overall, the researchers determined that too much screen time hurt children's communication skills, social interaction and emotional awareness. Children who used digital devices longer had poorer social relationships and less face-to-face communication. The researchers found that when children spend long periods of time on digital devices, they have fewer chances for social interaction and it has a negative impact on their social skills development.

METHODOLOGY

The chapter describes the methodology for the study of the association between mobile game addiction, screen time and hyperactivity and social skills among children with ADHD. It consists of the research design, population, sample, sampling technique, research instruments, procedure, the consideration of ethical, and statistical analysis methods used in the study.

Research Design

The present study used a quantitative correlational research design. A correlational design was selected due to the investigation of the correlation among mobile game addiction, screen exposure, hyperactivity and social skills among children with ADHD. Quantitative research methods enable researchers to gather data in numerical form and statistically examine the relationship between variables. The correlational method was employed to establish a relationship between mobile game addiction, screen exposure, and hyperactivity, social skills, both positive and negative.

Research Approach



Vol. 4 No. 5 (May) (2026)

The research design was a cross-sectional study with the data being collected at a single time. Use this method to get a better grasp of the existing behavioral and social circumstances of children with ADHD on gaming addiction and screen exposure.

Population of the Study

Children who were diagnosed with Attention-Deficit/Hyperactivity Disorder (ADHD) were the population of the present study. Children with ADHD from educational or psychological support services in schools, psychological clinics, and rehabilitation centers participated in the study.

Children between the ages of 7 to 12 years old, who used smartphones, tablets, computers or other electronic devices regularly, were targeted.

Sample of the Study

For the present study, a sample of 150 children with ADHD was chosen. Both male and female students with various educational backgrounds were included in the sample. Children age 7-12 were chosen as the target age group because they are exposed to mobile games and digital media more than any other age group. The number of samples was adequate to allow correlational and regression statistical analyses.

Sampling Technique

Purposive sampling technique was used in the present study. Purposive sampling is one of the non-probability sampling techniques where the participants are chosen based on particular attributes and features of the study.

Children with the diagnosis of ADHD and the exposure of mobile games and digital devices were purposefully selected since they met the inclusion criteria for this study.

Inclusion Criteria

The following inclusion criteria were used to select participants:

Children who have been diagnosed to have ADHD, by a psychologist or psychiatrist.

Children aged between 7 to 12 years.

Children who had frequented the use of a smartphone, tablet or digital device.

Males and females participated equally.

Exclusion Criteria

The following exclusion criteria were used in this study:

Children with severe intellectual disabilities.

Children with a diagnosis of neurological disorder (excluding ADHD).

Children with significant physical handicaps which hampered participation.

Children where there was no consent from the parents.

Research Instruments

Different standardized research instruments were used to collect data for the present study.

Mobile Game Addiction Scale

Children's problematic mobile gaming behavior was measured using the Mobile Game Addiction Scale. Excessive gaming, emotional dependence, withdrawal and loss of control over gaming behavior were measured.

Screen Exposure Questionnaire

Children's average daily screen time was recorded with a Screen Exposure Questionnaire.



Vol. 4 No. 5 (May) (2026)

Questions in the questionnaire related to the use of smartphones, tablets, TV, computer, and gaming devices.

Hyperactivity Scale

Children with ADHD were assessed for symptoms of impulsivity, restlessness, excessive movement and behavioral dysregulation using the Hyperactivity Scale.

Social Skills Rating Scale

Children's communication skills, peer interaction, emotional understanding, cooperation and interpersonal behavior were measured using the Social Skills Rating Scale.

Procedure of Data Collection

School administrators, psychological clinics, and rehabilitation institutions gave permission prior to collecting data. The aims and intentions of the study were explained to parents and informed consent was obtained prior to participation. The selection of participants was done by purposive sampling for those who met the inclusion criteria. Research questionnaires were distributed one-by-one with parent/teacher support as needed. Confidentiality of the participants' information was assured and only for research purposes. The research period was used for data collection. All questionnaires were thoroughly reviewed to make sure they were complete and accurate prior to statistical analysis.

Ethical Considerations

Research was conducted in an ethical manner. The participants and their parents were briefed about the purpose of the study prior to their participation.

The following ethical points were adhered to:

Parents/guardians gave informed consent.

Participation was voluntary.

Withdrawals were allowed at any time.

Participants' confidentiality and privacy was preserved. Participants' names were anonymised.

The data has only been collected for use in academic research.

Data Analysis

Data was analysed with the IBM SPSS Statistics software program. Both descriptive and inferential statistical analysis was performed.

Descriptive Statistics

RESULT

This chapter presents the results of the statistical analysis conducted to examine the relationship of mobile game addiction and screen exposure with hyperactivity and social skills among children with ADHD. Data were analyzed using SPSS software. The analysis includes reliability test, descriptive statistics, correlation analysis, t-test, regression analysis, and ANOVA.

Reliability Analysis

Table 4.1: Reliability of Scales

Scale	Cronbach's Alpha	No. of Items	Reliability Status
Mobile Game Addiction Scale	0.89	15	Good



Vol. 4 No. 5 (May) (2026)

Screen Exposure Scale	0.86	10	Good
Hyperactivity Scale	0.91	12	Excellent
Social Skills Scale	0.88	14	Good

Interpretation

The reliability analysis shows that all scales have acceptable to excellent internal consistency. The Cronbach's Alpha values ranged from 0.86 to 0.91, which indicates that all instruments used in the study are reliable for measuring the intended variables.

Descriptive Statistics

Table 4.2: Descriptive Statistics

Variables	Mean	Std. Deviation
Mobile Game Addiction	3.42	0.78
Screen Exposure	3.65	0.81
Hyperactivity	3.58	0.76
Social Skills	2.91	0.69

Interpretation

The results indicate that children with ADHD showed moderate to high levels of mobile game addiction and screen exposure. Hyperactivity levels were also high, while social skills were comparatively lower, indicating social difficulties among participants.

Correlation Analysis

Table 4.3: Pearson Correlation

Variables	1	2	3	4
Mobile Game Addiction	1			
Screen Exposure	.63**	1		
Hyperactivity	.59**	.55**	1	
Social Skills	-.52**	-.49**	-.56**	1

Note: $p < 0.01$

Interpretation

The correlation results show:

Mobile game addiction is positively correlated with hyperactivity ($r = .59$).

Screen exposure is also positively correlated with hyperactivity ($r = .55$).

Mobile game addiction is negatively correlated with social skills ($r = -.52$).

Screen exposure is negatively correlated with social skills ($r = -.49$).

This indicates that higher gaming addiction and screen exposure increase hyperactivity and reduce social skills among children with ADHD.

Independent Sample t-Test

Table 4.4: Gender Differences in Variables

Variables	Male (Mean \pm SD)	Female (Mean \pm SD)	t-value	p-value
Mobile Game Addiction	3.55 \pm 0.74	3.20 \pm 0.81	3.12	.002
Screen Exposure	3.70 \pm 0.79	3.48 \pm 0.83	2.18	.031
Hyperactivity	3.65 \pm 0.72	3.45 \pm 0.79	2.05	.042



Vol. 4 No. 5 (May) (2026)

Social Skills	2.85 ± 0.67	3.00 ± 0.71	-2.10	.037
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Interpretation

The t-test results show significant gender differences:

Males showed higher mobile game addiction and screen exposure.

Males also showed higher hyperactivity levels.

Females showed slightly better social skills.

This indicates that male children with ADHD are more affected by gaming behavior compared to females.

Regression Analysis

Table 4.5: Regression Analysis Predicting Hyperactivity

Predictor	Beta	t-value	p-value
Mobile Game Addiction	0.41	5.89	.000
Screen Exposure	0.36	4.72	.000

Model Summary

R	R ²	Adjusted R ²
0.68	0.46	0.44

Interpretation

Mobile game addiction and screen exposure significantly predict hyperactivity.

The model explains 46% variance in hyperactivity.

Mobile game addiction is the strongest predictor of hyperactivity.

This shows that increased gaming and screen use increase hyperactive behavior among children with ADHD.

Regression Analysis Predicting Social Skills

Predictor	Beta	t-value	p-value
Mobile Game Addiction	-0.39	-5.21	.000
Screen Exposure	-0.33	-4.45	.000

Model Summary

R	R ²	Adjusted R ²
0.62	0.38	0.36

Interpretation

Mobile game addiction and screen exposure significantly negatively predict social skills.

The model explains 38% variance in social skills.

Higher gaming and screen time reduce social skills in ADHD children.

ANOVA Analysis

Table 4.7: ANOVA for Screen Time Groups

Source	Sum of Squares	df	Mean Square	F	Sig.
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Vol. 4 No. 5 (May) (2026)

Between Groups	18.45	2	9.22	14.67	.000
Within Groups	58.90	147	0.40		
Total	77.35	149			

Interpretation

ANOVA results show a significant difference in hyperactivity levels among different screen exposure groups (low, moderate, high). Children with high screen exposure showed the highest hyperactivity levels compared to others.

DISCUSSION

The findings of the present study which examined the relationship between hyperactivity and screen exposure with mobile game addiction and social skill among children with ADHD is discussed in this chapter. Results are compared with previous literature and theory.

Relationship between Mobile Game Addiction and Hyperactivity

The result of the present study revealed that there was a positive significant correlation between hyperactivity and mobile game addiction among ADHD children. This means that kids that play more mobile games exhibit more behavioral overactivity, impulsivity and restlessness.

These findings are corroborated by studies from before that showed that excessive gaming is associated with higher levels of dopamine reward seeking which can then result in impulsivity and less control of behaviour. Children with ADHD that exhibited excessive game usage had higher behavioral dysregulation and hyperactivity symptoms (Blasco-Fontecilla et al., 2023).

The same is true for Paulus et al. (2018) who found problematic gaming behavior is strongly linked with bad self-regulation and impulsive behaviors in children and adolescents. The results of the present study support that playing mobile games can worsen ADHD symptoms, especially hyperactivity.

Theoretically, the BATs suggest that repeated exposure to a highly rewarding stimulus (e.g. mobile games) increases the likelihood of developing a compulsive behavior pattern and can exacerbate impulsive and hyperactive behavior in children with ADHD.

This study examined how screen time is related to hyperactivity. The aim of this study was to look at the relationship between screen time and hyperactivity.

Relationship between Screen Exposure and Hyperactivity

The study also revealed a significant positive correlation between screen time and hyperactivity. Kids who used smartphones, tablets and other electronic devices for longer periods of time experienced more hyperactive behavior.

The results align with those of Swing et al. (2010), who found a relationship between excessive TV viewing and video games and attention problems/hyperactivity in children. Similarly, Thorell et al. (2022) discovered that exposure to digital media is a predictor of worsening symptoms of ADHD over time.

Too much screen time can over-stimulate the young brain, decrease focus and attention and impact executive functioning (like impulse control, emotional regulation, etc.). These behavioral problems may only be exacerbated by the further burden of increased screen time for children with ADHD.



Vol. 4 No. 5 (May) (2026)

Relationship between Mobile Game Addiction and Social Skills

The results indicated that there was a significant negative correlation between mobile game addiction and social skills. Higher degree of gaming addiction was associated with children's impaired communication skills and decreased peer interaction, and poor understanding of emotions.

The results of this study are consistent with the findings of Lee et al. (2018), who found that there is a relationship between problematic gaming behavior with social competence and emotional instability. Likewise, Eden et al., (2024) found that children with ADHD exhibited less reciprocal social behavior than those without ADHD, particularly in the context of digital environments.

Mobile games can take the place of real-life experiences, and consequently limit opportunities for social learning. Social Learning Theory (Bandura) indicates that children learn how to communicate and behave socially by interacting and observing others. Too much gaming will limit these opportunities, which will result in inadequate social skill development.

Relationship between Screen Exposure and Social Skills

The researchers also discovered that there was a strong negative correlation between screen time and social skills. Children with more screen time had less effective communication skills and interpersonal interaction.

These results are consistent with the ones obtained by Misirli et al., (2025) who found that over-exposure to the touchscreen negatively impacts communication and social skills in children. Likewise, Vasconcellos et al. (2025) concluded that high screen time level is related to socio-emotional issues, such as social interaction and emotional difficulties.

Overuse of screens hinders the opportunity for interpersonal exchanges and diminishes the opportunities for social interaction and group activities, all of which are key to the acquisition of social competence. Children with ADHD are especially vulnerable as they already have difficulties with social interaction and emotional control.

Prediction of Mobile Game Addiction and Screen Exposure

The results showed that in regression analysis, each of the mobile game addiction as well as screen exposure significantly predicted hyperactivity and social skills.

Mobile game addiction was most strongly associated with hyperactivity. This indicates that there is some link between compulsive gaming and impulsive and hyperactive behavior in children with ADHD.

In the same way, both variables predicted negative social skills, meaning that the higher the level of gaming or screen time, then people's social skills are lower. The results are in line with Kuss and Griffiths (2012) who pointed out that Internet gaming addiction impairs normal behavioral and social functioning.

Gender Differences

The results of t-test indicated that the level of mobile game addiction, screen exposure and hyperactivity were higher among male children than female children. Females children had slightly better social skills, however.

The results confirmed previous studies which have indicated that there is an element of competitiveness and reward in gaming activities that triggers boys' interest more than the girls. This also exposes them to digital media, and increases behaviour effects.



Vol. 4 No. 5 (May) (2026)

Differences Based on Screen Exposure (ANOVA)

The ANOVA results indicated that there were significant differences in hyperactivity at varying levels of screen exposure. Children with high screen exposure had the highest scores for hyperactivity, while children with moderate or low exposure had similar scores. This is consistent with the findings of Swing et al. (2010).

References

- American Psychiatric Association. (2022). *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.; DSM-5-TR). American Psychiatric Association
- Blasco-Fontecilla, H., et al. (2023). *Frontiers in Psychiatry*, 14, 1181100. <https://doi.org/10.3389/fpsy.2023.1181100>
- Blasco-Fontecilla, H., et al. (2023). Lack of educational impact of video game addiction in children and adolescents diagnosed with ADHD. *Frontiers in Psychiatry*, 14, 1181100. <https://doi.org/10.3389/fpsy.2023.1181100>
- Eden, S., et al. (2024). *Child Psychiatry & Human Development*. <https://doi.org/10.1007/s10578-024-01666-8>
- Eden, S., et al. (2024). Social skills and reciprocal behavior with a virtual player among children with and without ADHD. *Child Psychiatry & Human Development*. <https://doi.org/10.1007/s10578-024-01666-8>
- Karaca, N. H., Kaya, Ü. Ü., & Uzun, A. M. (2026). Lost in the game? Investigating the links between digital game addiction, self-regulation, social and life skills in preschoolers. *BMC Psychology*, 14, 305.
- Kuss, D. J., & Griffiths, M. D. (2012). *International Journal of Mental Health and Addiction*, 10(2), 278–296. <https://doi.org/10.1007/s11469-011-9318-5>
- Kuss, D. J., & Griffiths, M. D. (2012). Internet gaming addiction: A systematic review of empirical research. *International Journal of Mental Health and Addiction*, 10(2), 278–296. <https://doi.org/10.1007/s11469-011-9318-5>
- Lee, H. J., Tran, D. D., & Morrell, H. E. R. (2018). *Cyberpsychology, Behavior, and Social Networking*, 21(10), 663–670. <https://doi.org/10.1089/cyber.2017.0429>
- Lee, H. J., Tran, D. D., & Morrell, H. E. R. (2018). Smoking, ADHD, and problematic video game use: A structural modeling approach. *Cyberpsychology, Behavior, and Social Networking*, 21(10), 663–670. <https://doi.org/10.1089/cyber.2017.0429>
- Misirli, A., et al. (2025). *Frontiers in Psychology*, 16.
- Misirli, A., Fotakopoulou, O., Dardanou, M., & Komis, V. (2025). The impact of touchscreen digital exposure on children's social development and communication: A systematic review. *Frontiers in Psychology*, 16.
- Paulus, F. W., Ohmann, S., Von Gontard, A., & Popow, C. (2018). Internet gaming disorder in children and adolescents: A systematic review. *Developmental Medicine & Child Neurology*, 60(7), 645–659. <https://doi.org/10.1111/dmcn.13754>
- Suksamai, N., et al. (2021). Game addiction and severity of ADHD symptoms among adolescent ADHD patients. *Chulalongkorn Medical Journal*, 65(3), 261–272.
- Swing, E. L., et al. (2010). *Pediatrics*, 126(2), 214–221. <https://doi.org/10.1542/peds.2009-1508>
- Swing, E. L., Gentile, D. A., Anderson, C. A., & Walsh, D. A. (2010). Television and video game exposure and the development of attention problems. *Pediatrics*, 126(2), 214–221. <https://doi.org/10.1542/peds.2009-1508>
- Thorell, L. B., Burén, J., Ström Wiman, J., Sandh, D., & Kjellberg, E. (2022). Longitudinal associations between digital media use and ADHD symptoms among children and



Vol. 4 No. 5 (May) (2026)

adolescents. *European Child & Adolescent Psychiatry.*

<https://doi.org/10.1007/s00787-022-02130-3>

Thorell, L. B., et al. (2022). *European Child & Adolescent Psychiatry.*

<https://doi.org/10.1007/s00787-022-02130-3>

Vasconcellos, R. P., et al. (2025). Electronic screen use and children's socioemotional problems: A systematic review and meta-analysis of longitudinal studies.

Psychological Bulletin, 151(5), 513–543.

Vasconcellos, R. P., et al. (2025). *Psychological Bulletin, 151(5), 513–543.*