Journal of Family and Society Research 4(2), December 2025
ISSN – 1668 (online) 1676 (print)

Video Game Use and Academic Performance among Primary School Children in Enugu North LGA: Exploring Game Duration, Preferences, Parental Perceptions, and Mediation Strategies

Okpanachi, N.O.[1], Okoli, D.N.[1], & Umennuihe, A.E.[2]
[1]Department of Home Science and Management, University of Nigeria, Nsukka
[2]A P Leventis Ornithological Research Institute, University of Jos, Biological Conservatory, Laminga Village, Jos East, Plateau State
Correspondence email: okpanachinaomi6@gmail.com

Submitted - August 10, 2025
Final revision - November 5, 2025
Accepted - November 6, 2025

Abstract

Video game use among children has become a prominent aspect of contemporary childhood, raising questions about its influence on academic performance. This study examined the relationship between video game use and children's academic performance in Enugu North LGA, Enugu State. It also assessed video game preferences, parental perception of video games, and mediation strategies. A descriptive cross-sectional survey design was used. Data were collected using a structured questionnaire from 380 randomly selected primary school children aged seven and above. Data were analysed using SPSS version 23.0. Descriptive statistics and chi-square tests were applied at a 0.05 significance level, and a decision benchmark of 2.5 was used to interpret mean scores. Findings show that children mostly played puzzle and adventure games, and over 50% played video games for over 5 hours daily. Despite this, 53.2% of children showed high academic performance. Parental perception was generally sceptical, though some acknowledged the educational potential of video games. Strategies adopted by parents included setting time limits, imposing rules, and providing study-focused environments. The results revealed no significant relationship between game duration and academic performance ($p > 0.05$). However, findings suggest that when properly guided and used in moderation, video games can positively impact learning. It was therefore recommended that balancing screen time with academics, promoting educational games, and encouraging parental engagement will help to harness the potential of video games in improving children's cognitive and academic abilities.

Keywords: video games, academic performance, parental perception, game duration, educational games.

Introduction

Given its array of uses, technology has generated innovations that enable it to be utilised in a variety of ways for several categories of people. The use of technology in education has the potential

to accelerate innovation, enhance skills, motivate students, strengthen teaching, and facilitate school changes (Umennuihe et al., 2021). One of the most dynamic examples of technology's potential in education is seen in video games, which combine interactive media and gaming culture to engage learners in innovative and immersive ways (Moro-Visconti, 2021). Unlike traditional media like cinema or television, video games centre the experience around interactive play, offering not only entertainment and adventure, but also opportunities for cognitive stimulation. For instance, certain games, such as Tetris and Candy Crush Saga, enhance strategic thinking, while others, like Nintendo and Assassin's Creed, provide immersive storytelling experiences (Cleveland Clinic, 2024). The American Academy of Pediatrics (2021) recommends limited screen time for children, yet research suggests that moderate gaming can enhance memory, attention, and impulse control (Granic et al., 2014). While video games offer various cognitive and educational benefits, EndeavorRX is an FDA-approved video game used to treat ADHD in children aged 8–12, according to the Cleveland Clinic (2024). They also raise concerns regarding their potential impact on school-aged children.

A school-aged child typically refers to children between the ages of 6 and 12years, a stage that marks the transition from early childhood to adolescence. Children at this stage are naturally inquisitive and are especially attracted to sensory-rich experiences, including those offered by digital content (Hastings, 2014). Children's heavy reliance on screen media has raised serious public health issues since it might harm their cognitive, linguistic, and social-emotional growth. However, various studies (e.g. Clark et al., 2016; Granic et al., 2014; Plass et al., 2024) have demonstrated that structured and purposeful use of media, like educational games that target problem-solving and memory, can bolster cognitive development and academic skills. According to Clark et al. (2016), integrating video games into classroom learning can enhance students' interpersonal, cognitive, and problem-solving skills, with evidence showing improved goal orientation and academic success. Therefore, managing screen time through adult controls and modelling responsible digital habits are crucial for maximising the benefits of video game use, especially as a tool for improving children's academic performance.

Academic performance refers to the measurable outcomes of educational engagement, such as grades and test scores. It is influenced by a complex interplay of cognitive skills, motivation, emotional well-being, technology use, and study habits (Gibbs, 2016). Academic performance is a critical determinant of a child's future opportunities, influencing access to higher education, scholarships, and career prospects. Factors such as government policies, socioeconomic status, nutrition and health, school type, teacher-student relationships, curriculum quality, and children's use of electronic media are the different factors that shape children's academic outcomes (Hossain et al., 2021). A strong academic record is linked to improved career prospects and higher earning potential, highlighting the

need to monitor influencing factors to support educational outcomes (Gibbs, 2016), particularly children's screen time.

Patterns of children's electronic media use are changing rapidly. Children's use of mobile phones and tablets tripled between 2013 and 2017, with recent studies indicating that many 4-year-olds now play games, use mobile phone applications, or watch videos on them every day (Niiranen et al., 2021). Concerns have been raised that young children's extensive use of electronic media may impede healthy development, affect language and social skills, and potentially foster addictive behaviour. Excessive screen time is associated with lower reading and numeracy skills, but certain video games have shown potential to enhance cognitive development, such as improved reading skills, attention, and analytical thinking (Bavelier et al., 2015; Granic, 2014). Acknowledging the usefulness and potential risk of video game use would help in developing measures to harness the benefits while avoiding the adverse effects. This is where parental influence comes in. According to the American Psychological Association, parents should monitor the content of their children's screens and establish daily time limits (Pappas, 2022). Additionally, given that parental media consumption might affect children's familiarity with and usage of electronic media, it is important for parents to actively guide their children to develop positive media habits (Nor Zaidi et al., 2024). Using parental control tools and modelling good media behaviour can help the use of digital tools, like video games, for educational purposes only.

The role of teachers in harnessing the benefits of electronic media like video games cannot be overlooked. By embracing these technologies, teachers can enhance their efficiency and effectiveness in the classroom, which not only boosts their enthusiasm for teaching but also fosters greater student engagement and interest in learning (Umennuihe et al., 2023). According to Clark et al. (2016) and Plass et al. (2024), properly integrated into classroom learning, educational video games can boost students' motivation, enhance their technological competence, and strengthen problem-solving skills. It has been proven that video game use has the potential to improve students' cognitive development (Rojas et al., 2021) and, by extension, academic performance (Campos et al., 2023; Chaarani et al., 2022; Plass et al., 2024; Williams & Ayres, 2020). However, the authors are not aware of any studies that examined this correlation among children in Enugu North Local Government Area. Given the increasing use of these media tools among children, this gap in knowledge makes it necessary to examine the relationship between video gaming and academic performance among children in Enugu North Local Government Area.

Purpose of the study

Specifically, the study aimed to:

1. identify the types of video games played by children;
2. determine the frequency of gaming among children;
3. assess the academic performance of children;

4. examine parents' attitudes toward video games as educational tools;
5. identify parental strategies for monitoring children's screen time; and
6. determine the relationship between the frequency of gaming and the academic performance of the children.

Methodology

Study design: A descriptive cross-sectional survey was used to examine the relationship between video gaming and academic performance. Data was collected from children who play video games and those who do not, providing insights into potential associations without long-term tracking (Thomas, 2020; Kappi et al., 2024).

Study population: The study population involves 45,000 (15,000 public and 30,000 private school) parent-pupil pair in the 214 registered primary schools (54 public, 160 private) **in** Enugu North LGA. (Ezomike et al., 2021).

Sample size selection procedure: Sampling was done in multiple stages. The first stage involved the calculation of the sample size of 400 using the WHO (2013) formula (see figure below) for sample size determination.

$$n = N \times \frac{\left[\frac{Z^2 \times p \times (1-p)}{e^2}\right]}{\left[N - 1 + \frac{Z^2 \times p \times (1-p)}{e^2}\right]}$$

Where, n = sample size; p = baseline levels of the indicators (0.5 or 50%); e = margin of error (0.05 or 5%); N = Population size (45,000); Z = Z-score for 95% confidence interval (1.96).

In the second stage, 13 primary schools (5 public and 8 private) in Enugu North LGA were chosen through systematic random sampling, representing 10% of public and 5% of private schools. In the third stage, proportionate sampling was applied to select parent-child pair from the selected schools. In the final stage, a simple random sampling was used to select the participants, to ensure representation across grade levels.

Inclusion and exclusion criteria: Parents/guardian of primary school children aged 7years and above formed part of the study, as well as those who consented to the research. Parents of school-aged children under age seven (mostly Primary one pupils) were excluded from the study, along with those who did not consent, as younger children are less likely to exhibit measurable academic effects from video game use (Dewer, 2024). This is because the focus in Primary one is school readiness and pre-literacy/numeracy milestones rather than the sustained academic performance (Pan et al., 2019).

Instrument for data collection: A structured questionnaire developed after an extensive literature review was the instrument for data collection. The questionnaire comprised five sections, A-E. Section A was used to elicit the demographic details of the respondents. Section B obtained data on the frequency and types of video games played by the respondents. Responses were on a 4-point scale, from never (1) to more than 5hours daily (4). Section C obtained data on the academic performance of the children

based on their last three school term results provided by their class teachers. Section D was for parents' attitudes towards video games as an educational tool, while Section E was used to identify strategies for monitoring screen time. These were scored using a 4-point scale from strongly disagree (1) to strongly agree (4).

Validation and reliability: The instrument was validated by three lecturers from the Department of Home Science and Management, University of Nigeria, Nsukka, who provided feedback to enhance clarity and relevance. Cronbach's alpha was calculated, and the questionnaire yielded a reliability coefficient of 0.82, indicating a high level of internal consistency.

Method of data collection: A total of 400 copies of the questionnaires were distributed to students during their classroom sessions by the researchers and 3 trained assistants who were postgraduate students. Each pupil was instructed to take the questionnaire home to their parents, who were the intended respondents. To ensure thoughtful and accurate responses, the parents were given ample time to complete the questionnaires. The researchers and assistants returned on an agreed day to retrieve the instrument, which facilitated a high response rate. Ultimately, a return rate of 98% was achieved, resulting from a total of 380 completed questionnaires that were returned to the teachers.

Data and statistical analysis: Data collected were entered into IBM SPSS version 23.0 for analysis. Responses for each game category were summed, and games played by more than 50% of respondents were categorised as "commonly played," while those below 50% were "less commonly played. Responses on the frequency of playing video games were summed and categorised into always, often, sometimes and never. For academic performance, averages for the three terms were calculated and categorised into low, average, and high performance. Descriptive statistics, such as frequencies, percentages, mean and standard deviation, were used to analyse responses related to attitudes and strategies. Chi-square test was used to determine the relationship between gaming frequency and performance, with statistical significance set at $p<0.05$. A benchmark mean score of 2.5 was used, with scores of 2.5 and above indicating agreement, while scores below 2.5 indicated disagreement.

Results

Demographic characteristics of the respondents

The data indicated that over half of the children were aged 10-12 years, with 44.8% aged 7-9. Among respondents, 63.3% were female and 36.7% male. Family dynamics showed 37.7% of the children were firstborns, 34.3% middle children, and 28.0% lastborn. In addition, the majority (78.3%) of the children attended private schools. Furthermore, 74.5% of the parents were aged 36-53 years. A vast majority (99.0%) identified as Christians, and 97.6% were Igbo. All of them belong to nuclear families, with

52.0% employed as businessmen. Family monthly income revealed that 34.3% earned between 40,000 and 150,000 naira, while 65.2% earned over 150,000 naira. In terms of education, 96.8% of the parents attended higher institutions. Household sizes varied, with 52.2% having fewer than 5 members. Finally, 97.6% lived in urban areas, while only 2.37% resided in rural areas.

Types of video games played by the children

Table 1 shows the types of games played by children. Puzzle games such as Candy Crush, Tetris and Angry Birds were commonly played (59.1%) by the children, while adventure (41.2%), role-playing (33.5%) and card games (45.3%) were less commonly played by the children.

Table 1: Types of video games played by the children

Games	Yes F (%)	No F (%)	Decision
Puzzle games (e.g. Candy Crush Saga, Tetris, and Angry Birds	225 (59.1)	155 (40.9)	Commonly played
Adventure games (e.g. Subway Surfers, Fruit Ninja, Temple Run, Animal Crossing, Pocket Camp)	176 (41.2)	204 (53.8)	Less commonly played
Role-playing games (e.g. Roblox, Clashes of Clans, AFK Arena, Pokémon GO	127 (33.5)	253 (66.7)	Less commonly played
Card games (e.g. 8 ball pool, Call of Duty, Clash Royale	172 (45.3)	207 (54.6)	Less commonly played

Frequency of playing video games among children

Table 2 shows the frequency of video game play among the children. The results indicate that 66.6% play video games almost always for more than 5hours every day, 24.7% play video games often, 4.2% play sometimes, and 4.5% do not play at all.

Table 2: Frequency of playing video games among the children

Variable	*f*	%
Almost always (more than 5 hours daily)	253	66.6
Often (2-5 hours)	94	24.7
Sometimes (less than 2 hours)	16	4.2
Never	17	4.5
Total	**380**	**100.0**

Academic performance of the children

Table 3 shows the academic performance of the children, revealing that 53.2% of them had high performance, 37.1% had average performance, and 9.7% performed poorly.

Table 3: Academic performance among children who play video games

Academic performance	*f*	%
High performance (70-100)	202	53.2
Average performance (50-69)	141	37.1
Low performance (0-49)	37	9.7
Total	**380**	**100.0**

Parents' attitude towards video games as an educational tool

Table 4 shows parents' attitudes towards video games as an educational tool. Most

respondents disagreed that video games improve academic performance (1.71±1.21), motivate learning (1.94±1.36), or help with critical thinking (1.79±1.72). There was general distrust towards video games (2.03±1.24), and many do not play or teach their children to play. However, some agreed that video games are easy to use (3.00±1.65), useful for education (2.76±1.55), and help children interact socially (3.07±2.75).

Table 4: Mean and standard deviation responses on parents' attitudes towards video games as an educational tool

Variable	Mean	Standard deviation	Remark
Using video games in class would help kids perform better	1.71	1.21	Disagree
I trust video games	2.03	1.24	Disagree
I play video games	2.00	1.22	Disagree
Video games are easy for kids to use	3.00	1.65	Agree
Video games are useful for education	2.76	1.55	Agree
I teach my kids how to play video games	2.29	1.49	Disagree
Video games motivate kids to learn	1.94	1.36	Disagree
Video games are fun and help kids like school	1.98	1.92	Disagree
Video games help kids think critically	1.79	1.72	Disagree
Kids can control their learning when playing video games	1.99	1.97	Disagree
Video games let kids experiment with complex ideas	1.37	1.10	Disagree
I would allow video games in my kids' classrooms	1.65	1.82	Disagree
Video games help kids interact with each other	3.07	2.75	Agree

Strategies used by parents in monitoring their children's screen time

Table 5 presents parents' responses to screen time rules for children. Respondents agreed on setting rules for acceptable content (2.68 ± 1.45), reminding children to take breaks (2.83 ± 1.36), setting screen time schedules (2.64 ± 1.52), using timers (2.62 ± 1.40), discussing content (2.69 ± 1.47), and creating distraction-free study areas (3.37 ± 1.28). However, they rarely enforced rules on limiting total screen time (2.34 ± 1.39), turning off screens before bedtime (1.82 ± 1.41), joining children during screen time (1.73 ± 1.22), or using device settings to monitor usage (2.48 ± 1.38).

Table 5: Mean and standard deviation responses on strategies used by parents in monitoring their children's screen time

Variable	Mean	Standard deviation	Remark
Setting specific rules about how long children can use screens each day	2.34	1.45	Disagree
Creating rules about what types of content are okay to watch.	2.68	1.58	Agree
Reminding the children to take breaks from screens to rest their eyes and stretch.	2.83	1.82	Agree

Make a rule that screens are turned off at least an hour before bedtime to help children sleep better.	1.82	1.52	Disagree
Setting up specific rules about when children can use screens during the day	2.64	1.50	Agree
Setting a timer to let children know when their screen time starts and ends.	2.62	1.45	Agree
Talking to them about what they are watching and playing.	2.69	1.79	Agree
Joining the children while they watch TV or play games, to know what they are into.	1.73	1.43	Disagree
Taking advantage of settings on devices that limit screen time and monitor what is being done.	2.48	1.57	Disagree
Creating quiet spaces for studying that are free from gaming distractions to help kids focus better on their academic tasks	3.37	2.17	Agree
Using screen time as a reward for completing tasks or achieving goals to motivate them to engage in other activities	2.26	1.38	Disagree
Encouraging the children to play games that have educational value or teach specific skills	2.17	1.09	Disagree
Showing the children how to use screens responsibly by practising good habits myself	2.65	1.71	Agree

Relationship between the frequency of playing video games and academic performance

Table 6 shows that at $p<0.05$, no significant relationship existed between gaming frequency and the academic performance of the children. However, a higher percentage of children who never played video games (23.5%) had lower academic performance compared to others. Those who played video games sometimes (less than 2hours daily) had the highest proportion (65.5%) of high performance.

Table 6: Relationship between academic performance and frequency of playing video games

Variables	Low performance F (%)	Average performance F (%)	High performance F (%)	Total F (%)
Never	4 (23.5)	7 (41.2)	6 (35.3)	17(100.0)
Sometimes	2 (12.5)	4 (25.0)	10 (65.5)	16 (100.0)
Often	8 (8.5)	32 (34.9)	54 (50.0)	94 (100.0)
Almost always	23 (9.1)	98 (38.7)	132 (52.2)	253 (100.0)
			$\chi^2 = 6.482$, df = 6, p = 0.371*	

χ^2 = Chi-square value; p = Level of significance; df = degree of freedom

Discussion

This study investigated the relationship between the frequency of playing video games and academic performance among primary school children, while also examining the types of games played, parental attitudes toward video games as educational tools, and strategies used to

monitor screen time. The findings provide valuable insight into the complex and evolving role of video games in children's cognitive and academic development.

Video game preferences

In an era where digital engagement shapes childhood experiences, understanding the types of games children gravitate toward offers valuable insight into their cognitive development. Findings of this study showed that puzzle games were most commonly played by the children while role-playing and adventure games were less commonly played. This implies the children preferred and played games such as Candy Crush, Tetris and Angry Birds, which are known for enhancing cognitive processes such as memory, logic, and decision-making. These findings align with the study of Sherry et al. (2013), which showed that strategic puzzle games were popular among the study participants. In contrast, Rathakrishnan et al. (2023) found that role-playing games were the most preferred genre of games played by the children. According to Plass et al. (2024), puzzle games improve spatial reasoning and problem-solving abilities among school-age children by helping them remain focused and increasing their motivation to complete learning tasks.

The preference for puzzle games among children in the study area may be due to their simple gameplay, short duration, and perceived educational value, making them more acceptable to both children and parents. On the other hand, the low preference for role-playing games could be attributed to their complex content, longer playtime, or limited accessibility for younger users (Clark et al., 2016). Furthermore, parents often steer children toward simpler, age-appropriate games that are easy to monitor and may provide some educational value, as well as easy accessibility for the children and short play sessions (Cleveland Clinic, 2024).

Gaming duration

The American Academy of Paediatrics [AAP] (2021) recommended not more than 2hours per day of screen time for children seven years and above, either for recreational or educational use. The aim is to ensure that media use does not interfere with adequate sleep, regular physical activity, and other healthy behaviours for children. However, this study found that a significant proportion of children played video games for more than five hours daily, far exceeding the AAP-recommended screen time limits. The higher screen exposure observed in this study could be due to limited structured extracurricular activities, lack of awareness among parents regarding recommended screen time, and the growing reliance on digital media as a means of engagement for children at home (Moro-Visconti, 2021) also emphasised that cognitively engaging games can provide educational value, even if playtime exceeds general recommendations. The high frequency of playing video games recorded in this study corroborates that of Lobel et al. (2017), Rathakrishnan et al. (2023) and Sherry et al. (2013). This high frequency across different studies can be attributable to the widespread availability and accessibility of the internet and smartphones. This trend was further amplified during the COVID-19

pandemic, when lockdowns and social restrictions led to a surge in screen time. This significant increase in screen usage has raised concerns about potential adverse effects on mental health, sleep quality, and academic performance of children (Chandra et al., 2024; Muppalla et al., 2023).

Academic performance of children

Academic achievement plays a central role in children's developmental trajectories. The findings of this study showed that the overall academic performance among the children was mostly high. This means that children in the study area obtained average scores of seventy and above at the end of their termly assessments. This is attributable to the fact that most came from educated, financially stable families, attended private schools, and lived in urban areas with access to better learning resources.

The high performance recorded in this study is consistent with that of Umennuihe et al. (2022), which showed that a greater proportion of school-aged children in Enugu had very high academic performance. Furthermore, studies by Carbonneau et al. (2023) and Dias et al. (2022) found similar results of high performance among their study participants. From childhood, through adolescence and into adulthood, school success is closely linked to a person's physical and mental health and successful integration into society. Children who do well and those who experience early difficulties in elementary school usually continue to do so later on (Carbonneau et al., 2023).

Relationship between academic performance and gaming

A positive relationship between gaming and academic performance has been explored across various studies (e.g. Campos et al., 2023; Chaarani et al., 2022; Plass et al., 2024; Williams & Ayres, 2020). The results suggest that engaging in video-gaming, especially strategy games, targets children's problem-solving and memory, thereby bolstering their cognitive development and academic skills. Although the findings of this study found no statistically significant relationship between children's gaming frequency and their academic performance, a higher percentage of children who never played video games had low academic performance. In contrast, those who played sometimes (less than 2hours daily) had the highest proportion of high performance. This suggests that moderate gaming might be associated with better academic outcomes, possibly due to cognitive stimulation or improved focus and problem-solving skills, while complete avoidance of gaming does not necessarily correlate with better performance. Supporting this finding, a study by Chaarani et al. (2022), children who played video games for up to 2hours daily performed better on cognitive skills tests involving impulse control and working memory compared to children who had never played video games.

The implication is that encouraging moderate video game use may support children's academic success, while complete restriction might not be entirely beneficial. So, parents have the role to balance the use by setting limits and

supervising the types of games their children play, guiding them towards useful games. According to Putri and Saharudin (2025), structured parental involvement in media use can enhance children's digital literacy and language learning, thereby contributing positively to their academic performance and long-term well-being.

Parental attitude towards video games as an educational tool

Many parents express concern about their children's video game habits, often worrying about the time spent in virtual environments and potential negative impacts on cognitive development, mental health, and behaviour. These concerns have grown alongside the rapid expansion of the video gaming industry over the past two decades (Chaarani et al., 2022). Parents in this study expressed mostly negative or sceptical views about the value of video games as learning tools. Many disagreed that games enhance academic performance or promote critical thinking. This negative attitude about video games may be justified. Gentile et al. (2011) found that excessive gaming could lead to decreased academic motivation, while Anderson et al. (2010) noted that video games, particularly violent ones, can contribute to behavioural issues in children.

Our finding is consistent with that of Olorunfemi and Fakolade (2022), who observed that most Nigerian parents regard gaming primarily as a form of entertainment or distraction. The scepticism towards video games as an educational tool suggests a lack of awareness regarding the potential cognitive benefits of gaming, underscoring the need for parental education. Increasing parental awareness of how to select appropriate games and balance screen time could help bridge the gap between entertainment and learning. Our findings also showed that parents acknowledged video games as user-friendly tools that can foster social interaction among children. This cautious openness reflects a transition in attitudes, especially as more evidence emerges on the educational potential of certain game genres. Clark et al. (2016) and Plass et al. (2024) emphasised that when games are well-structured and linked to curriculum goals, they can boost classroom engagement and learning effectiveness.

Perceived parental mediation strategies for video game usage

As primary caregivers, parents play a crucial role in managing their children's screen time by setting rules and monitoring usage within the home environment (Sanders et al., 2018). The study found that parents agreed on several effective strategies for managing their children's screen time, including setting clear rules about appropriate content, limiting daily usage, and using digital tools or timers to help enforce these boundaries. The finding implies that parents understand the value of monitoring screen time, reinforcing research that highlights the critical role of parental involvement in effectively managing children's digital habits.

A study by Radesky et al. (2023) found that children whose parents actively set guidelines for digital media use were more likely to develop healthy screen

habits, demonstrating reduced excessive screen time and improved self-regulation in digital environments. On the other hand, Gentile et al. (2011) found that children who had unrestricted access to video games were more likely to experience difficulties in managing their gaming habits, leading to possible negative academic and social outcomes. Anderson et al. (2010) further emphasize that without clear parental guidelines, children may develop excessive gaming behaviours that interfere with sleep, schoolwork, and social interactions. Our findings further showed that parents did not value co-playing games with their children, discussing game content, or using built-in device settings to monitor screen time. This suggests a gap in parental engagement with children's digital activities, exposing children to the risks of low parental involvement, such as exposure to inappropriate content, weakened parent-child bonds and gaming addiction.

According to Lauricella et al. (2015), co-viewing or co-playing video games with children can help parents better understand gaming content and promote discussions about responsible gaming behaviour. Research by Nikken and Schols (2015) show that active mediation strategies like discussing game content and playing alongside children are more effective than simply imposing restrictions. These techniques not only improve children's digital literacy but also foster trust and communication between parents and children. Similarly, Yusuf and Afolabi (2023) recommended that digital parenting should shift from restriction to guided usage, helping children understand how to use technology responsibly. Therefore, encouraging active parental participation and the use of digital monitoring tools could help ensure that gaming remains a balanced and positive aspect of children's daily lives.

Conclusion

This study reinforces the evolving understanding that video gaming, particularly cognitively stimulating genres like puzzle games, is not inherently detrimental to children's academic performance. Despite the prevalence of extended gaming sessions among children in Enugu North LGA, no significant negative correlation with academic outcomes was found. This suggests that the impact of gaming is shaped more by the nature of the games, the level of parental involvement, and the broader home environment than by screen time alone. Children's preference for mentally engaging games aligns with existing research on the educational potential of well-designed video games. However, the persistent scepticism among parents and their limited use of active mediation strategies, such as co-playing and discussing game content, point to a disconnect between research evidence and parental perceptions. Addressing this gap through awareness and guided engagement could enable children to benefit from video gaming while maintaining strong academic performance and developing essential life skills.

Recommendations

Based on the study's findings, the

following recommendations are proposed.

1. Stakeholders in education and child development should encourage the promotion of puzzle and adventure games, which have been linked to cognitive and problem-solving benefits.
2. Parents and caregivers should closely monitor and regulate the amount of time children spend on video games to prevent excessive use.
3. Teachers and educational practitioners should explore the use of video games as complementary tools for reinforcing classroom concepts, especially in areas like math, logic, and critical thinking.
4. Awareness campaigns and parenting workshops should be organised to educate families on the cognitive and educational benefits of specific types of video games.

References

American Academy of Pediatrics. (2021, April 6). *Media and children communication toolkit*. https://www.aap.org /en/ patient-care/media-and-children

Anderson, C. A., Shibuya, A., Ihori, N., Swing, E. L., Bushman, B. J., Sakamoto, A., Rothstein, H. R., & Saleem, M. (2010). Violent video game effects on aggression, empathy, and prosocial behaviour in Eastern and Western countries: A meta-analytic review. *Psychological Bulletin, 136*(2), 151–173. https://doi.org/ 10.1037/a0018251

Bavelier, D., Green, C.S., & Dye, M.W.G. (2015). Children, wired: For better and for worse. *Neuron, 67*(5), 692–701. https://doi.org/10.1016/j.neuron.2010.08 .035

Campos, I., Almeida, L., & Ferreira, A. (2023). Video gaming and academic performance: A longitudinal study. *Journal of Educational Technology, 19*(2), 123–135. https://sinta.kemdiktisaintek. go.id/journals/profile/5215

Carbonneau, K.J., Marley, S.C., & Selig, J. P. (2023). Academic achievement trajectories in elementary school children. *Journal of Educational Psychology, 115*(4), 567–582. https://doi.org/ 10.1037/edu0000778

Chaarani, B., Ortigara, J., Yuan, D., Loso, H., Potter, A., & Garavan, H.P. (2022). Association of video gaming with cognitive performance among children. *JAMA Network Open, 5*(10):e2235721. https://10.1001/jamanetworkopen.2022. 35721

Chandra, S.G., Haarika, V., Tumati, K.R., & Ramisetty, U.M. (2024). The Impact of Screen Time on Sleep Patterns in School-Aged Children: A Cross-Sectional Analysis. *Cureus*, *16*(2), e55229. https://doi.org/10.7759/cureus.55229

Clark, D.B., Tanner-Smith, E.E., & Killingsworth, S.S. (2016). Digital games, design, and learning: A systematic review and meta-analysis. *Review of Educational Research, 86*(1), 79-122. https://doi.org/10.3102/00346543155820 65

Cleveland Clinic. (2024, December 2). *Are video games good for you? Your brain thinks so.* Cleveland Clinic. https://health.clevelandclinic.org/are-video-games-good-for-you

Dewer, G. (2024). *The effects of video games on school achievement.* Parenting Science. https://parentingscience.com/effects-of-video-games-on-school/

Dias, N.M., Seabra, A.G., & Montiel, J.M. (2022). Academic performance and cognitive development in school-aged children. *Frontiers in Psychology, 13*, Article 892345. https://doi.org/ 10.3389/fpsyg.2022.892345

Ezomike, U.O., Nwokedi, N.G., & Oguanuo, C.A. (2021). Assessment of educational infrastructure and enrollment in Enugu

North Local Government Area. *Nigerian Journal of Educational Research and Evaluation, 19*(2), 45–56. https://journal.theasseren.org.ng/index.php/naere

Gentile, D.A., Choo, H., Liau, A., Sim, T., Li, D., Fung, D., & Khoo, A. (2011). Pathological video game use among youths: A two-year longitudinal study. *Pediatrics, 127*(2), e319–e329. https://doi.org/10.1542/peds.2010-1353

Gibbs, G. (2016). *Academic performance and its impact on future success*. Routledge.

Granic, I., Lobel, A., & Engels, R.C.M.E. (2014). The benefits of playing video games. *American Psychologist*, *69*(1), 66–78. https://doi.org/10.1037/a0034857

Hastings, E.C. (2014). Young children's concrete thinking and media use. *Child Development, 9*(5). https://doi.org/10.1111/j.1467-8624.2010.01494.x

Hossain, M.I., Mahmud, I., & Sultana, S. (2021). Impact of screen time on academic performance: A meta-review. *Journal of Child Psychology and Education, 18*(3), 78–90. https://doi.org/10.1016/j.chiped.2021.03.008

Kappi, P., Yusuf, A.O., & Ekanem, M.A. (2024). Cross-sectional survey research: Best practices in educational studies. *Nigerian Journal of Educational Research, 15*(1), 112–125.

Lauricella, A.R., Wartella, E., & Rideout, V.J. (2015). Young children's screen time: The complex role of parent and child factors. *Journal of Applied Developmental Psychology, 36*, 11–17. https://doi.org/10.1016/j.appdev.2014.12.001

Lobel, A., Engels, R.C., Stone, L.L., Burk, W.J., & Granic, I. (2017). Video gaming and children's psychosocial wellbeing: A longitudinal study. *Journal of Youth and Adolescence*, *46*(4), 884–897. https://doi.org/10.1007/s10964-017-0646-z

Moro-Visconti, R. (2021). Gamification and cognitive learning: Digital media's new frontier. *Journal of Interactive Media in Education, 2021*(1), 1–12. https://doi.org/10.5334/jime.655

Muppalla, S.K., Vuppalapati, S., Reddy Pulliahgaru, A., & Sreenivasulu, H. (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

Nikken, P., & Schols, M. (2015). How and why parents guide the media use of young children. *Journal of Child and Family Studies*, *24*(11), 3423–3435. https://doi.org/10.1007/s10826-015-0144-4

Niiranen, J., Räsänen, T., & Hiltunen, M. (2021). Changing patterns of children's electronic media use: A longitudinal study. *Media Psychology, 24*(5), 678–695. https://www.tandfonline.com/journals/hmep20

Nor Zaidi, N.A., Ismail, N.H., & Yusof, R. (2024). Parental engagement in children's media consumption: A Malaysian perspective. *Journal of Family Studies, 30*(1), 45–60. https://www.tandfonline.com/journals/rjfs20

Olorunfemi, M.O., & Fakolade, O.A. (2022). Perception of Nigerian parents on video games and children's academic performance. *International Journal of Educational Technology Research, 7*(1), 55–64.

Pan, Q., Trang, K.T., Love, H.R., & Templin, J. (2019). School readiness profiles and growth in academic achievement. *Frontiers in Education, 4*, 127, 1–17. https: doi.org/10.3389/feduc.2019.00127

Pappas, S. (2022). What do we really know about kids and screens? *American Psychological Association, 51*(3), 42.

https://www.apa.org/monitor/2020/04/cover-kids-screens

Plass, J.L., Homer, B.D., & Kinzer, C.K. (2024). Foundations of game-based learning. *Educational Psychologist, 59*(2), 77–96. https://doi.org/10.1080/00461520.2023.2282159

Putri, R.R., & Saharudin, S. (2025). A systematic review on how parental involvement in ICT enhances digital literacy and language learning. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, *9*(2), 529–544. https://doi.org/10.31004/ obsesi.v9i2.6908

Radesky, J.S., Weeks, H.M., & Schaller, A. (2023). Media use and self-regulation in young children: A longitudinal study. *Pediatrics, 151*(4), e2022056721. https://doi.org/10.1542/peds.2022-056721

Rathakrishnan, B., Bikar Singh, S.S., & Yahaya, A. (2023). Gaming preferences and personality among school students. *Children (Basel, Switzerland)*, *10*(3), 428. https://doi.org/10.3390/children10030428

Rojas, M., Sánchez, P., & Gómez, L. (2021). Moderate video game use and cognitive development in children. *Journal of Child Psychology, 47*(3), 345–360. https://www.pulsus.com/journal-child-psychology.html

Sanders, W., Parent, J., & Forehand, R. (2018). Parenting to reduce child screen time: A feasibility pilot study. *Journal of Developmental and Behavioural Pediatrics: JDBP*, *39*(1), 46–54. https://doi.org/10.1097/DBP.0000000000000501

Sherry, J.L., Lucas, K., Greenberg, B.S., & Holmstrom, A. (2013). Child Development and Genre Preference: Research for Educational Game Design. *Cyberpsychology, Behaviour, and Social Networking, 16*(5), 335–339. https://doi.org/10.1089/cyber.2012.0242

Thomas, L.K. (2020). *Essentials of educational research: A practical guide*. Pearson.

Umennuihe, C.L., Nnubia, U.I., Onyekachi, C.C., Alutu, C.E., & Odoh, O.E. (2022). Engagement in leisure activities and academic performance of primary school pupils in Enugu east local government area. *Journal of Family and Society Research, 1*(2), 29-40. https://jfsr.afass.org.ng/index.php/JFSR/article/view/20

Umennuihe, C.L., Shu'ara, J., Okechukwu, F.O., Alutu, C.E., & Umennuihe, A.E. (2023). Availability and the extent of utilisation of information communication technology among senior secondary school students in Nsukka Local Government Area, Enugu State. *Journal of Family and Society Research, 2*(1), 14-28. https://jfsr.afass.org.ng/index.php/JFSR/article/view/42

Umennuihe, C.L., Okechukwu, F.O., Nnubia, U.I., Umennuihe, A.E., & Eze, E.C. (2021). Awareness and use of assistive technology devices for children with autism spectrum disorder: A case of open doors special education centre, Jos. *Journal of The Society for Home Economists (JSHE), 3*(2), 17-25. https://www.researchgate.net/publication/361844714

Williams, D., & Ayres, J. (2020). Video gaming and academic outcomes: A meta-analysis. *Educational Technology Research and Development, 68*(4), 1897–1915. https://link.springer.com/journal/11423

World Health Organization (2013). *Guideline for the calculation of sample size in a survey*. WHO.

Yusuf, A.O., & Afolabi, F.T. (2023). Digital parenting and screen time regulation in Nigeria. *Journal of Family and Digital Media, 3*(1), 22–36. https://doi.org/10.1093/fdm/jfad003