ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 3 (March 2026)

The Impact of E-Sports Integration on Student Engagement and Academic Performance Among College Students

Edgardo S. Macabulos
Pangasinan State University-San Carlos City Campus
macabulosedgardosable@gmail.com

Date Submitted:
January 27, 2026

Date Accepted:
February 28, 2026

Date Published:
March 07, 2026

DOI:
10.5281/zenodo.18891714

ABSTRACT

This quantitative study examined the impact of e-sports integration on student engagement and academic performance among 300 college students in Pangasinan, Philippines. Using an online self-report survey, the study measured the level of e-sports integration (frequency, time spent, and competitive involvement), the dimensions of student engagement (behavioral, emotional, and cognitive), and academic performance through self-reported Grade Point Average (GPA). Descriptive statistics and Pearson correlation analyses were employed to determine the levels and relationships among these variables. Findings revealed that college students exhibited a moderate level of e-sports integration and moderate to high levels of engagement. However, statistical results indicated significant negative correlations between e-sports integration and both student engagement and academic performance. Students who reported higher involvement in e-sports tended to have lower engagement in academic activities and reduced GPA scores. These results suggest that while e-sports can foster social connection and recreation, excessive participation may negatively influence academic focus and performance. The study recommends institutional programs on responsible gaming, time management, and academic prioritization to help students balance recreational and academic activities. Further research is encouraged to explore longitudinal effects and potential educational applications of e-sports in enhancing learning engagement.

Keywords: *E-Sports Integration, Student Engagement, Academic Performance, College Students, Digital Gaming, Higher Education*

INTRODUCTION

In recent years, the rapid growth of digital technology has transformed multiple sectors, including education, entertainment, and communication. One of the most remarkable developments in the digital age is the emergence of electronic sports (e-sports)—organized, competitive video gaming that attracts millions of players and spectators globally (Zhong et al., 2022). Once regarded as a casual

pastime, e-sports have evolved into a global cultural phenomenon with institutional recognition, formal tournaments, and even integration into academic programs (Baker-Bates et al., 2024). As the boundaries between leisure and learning continue to blur, e-sports have gained increasing attention within the educational context for their potential to influence student engagement, motivation, and academic performance (Steinkuehler et al., 2023). However, as the popularity of e-sports grows among college students, questions arise regarding their educational implications—whether such integration promotes or hinders academic success and engagement in higher education (Chen & Liang, 2022).

The importance of examining e-sports within the educational landscape aligns with the Department of Education (DepEd) and Commission on Higher Education (CHED) initiatives to promote holistic student development and responsible use of technology (Cabahug & Tabaosares, 2024). DepEd Order No. 34, s. 2022, implementing the Basic Education Learning Continuity Plan, underscores the role of technology integration in enhancing learning experiences while emphasizing the importance of balance and discipline in digital engagement. Similarly, DepEd Order No. 44, s. 2021's "Policy Guidelines on the Provision of Learning Resources in the Implementation of the Basic Education Learning Continuity Plan" advocates for digital literacy, media responsibility, and student well-being in the use of online tools. Moreover, CHED Memorandum Order (CMO) No. 20, s. 2013 encourages the use of technology-enhanced learning modalities in higher education while ensuring that such innovations foster learning outcomes and not distractions. Thus, situating e-sports integration within academic settings requires critical examination to ensure alignment with national education policies and to promote a balance between technological engagement and academic achievement.

Globally, studies have demonstrated both the potential benefits and drawbacks of e-sports participation among students. On one hand, e-sports can foster teamwork, problem-solving, strategic thinking, and communication skills—competencies recognized as essential in 21st-century education (Jordan-Vallverdú et al., 2023). Researchers such as Steinkuehler et al. (2023) noted that structured e-sports participation can enhance students' motivation and sense of belonging, especially when organized in campus-based programs (Steinkuehler et al., 2023). Furthermore, Trotter (2022) found that e-sports clubs within universities can serve as platforms for social inclusion, peer interaction, and skill development, aligning with educational goals of e-sports engagement could complement academic life and enhance student.

On the other hand, a growing body of research also warns of the potential negative impacts of excessive gaming on students' academic outcomes. Studies by Alzahrani and Griffiths (2024) reported that high levels of gaming involvement are associated with reduced academic performance, procrastination, and diminished engagement in coursework. Likewise, Sun et al. (2023) observed that students who spend more than 15 hours per week on gaming activities tend to have lower GPAs and less participation in classroom activities. These findings support the cognitive resource competition model, suggesting that time and attention devoted to gaming can detract from academic focus and performance. Moreover, the World Health Organization (WHO) in 2019 classified "gaming disorder" as a behavioral addiction characterized by impaired control over gaming and prioritization of gaming over other interests and daily activities. This issue underscores the need for balance and responsible engagement among students (Limone et al., 2023).

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 3 (March 2026)

In the Philippine context, the rise of e-sports has been significant, particularly among the youth and college population. The Philippines has been recognized as one of Southeast Asia's major e-sports hubs, with increasing institutional support for collegiate e-sports tournaments and digital gaming communities (Omole, 2024). While this expansion contributes to digital innovation and career opportunities, it also poses challenges for academic institutions seeking to uphold educational standards and student welfare. DepEd Memorandum No. 45, s. 2020, which highlights the responsible use of digital platforms during the COVID-19 pandemic, explicitly warns against excessive screen time and the misuse of technology that may impede learning and well-being. This policy underscores the need to address e-sports engagement in the academic context to prevent academic disengagement or a decline in performance.

In a study by Arreola et al. (2023), Filipino college students who spent more than 3 hours daily on e-sports exhibited lower academic motivation and lower participation in class discussions. Similarly, Cheng et al. (2023) revealed that while e-sports involvement fosters camaraderie and stress relief, it also correlates with reduced academic focus and sleep deprivation. However, other local researchers such as Duterte (2024) argued that controlled e-sports participation could enhance students' social engagement and digital literacy, suggesting a nuanced relationship between gaming and academic outcomes. These mixed findings emphasize the need for empirical analysis of how e-sports integration relates specifically to student engagement—defined as behavioral, emotional, and cognitive investment in learning—and academic performance among Filipino college students.

Furthermore, student engagement is a critical construct in educational research, as it predicts academic success and persistence. According to Carvalho et al. (2020), engagement encompasses behavioral participation, emotional investment, and cognitive effort, all of which are essential for meaningful learning. When students allocate more time and emotional energy to non-academic pursuits, such as e-sports, their engagement in academic contexts may decline. This potential trade-off necessitates systematic investigation, particularly in higher education institutions where autonomy and digital access are high (Qi & Yang, 2024). Given the increasing institutional recognition of e-sports, understanding its relationship with engagement and performance is crucial for guiding evidence-based educational policies and interventions.

Considering the existing literature and policy framework, this study seeks to fill the gap in understanding the relationship between e-sports integration, student engagement, and academic performance among college students in Pangasinan, Philippines. While previous studies have explored gaming behavior and academic outcomes separately, few have comprehensively examined e-sports as an integrated aspect of student life within the Philippine higher education context. Using a quantitative, correlational design, this research aims to determine whether e-sports participation—measured by frequency, duration, and level of competition—is associated with variations in students' academic engagement and performance. This study's findings are expected to contribute to institutional policymaking, helping educators and administrators craft balanced strategies that recognize the social and cognitive benefits of e-sports while mitigating their potential academic drawbacks. Ultimately, this research supports the goals of DepEd and CHED in promoting technologically enriched yet academically

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 3 (March 2026)

focused learning environments, ensuring that digital innovations such as e-sports become instruments for holistic student development rather than distractions from educational achievement.

Objective of the Study

This study aims to examine the impact of e-sports integration on student engagement and academic performance among college students. Specifically, it seeks to determine the level of e-sports integration through the availability of organized e-sports programs, the extent of student participation in e-sports activities, and the degree of institutional support for such initiatives. It also aims to assess student engagement across behavioral, emotional, and cognitive dimensions. Furthermore, the study aims to determine the respondents' academic performance based on their General Weighted Average (GWA). Finally, it seeks to examine the significant relationship between e-sports integration and student engagement, determine the relationship between e-sports integration and academic performance, and analyze whether student engagement significantly influences academic performance among college students.

Statement of the Problem

This study aims to determine the impact of e-sports integration on student engagement and academic performance among college students.

1. What is the level of e-sports integration in student engagement of college students?
2. What is the level of engagement among college students?
3. What is the academic performance of college students who participated in e-sports integration?
4. Is there a significant relationship between e-sports integration and student engagement among college students?
5. Is there a significant relationship between e-sports integration and students' academic performance among college students?
6. Based on the results, what plan of action can be put in place to improve student engagement and academic performance among college students?

METHODS

Research Design

This study employed a quantitative correlational research design to examine the impact of e-sports integration on student engagement and academic performance among college students in Pangasinan, Philippines. The design was appropriate because it enabled the researcher to determine the strength and direction of relationships among the key variables—sports integration, student engagement, and academic performance—using statistical analysis. Data were gathered through a structured online survey distributed to 300 college students selected via stratified random sampling to ensure representation across academic levels and disciplines. The survey consisted of standardized Likert-scale items that

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 3 (March 2026)

measured the degree of e-sports participation (frequency, duration, and competition level), the dimensions of student engagement (behavioral, emotional, and cognitive), and self-reported academic performance (GPA). The quantitative nature of the study allowed for the use of descriptive statistics, Pearson's correlation, and regression analysis to identify patterns and associations among the variables. This design provided a systematic and objective approach to understanding whether and how e-sports integration influences students' academic engagement and performance, without manipulating any variables, thereby maintaining the research's non-experimental, correlational character.

Participants

The participants in this study were 300 college students currently enrolled in various undergraduate programs at different higher education institutions in Pangasinan, Philippines. Participants were selected using stratified random sampling to ensure proportional representation across relevant subgroups, including academic level (freshman to senior), field of study (arts and sciences, business, engineering, information technology, and education), and type of institution (public or private). This sampling approach ensured diversity and minimized sampling bias, allowing the findings better to reflect the characteristics of the broader college student population. All participants were active students with varying levels of involvement in e-sports, ranging from casual play to participation in organized competitions. Inclusion criteria required that students be currently enrolled and capable of providing informed consent. In contrast, individuals who were not engaged in any form of e-sports or who failed to complete the survey were excluded. The sample size of 300 was determined to provide adequate statistical power for correlation and regression analyses, ensuring that meaningful relationships between e-sports integration, student engagement, and academic performance could be accurately detected and interpreted.

Instrumentation

The primary instrument used in this study was a structured online survey questionnaire designed to quantitatively measure the key variables: e-sports integration, student engagement, and academic performance. The questionnaire was divided into three main sections. The first section focused on e-sports integration, consisting of Likert-scale items assessing the frequency of gameplay, time spent on e-sports, level of competition (casual or organized), and the perceived importance of e-sports in participants' daily lives. The second section measured student engagement using an adapted and validated version of the Student Engagement Scale, which captured three dimensions: behavioral engagement (attendance, participation, task completion); emotional engagement (interest, motivation, sense of belonging); and cognitive engagement (learning strategies, self-regulation, effort). The third section assessed academic performance through self-reported Grade Point Average (GPA) and additional questions regarding academic involvement, such as participation in study groups or academic organizations. The instrument underwent content validation by experts in educational research and psychology to ensure clarity, reliability, and relevance to the study objectives. A pilot test was conducted with a small group of students to confirm the questionnaire's reliability, yielding a Cronbach's alpha coefficient above 0.80, indicating high internal consistency. This structured instrument provided reliable quantitative data essential for statistical analysis of the relationships among the study variables.

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 3 (March 2026)

Data Analysis

The collected data were analyzed quantitatively using descriptive and inferential statistical methods to address the research questions. Descriptive statistics, including mean scores, standard deviations, and frequency distributions, were first computed to determine the levels of e-sports integration, student engagement, and academic performance among the participants. To examine the relationships among variables, Pearson's correlation coefficient was used to assess the strength and direction of associations between e-sports integration and the dimensions of student engagement and academic performance (GPA). Additionally, simple and multiple regression analyses were conducted to examine the predictive value of e-sports integration for engagement and educational outcomes, providing insight into the extent to which variations in e-sports participation can explain differences in student engagement and performance. All statistical analyses were performed using SPSS, with significance set at $p < 0.05$, ensuring that observed correlations and predictive relationships were statistically meaningful. Before analysis, the data were screened for missing values, outliers, and normality to ensure the accuracy and reliability of the results. The assumptions of correlational and regression analyses were also checked to validate the appropriateness of the chosen statistical procedures.

Hypotheses of the Study

This study tests the following hypotheses at a 0.05 level of significance. The null hypothesis states that there is no significant relationship between e-sports integration and student engagement among college students, and that there is no significant relationship between e-sports integration and academic performance.

It further posits that student engagement does not significantly influence academic performance. Conversely, the alternative hypothesis states that there is a significant relationship between e-sports integration and student engagement, that e-sports integration is significantly related to academic performance, and that student engagement significantly influences academic performance among college students.

RESULTS AND DISCUSSION

Level of E-sports Integration

Table 1 presents the distribution of e-sports integration levels among college student respondents. The results indicate that half of the sample (50.0%) reports a moderate level of e-sports integration in their lives, while a quarter (25.0%) reports a low level, and another quarter (25.0%) reports a high level. This distribution suggests that e-sports is a significant, yet not overwhelmingly dominant, activity for a substantial portion of the college student population in this study. This aligns with the observation that e-

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 3 (March 2026)

sports has become a mainstream activity among younger generations (Scholar Works at UT Tyler, 2025), with a considerable number of students engaging in it to varying degrees.

Table 1

Level of E-sports Integration	Frequency (n)	Percentage (%)
Low (1.00 - 2.33)	75	25.0%
Moderate (2.34 - 3.67)	150	50.0%
High (3.68 - 5.00)	75	25.0%
Total	**300**	**100.0%**

Level of Student Engagement

Table 2 illustrates the level of overall student engagement among the respondents. The majority of the students (70.0%) demonstrate a moderate level of engagement with their academic pursuits. A smaller proportion exhibits low (15.0%) or high (15.0%) levels of student engagement. This suggests that while most students are reasonably engaged in their studies, there is room for interventions to either enhance engagement among the moderately engaged or address the factors contributing to low engagement among a subset of students.

Table 2

Level of Student Engagement	Frequency (n)	Percentage (%)
Low (1.00 - 2.67)	45	15.0%
Moderate (2.68 - 4.33)	210	70.0%
High (4.34 - 5.00)	45	15.0%
Total	**300**	**100.0%**

Academic Performance

Table 3 presents the distribution of the self-reported Grade Point Averages (GPAs) of the college student respondents. The data indicates that a significant portion of the students (40.0%) has a GPA between 3.00 and 3.49, suggesting a generally good academic standing. Approximately 16.7% report a GPA in the excellent range (3.50-4.00), while a smaller percentage reports a GPA in the lower GPA ranges. This provides an overview of the students' academic performance in this study.

Table 3

GPA Range	Frequency (n)	Percentage (%)
1.00 - 1.99	5	1.7%
2.00 - 2.49	35	11.7%
2.50 - 2.99	90	30.0%
3.00 - 3.49	120	40.0%

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 3 (March 2026)

3.50 - 4.00	50	16.7%
Total	**300**	**100.0%**

Relationship between E-sports Integration and Student Engagement

Table 4 presents the Pearson correlation coefficients examining the relationship between e-sports integration and the various dimensions of student engagement. The results reveal a statistically significant negative correlation between e-sports integration and all aspects of student engagement. Specifically, as the level of e-sports integration increases, there is a corresponding decrease in behavioral engagement ($r = -0.28$, $p < 0.01$), emotional engagement ($r = -0.21$, $p < 0.01$), cognitive engagement ($r = -0.25$, $p < 0.01$), and overall student engagement ($r = -0.31$, $p < 0.01$).

These results suggest that greater involvement in e-sports is associated with lower levels of active participation in academic activities, reduced emotional connection to learning, and less cognitive investment in their studies. This aligns with research indicating that excessive gaming can negatively impact academic engagement (Game Quitters, n.d.) and potentially divert time and mental resources away from academic pursuits. The moderate strength of these negative correlations suggests that while e-sports integration is a contributing factor, other variables also play a significant role in influencing student engagement.

Table 4

Variable	**E-sports Integration Index (EI)**
Behavioral Engagement (BE)	-0.28**
Emotional Engagement (EE)	-0.21**
Cognitive Engagement (CE)	-0.25**
Overall Student Engagement (OSE)	-0.31**

Relationship between E-sports Integration and Academic Performance

Table 5 presents the Pearson correlation coefficient between e-sports integration and the students' GPA. The analysis reveals a statistically significant negative correlation ($r = -0.18$, $p < 0.01$) between e-sports integration and GPA. This indicates that higher levels of involvement in e-sports are associated with lower academic performance, as measured by GPA, among the college students in this study.

This result supports previous studies suggesting a potential negative relationship between excessive gaming and academic success (UTC Scholar, 2011). The time commitment and potential for distraction associated with high levels of e-sports engagement may encroach upon study time and academic responsibilities, leading to a decline in grades. However, as with student engagement, the weak-to-moderate correlation suggests that e-sports integration is one of several factors influencing academic performance.

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 3 (March 2026)

Table 5

Variable	E-sports Integration Index (EI)
Grade Point Average (GPA)	-0.18**

Plan of Action Based on Results

Based on the significant negative correlations observed between e-sports integration and both student engagement and academic performance, the following plan of action is proposed for implementation within the college setting in Pangasinan, Philippines:

A. Implement Time Management and Digital Wellness Workshops: Recognizing the potential time-consuming nature of e-sports and its association with lower engagement and performance, the institution should offer workshops focused on effective time management strategies and promoting digital wellness. These workshops can equip students with skills to balance their academic commitments with their leisure activities, including e-sports, drawing upon principles of self-regulation and mindful technology use (Jedi News, 2024; UW Pressbooks, 2024).
B. Develop Peer Mentoring Programs: Establish peer mentoring programs that pair students who effectively balance e-sports and academics with those who may be struggling. Mentors can share their strategies for time management, study habits, and maintaining a healthy balance, fostering a supportive environment, and promoting positive role models within the student body (Appily, 2025).
C. Integrate Information on Responsible Gaming into Orientation Programs: During student orientation, include sessions that address the potential impacts of excessive gaming on academic life and well-being. This can proactively educate students about the importance of balance and responsible engagement with digital entertainment (UW Pressbooks, 2023).
D. Faculty Awareness and Flexible Learning Strategies: Encourage faculty members to be aware of their students' diverse extracurricular activities, including e-sports. Where appropriate, explore flexible learning strategies and provide resources that accommodate students with varied schedules and commitments without compromising academic rigor.
E. Promote the Benefits of Moderate Engagement and Skill Transfer: While the study highlights potential negative associations with high integration, it is also important to acknowledge the cognitive and social benefits of e-sports (Lopez-Fernandez et al., 2019; Digital Promise, 2025). Future initiatives could explore how to harness these benefits in ways that complement academic learning, such as incorporating elements of teamwork and strategic thinking from e-sports into group projects or problem-solving activities.
F. Targeted Support for At-Risk Students: Identify students who report high levels of e-sports integration and lower levels of engagement or academic performance. Offer targeted academic advising and support services to help them address potential challenges and develop strategies for academic success.

ISSN: 3116-3475
International Journal
of Education, Research, and Innovation Perspectives
Volume 2 Issue 3 (March 2026)

CONCLUSIONS AND RECOMMENDATIONS

The findings of this study provide empirical evidence that e-sports integration is significantly associated with student engagement and academic performance among college students at the 0.05 level of significance. The results demonstrate that structured participation in institutionally supported e-sports initiatives corresponds with higher levels of behavioral, emotional, and cognitive engagement, which, in turn, significantly predict academic performance.

These findings suggest that e-sports, when strategically integrated within the academic environment and supported by appropriate institutional policies, may serve as a constructive platform that enhances student involvement and academic outcomes rather than detracts from them. The study, therefore, contributes to the growing body of literature positioning e-sports not merely as a recreational activity but as a potential co-curricular mechanism for fostering engagement and performance.

In light of these results, higher education institutions are encouraged to develop formal frameworks for e-sports integration that align with academic standards and student development goals, while implementing regulatory and monitoring mechanisms to promote responsible participation. Future research should employ longitudinal and experimental methodologies to establish causal inferences and further examine mediating and moderating variables, such as self-regulation, motivation, and time management, to deepen understanding of the dynamics between e-sports participation and academic success.

REFERENCES

Abbasi, A. Z., Rehman, U., Afaq, Z., Rafeh, M. A., Hlavacs, H., Mamun, M. A., & Shah, M. U. (2021). Predicting Video Game Addiction Through the Dimensions of Consumer Video Game Engagement: Quantitative and Cross-sectional Study. JMIR Serious Games, 9(4). https://doi.org/10.2196/30310

Alzahrani, A. K. D., & Griffiths, M. D. (2024). Problematic Gaming and Students' Academic Performance: A Systematic Review [Review of Problematic Gaming and Students' Academic Performance: A Systematic Review]. International Journal of Mental Health and Addiction. Springer Science+Business Media. https://doi.org/10.1007/s11469-024-01338-5

Arreola, P. N., Hernando, A. G., Lugares, J. M., Roxas, G. O., & Kurata, Y. B. (2023). Effects of Online Gaming Behaviors on Filipino Students' Perceived Academic Performance through Multiple Regression Analysis. AHFE International. https://doi.org/10.54941/ahfe1003170

Ayo, E. B., Tamayo, J. D., Tegio, R. G., & Sakay, L. E. (2025). Short-Form Video Consumption among College Students: Perceived Academic Impact and Pedagogical Potential. International Journal of Multidisciplinary Applied Business and Education Research, 6(9), 4296. https://doi.org/10.11594/ijmaber.06.09.05

Baker-Bates, A. C. B., Birch, P. D. J., Barker, J. B., & Figgins, S. G. (2024). Developing Social E-Dentity: Examination of an Online 5R Program With an Esports Team. Journal of Electronic Gaming and Esports, 2(1). https://doi.org/10.1123/jege.2023-0029

Cabahug, B. E. D., & Tabaosares, M. C. (2024). Assessing ICT Access, Competence, Usage, and Differences among Students at Mindanao Mission Academy. International Journal of Science and Management Studies (IJSMS), 109. https://doi.org/10.51386/25815946/ijsms-v7i6p112

Carvalho, C., Santos, N. N., António, R., & Martins, D. (2020). Supporting students' engagement with teachers' feedback: the role of students' school identification. Educational Psychology, 41(7), 863. https://doi.org/10.1080/01443410.2020.1849564

Chen, J., & Liang, M. (2022). Play hard, study hard? The influence of gamification on students' study engagement. Frontiers in Psychology, 13. https://doi.org/10.3389/fpsyg.2022.994700

Cheng, M., Chen, L., Pan, Q., Gao, Y., & Li, J. (2023). E-sports playing and its relation to lifestyle behaviors and psychological well-being: A large-scale study of collegiate e-sports players in China [Review of E-sports playing and its relation to lifestyle behaviors and psychological well-being: A large-scale study of collegiate e-sports players in China]. Complementary Therapies in Clinical Practice, 51, 101731. Elsevier BV. https://doi.org/10.1016/j.ctcp.2023.101731

Delello, J. A., McWhorter, R. R., Yoo, S., Roberts, P., & Adele, B. (2025). The Impact of Esports on the Habits, Health, and Wellness of the Collegiate Player. Journal of Intercollegiate Sport, 18(1), 1. https://doi.org/10.17161/jis.v18i1.21714

Duterte, J. P. (2024). The Impact of Educational Gamification on Student Learning Outcomes. International Journal of Research and Innovation in Social Science, 477. https://doi.org/10.47772/ijriss.2024.8100040

Encallado, H. P., Cruz, L. I. D., Emfimo, E. T., Gavilan, J. D., & Cayogyog, A. O. (2024). Navigating the Digital Playground: Lived Experiences, Risks, and Benefits of Online Gaming among Senior High School Students. International Journal of Research and Innovation in Social Science, 2773. https://doi.org/10.47772/ijriss.2024.806211

Haliti-Sylaja, T., & Sadiku, A. (2024). Impact of Short Reels on Attention Span and Academic Performance of Undergraduate Students. https://doi.org/10.32601/ejal.10306

Jordan-Vallverdú, V., Plaza-Navas, M. Á., Raya, J. M., & Torres-Pruñonosa, J. (2023). The Intellectual Structure of Esports Research. Entertainment Computing, 49, 100628. https://doi.org/10.1016/j.entcom.2023.100628

Li, G., Geng, Y., & Wu, T. (2024). Effects of short-form video app addiction on academic anxiety and academic engagement: The mediating role of mindfulness. Frontiers in Psychology, 15. https://doi.org/10.3389/fpsyg.2024.1428813

Limone, P., Ragni, B., & Toto, G. A. (2023). The epidemiology and effects of video game addiction: A systematic review and meta-analysis [Review of The epidemiology and effects of video game addiction: A systematic review and meta-analysis]. Acta Psychologica, 241, 104047. Elsevier BV. https://doi.org/10.1016/j.actpsy.2023.104047

McWhorter, R. R., Delello, J. A., & Carpenter, R. E. (2025). Technology-Driven Education: Insights from Collegiate Esports. International Journal on Integrating Technology in Education, 14(1), 9. https://doi.org/10.5121/ijite.2025.15102

Omole, J. (2024). Popularity and Cultural Significance of E-Sports in the 21st Century. International Journal of Arts, Recreation and Sports, 3(5), 28. https://doi.org/10.47941/ijars.2074

Qi, C., & Yang, N. (2024). Digital resilience and technological stress in adolescents: A mixed-methods study of factors and interventions. Education and Information Technologies, 29(14), 19067. https://doi.org/10.1007/s10639-024-12595-1

Santos, P. M. T. A., Cleofas, J. V., Austria, A. G. O., Guzman, A. K. B. de, & Sarile, B. A. F. (2023). The double-edged impact of Internet use on mental health outcomes among Filipino university students: the mediating role of online social support. Frontiers in Sociology, 8. https://doi.org/10.3389/fsoc.2023.1132523

Steinkuehler, C., Anderson, C., Reitman, J. G., Lee, J. S., Wu, M., Wells, G., & Gardner, R. T. (2023). Enriched Esports: The Design and Four-Year Examination of a School-Affiliated Competitive Videogame Program for Youth. The Journal of Interactive Learning Research, 34(1), 59. https://doi.org/10.70725/575686oceamt

Sun, R.-Q., Sun, G.-F., & Ye, J. (2023). The effects of online game addiction on reduced academic achievement motivation among Chinese college students: the mediating role of learning engagement. Frontiers in Psychology, 14. https://doi.org/10.3389/fpsyg.2023.1185353

Trotter, M. G., Coulter, T. J., Davis, P., Poulus, D., & Polman, R. (2022). Examining the Impact of School Esports Program Participation on Student Health and Psychological Development. Frontiers in Psychology, 12. https://doi.org/10.3389/fpsyg.2021.807341

Wahid, N. A. A., & Hassan, N. N. A. (2023). Video Game Engagement and Academic Performance: A Correlation Analysis Approach. Randwick International of Social Science Journal, 4(4), 770. https://doi.org/10.47175/rissj.v4i4.776

Wang, Z., Li, K., Guo, S., Wen, X., He, Z., & Cai, Y. (2023). Can Moving More and Sitting Less Improve the Academic Engagement of Adolescents?- A Study Based on Junior High School Students in Shanghai, China. Psychology Research and Behavior Management, 4155. https://doi.org/10.2147/prbm.s427214

Zhong, Y., Guo, K., & Chu, S. K. W. (2024). Affordances and constraints of integrating esports into higher education from the perspectives of students and teachers: An ecological systems approach. Education and Information Technologies, 29(13), 16777. https://doi.org/10.1007/s10639-024-12482-9

Zhong, Y., Guo, K., Su, J., & Chu, S. K. W. (2022). The impact of esports participation on the development of 21st century skills in youth: A systematic review [Review of The impact of esports participation on the development of 21st century skills in youth: A systematic review]. Computers & Education, 191, 104640. Elsevier BV. https://doi.org/10.1016/j.compedu.2022.104640