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The Effect of Mobile Gaming in Academic Performance of Secondary Education Students

[1]Dino T. Agraviador, [2]Clint B. Clarido, [3]Kristine T. Soberano
*[*1,2,3]Northern Negros State College of Science and Technology, Old Sagay, Sagay City, Negros Occidental, Philippines*

Abstract
This study looks into the connection between 300 secondary school students' academic performance and mobile gaming. Results point to a possible inverse relationship between prolonged mobile gaming and academic success. Students differ in their study habits, time management skills, and parental participation. Promoting self-control and parental supervision is crucial to reducing the negative effects of excessive mobile gaming on academic performance. Targeted therapies and more study are required to address potential harmful impacts, particularly for those who get addicted to gaming. The findings show that a sizeable percentage of participants regularly play different kinds and lengths of mobile games. Cumulative GPAs are used to quantify academic success, and different performance levels are recorded. Students differ in their study habits, time management skills, and parental participation in their academic pursuits. In conclusion, this study highlights the need for more research and treatments to address potential harmful effects, especially among individuals who acquire gaming addiction, even if online gaming can be a source of fun when played in moderation. Promoting self-regulation and parental monitoring could help offset the impact of excessive mobile gaming on pupils' academic progress.
Keywords: *Academic Performance, Secondary School Students, Mobile Gaming*

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I. INTRODUCTION

Background and Context

The rapid spread of mobile technology in recent years has significantly altered many facets of our lives, including education. Mobile gaming has increased dramatically among people of all ages, but particularly among teens and young adults, as a result of smartphones and tablets being widely available. While participatory and entertaining, mobile gaming has raised questions about its possible effects on academic achievement, particularly among secondary school pupils. Understanding the possible effects of growing mobile gaming on these kids' academic performance becomes an urgent subject of research as they manage the delicate balance between their educational responsibilities and recreational pursuits.

Mobile gaming is one of the factors which affect academic performance of students. Moreover, mobile game also contributes on the advancement of student's cognition which will help him solve problems, either complex or not. Mobile gaming brings negative impacts on students' academic performance[1]. In the present globalized market-driven world, Human progress and development is highly influenced by the power of information and technology. The technologically driven world spins around the information explosion and technological resources. Dr. Digumarti Bhaskara Rao states “The emergence of the “Learning Society” amongst advanced technology economies with its concomitant knowledge updating and renewal for individuals creates new expectations”. The developing countries have come to realize the role and need of of skills with latest technology for the future generation[2].

Many researchers conducted detailed studies about the factors contributing student performance at different study levels. “Effect of Mobile Gaming / Computer Gaming On the Physical, Academic & Psychological Performance of School Going Adolescents Tanmay[3]. Investigating predictors of smartphone dependency symptoms and effects on academic performance, improper phone use and perceived sociability[4]. The Detrimental Effects of Mobile Game Addiction on Chinese Primary School Students and Possible Interventions[5]. Impact of Mobile Phone Game Addiction on Sri Lankan Teenagers: An Exploratory Study[6]. Cyberloafing behaviors among university students: Their relationships with positive and negative affect[7].

Research Problem and Objectives

This study's main goal is to investigate the connection between mobile gaming and secondary school students' academic performance. Finding out if playing these games has any measurable impact on students'

academic outcomes is critical as mobile gaming becomes increasingly incorporated into students' daily lives. Therefore, the following is a brief statement of the primary research problem for this study:

Research Problem: To what extent does mobile gaming influence the academic performance of secondary education students?

In light of this research problem, the study aims to achieve the following specific objectives:

1. Analyze the trends in mobile gaming among students in secondary education.
2. Examine students' academic achievement in connection to their level of mobile gaming participation.
3. Determine any potential mediators or moderators of the association between mobile gaming and academic achievement.

Hypotheses or Research Questions

The following research questions will serve as a guide for the investigation and will help answer the research problem:

1. Does the quantity and quality of mobile gaming affect secondary school students' academic performance?
2. Do students who play a lot of mobile games perform significantly better academically than those who don't?
3. Does the relationship between mobile gaming and academic success depend on characteristics such as study habits, time management, and parental involvement?

This study intends to advance our knowledge of the potential impacts of mobile gaming on secondary education students' academic careers by methodically investigating these research concerns.

The methods used to conduct the study, the presentation and analysis of the results, and a thorough discussion of the implications, limitations, and suggestions that result from the research project will all be covered in the following sections of this research report.

II. RESEARCH METHODOLOGY

Research Design

This study uses a quantitative research methodology to examine how mobile gaming may affect secondary school students' academic performance. The research seeks to systematically evaluate numerical data in order to identify patterns, linkages, and potential links between variables by using quantitative approaches.

Participants

The study's participants are 300 secondary school students attending Calatrava Senior High School in Calatrava Negros Occidental. The participants' ages range from 17-21 years, and the sample is made up of 11th and 12th grades. Students that are enrolled in the current academic year actively are included in the inclusion criteria.

Data Collection

1. **Survey Questionnaire**: A structured survey questionnaire intended to obtain pertinent data is used for data collection. The questionnaire is divided into several sections, each of which addresses a different area of the research:
    - **Mobile Gaming Habits:** Participants are asked how often and how long they play on their mobile devices each week.
    - **Academic Performance:** The self-reported cumulative grade point average (GPA) for the 3RD grading is used to evaluate participants' academic performance.
    - **Study Habits:** Utilizing a Likert-scale evaluation, study habits are examined together with participants' time management skills and interest in academic assignments.
    - **Parental Involvement:** Participants' perceptions of their parent's involvement in their academic endeavors are used to gauge parental involvement.

2. **Academic Records:** Official academic records are received from Calatrava Senior High School to enhance self-reported academic performance data and to ensure the participants' academic accomplishments are measured objectively.

3. **Variables and Measures**
    a) **Independent Variable (IV):** The independent variable, "Mobile Gaming Behavior," is operationalized by determining the frequency of gaming sessions and the weekly amount of time spent playing games on mobile devices.
    b) **Dependent Variable (DV):** The participant's cumulative GPA as determined by verified academic records serves as the operationalization of the dependent variable, "Academic Performance," for this study.
    c) **Mediating and Moderating Variables:** The research also investigates possible mediating or moderating factors:
        - **Study Habits:** Through the use of a Likert-scale questionnaire, participants' study habits, methods, and time allocators were evaluated.
        - **Time Management:** Employing a questionnaire with a Likert scale to assess participants' assessments of their time management skills.
        - **Parental Involvement:** Participants' perceptions of their parent's involvement in their academic endeavors were gauged using Likert-scale questions.

Data Analysis

The Statistical Package for the Social Sciences (SPSS) is used to conduct a detailed statistical analysis of the acquired data. To describe participant mobile gaming behavior, academic performance, and other important characteristics, descriptive statistics, such as means, standard deviations, and frequencies, are produced. To investigate the links between mobile gaming activity and academic achievement, Pearson correlation analysis is used. To investigate the potential mediating or moderating impacts of study habits, time management, and parental participation, multiple regression analysis is used.

III. RESULT

Section 1: Participant Characteristics

To find out whether mobile gaming habits and academic performance are related, the study polled 300 secondary school pupils. The study's participants ranged in age from 15 to 19 years, with the youngest being 15 and the oldest being 19 years. The 4 categories were made up of the majority of participants.

Male, female, and other gender identities made up 80% of respondents' gender identities, respectively.

The distribution of participants according to grade level was as follows: 25% were in the 10^{th} grade, 30% were in 11^{th} grade, and 45% were in grade 12 level.

Section 2: Mobile Gaming Habits

Frequency of Smartphone Gaming:

- 80% of the participants said they regularly played games on their smartphones.
- Mobile games were played frequently by 6.7%.
- One game every week was played by 5%.
- 15% said they hardly ever play games on their smartphones.
- 0% claimed they had never played games on their phones.

Average Hours Spent Gaming:

- 26.7% of participants said they spent 0–2 hours per week playing mobile games.
- 40% played games for 3 to 5 hours.
- 13% played games for 6-10 hours.
- 5% played games for 11-15 hours
- 15% spent at least 16 hours each week playing games on their phones.

Daily Gaming Frequency:

- 53% of participants said they spent 0–2 hours per week playing mobile games.
- 26.7% played games for 3 to 5 hours.
- 13.3% of the time was spent playing.
- 5% of the time was spent playing.
- 15% spent at least 16 hours each week playing games on their phones.

Types of Mobile Games:

Role-playing games (RPGs) and puzzle games were the most popular categories of mobile games, according to 33% of survey participants. In addition, 33.6% of participants choose action games and strategy

games, respectively. Other game types, such as simulation games and role-playing games (RPGs), were indicated by several responders.

Section 3: Academic Performance

For the most recent academic semester, participants provided a range of cumulative grade point averages (GPAs). The distribution looked like this:

- A GPA of 4.0 was recorded by 12.3%.
- 3.3% had GPAs that fell between 3.0 and 3.4.
- The GPAs of 30% ranged from 2.5 to 2.9.
- 40% reported having GPAs under 2.5.
- None of the respondents stated that they had a GPA between 3.5 and 3.9.

Section 4: Study Habits and Time Management

Study Habits:

- 20% of the participants said they were very disciplined and structured in their study habits.
- 33.3% said they had reasonably organized study habits, but there was always room for improvement.
- 40% described their study habits as moderately organized but with room for improvement.
- 6.7% of the participants said they had no systematic study routines at all.

Time Management:

- 20% of participants said they were extremely good at managing their time for academic work.
- 40% said they handled their time management mediocrely.
- 33.3% thought they handled time management ok.
- 6.7% of the participants said they were absolutely terrible at managing their time.

Section 5: Parental Involvement

Parental Involvement:

- 13.3% of participants thought their parents were very involved in their academic pursuits.
- 53.3% rated their parents' level of involvement as moderate.
- 20% thought their parents were somewhat interested in their lives.
- 20% of the respondents said their parents were not at all involved.

Parental Inquiries:

- According to 20% of respondents, their parents frequently asked them about their homework and academic progress.
- 33.3% said their parents would occasionally ask them questions.
- 33.3% reported their parents rarely asked them questions.
- 13.3% reported that their parents never asked how they were doing in school.

IV. DISCUSSION

Based on their findings, it appears plausible to draw the conclusion that the drop-in student performance in students that play online games for longer than is advised are the cause of school. As a result, it is advised that pupils play for no more than three hours. This research has a number of drawbacks. To begin with, we are unable to evaluate how each variable impact one another and whether or not the child's problematic conduct influences other factors, such as dysfunctional families or mental health concerns in the parents, and creates confusing variables. Second, even with fewer questions, some kids still struggled to answer survey questions because they didn't understand certain words, such when they had to guess how long they spent playing games.

V. CONCLUSION

As was previously mentioned, while there is still controversy surrounding internet gaming, for the most part it has become one of the most engaging and easily accessible kind of entertainment available today. Online games can be used for amusement if played within the suggested period, even if this study found a negative correlation between the average amount of time spent on electronic gaming and student accomplishment. But it's important to remember that those who become addicted to online gaming will suffer, and this may be assessed using the game addiction. Additionally, this study highlights the necessity for more investigation to create and carry out interventions targeted toward. Limiting daily electronic gaming activities can be achieved by strengthening user self-regulation and parental supervision. In light of the discovery, online.

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