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Impact of Gaming on the Mental Well-Being and Academic Performance among High School Students

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Abstract: This study aims to determine the impact of gaming on mental well-being and academic performance among teenage students. A survey was conducted among 34 senior high school students to gather data on whether gaming can affect their academic performance and mental well-being. The survey consists of questions regarding the students' studying habits, gaming habits, and overall academic performance. Results have shown that students who play video games frequently tend to score lower in terms of academic performance, particularly on academic competence, test competence, and strategic studying. However, they score significantly higher than moderate and low gamers when it comes to time management. In terms of mental well-being, results suggest that frequent gamers scored lower than moderate gamers in terms of engagement, perseverance, optimism, connectedness, and happiness. On the other hand, in social behavior, frequent gamers often obtain "normal" scores when compared to moderate gamers who obtained more "borderline" or "abnormal" scores.

Keywords: mental well-being, gaming, social behavior and psychological functioning, academic performance

1. Introduction

In the past two decades, video games have been gaining even more popularity due to various technological advancements in the field which allowed them to be used for more than just entertainment but as a means of relaxation and even to cope with mental stress due to the effects of the COVID-19 pandemic.

Some studies have shown some negative effects of gaming on children on their psychosocial wellbeing and even their quality of sleep. Frequent to excessive gamers may be at risk for behaving less prosocial (Lobel et al. 2017), poorer psychological well-being (Goh et al. , 2019), problematic behavior for the user such as increased physical aggression (Lemmens et al.,2011, Fischer et al., 2010), Holtz et al. 2014) and poor sleep quality and overall well-being (Capinpin et al., 2022).

However, some studies found negative correlation in examination marks with gaming frequency (Ip et al.,2008) and positive correlation of internet gaming with psychological distress, which is linked negatively with emotional intelligence and academic performance (Zahra et al., 2020). It is without doubt, that although gaming has benefits, it may still have numerous negative impacts on one's physical and mental health as well. This study attempts to determine the impact of gaming on mental well-being and academic performance among teenage students.

2. Methodology

A survey was conducted among 34 senior high school students from various places in the Philippines, who regularly play video games. Since this study involves minor participants, informed consent and assent forms were signed by the participants and their parents or guardians. The participants answered a set of questions on their demographics, study habits, gaming habits, and overall academic performance thru a Google form. The samples were clustered based on their answers in the demographic survey. Participants who stated that they play video games for more than 35 hours a week are clustered into the

heavy gamer category and those who stated that they played less than 35 hours a week are clustered into the *moderate* gamer category, following the Youth Risk Behavior Surveillance 2009 in Eaton et al. (2010) category for youth with health risk behavior who spend 3 hours or more per day in video and online games.

The survey questions are based on 3 instruments, namely, the Study Management and Academics Results Test (SMART) adapted in Kleijn et al. (1995), Strengths and Difficulties Questionnaire (SDQ) to measure social behavior adapted in Goodman (2001) and EPOCH instrument to measure the level of engagement, perseverance, optimism, connectedness, and happiness adapted in Kern et al. (2016). For the SMART instrument, four scales are measured, particularly, the (1) academic competence which is the capability of the student to handle the study loads; (2) test competence which is the capability of the student to handle exam stress and test-related works; (3) time management which is the ability of the student to balance study and leisure time; and (4) strategic studying which is the ability of the student to evaluate and adapt based on the given workloads in the school. The Strengths and Difficulties Questionnaire measures a range of mental health symptoms such as prosocial behavior which is the willingness to act for the benefit of other people, peer problems which is the behavior to his or her peers, hyperactivity which checks if a person is hyperactive or inattentive, conduct problems which is the ability of the to follow rules, or behave in a socially acceptable way, and emotional problems which measures the current mental or emotional state. The EPOCH Assessment, on the other hand, covers five scales such as engagement which refers to being absorbed, interested, and involved in an activity or the world itself, perseverance which refers to the continued effort to do or achieve something despite difficulties, failure, or opposition, optimism which refers to having a sense of hope and confidence about the future, connectedness which refers to feeling loved, supported, and valued by other and happiness which refers to the general feeling of happiness, cheer, and contentment with life.

3. Results and Discussions

Based on SMART results in Figure 1a, the heavy gamer group scored higher in test competence and significantly higher in time management than moderate gamers in the test but scored lower in both academic competence and strategic studying. Moderate gamers scored highest in academic competence while lowest in time management. This significant difference in time management of heavy gamers may suggest that this group tends to balance their academic time and their leisure time well. Since test competence is the capability of the student to handle exam stress, heavy gamers tend to allocate more time to their leisure time and are able to handle stress very well. Moderate gamers obtained higher scores in strategic studying and academic competence since they tend to dedicate more time to studying than leisure.

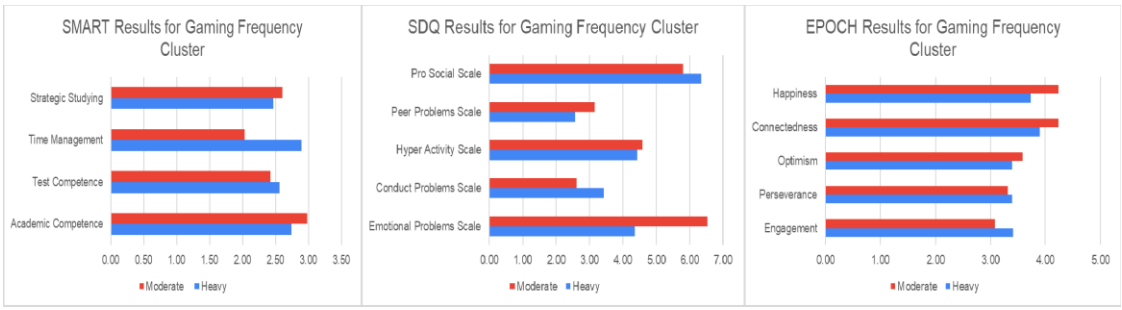

Figure 1. (a) Study Management and Academic Results Test; (b) Strengths and Difficulties Questionnaire Assessment; (c) EPOCH Questionnaire Assessment

For the SDQ scores in Figure 1b , lower scores imply a more positive behavior. *Heavy* gamers often obtain "normal" scores when compared to *moderate* gamers who obtained more "borderline" or "abnormal" scores. *Moderate* gamers got high scores when measuring the emotional problems scale and prosocial scale. EPOCH results in Figure 1c show that *heavy* gamers tend to score lower on happiness, connectedness, and optimism, while scoring higher levels of engagement and perseverance.

As such, this may suggest that heavy gamers tend to score higher on engagement and perseverance simply because they classify as those who engage in gaming for long periods of time and hence, they are more engaged and absorbed while playing video games.

4. Conclusion and Future Works

This study attempts to determine the impact of gaming on mental well-being and academic performance among teenage students during pandemic. A survey was conducted among 34 high school students to find out the impact that gaming had on various aspects of their academic performance and mental well-being. The results suggest that in terms of academic performance, gaming may help ease the stress being experienced by students from taking exams and may also help students manage their time more wisely. However, an excessive amount of gaming may affect the student's ability to handle study loads or even their ability to evaluate and adapt to the given workloads of the school. Moreover, it was found out that heavy gaming actually led to a healthier state of well-being due to the data obtained from the SDQ. However, heavy gamers exhibit lower scores of optimism, connectedness, and happiness. This may suggest that individuals who tend to engage in gaming for an unhealthy and extended period of time may feel generally less happy, loved/valued by others, and especially lose confidence about themselves or the future. Nevertheless, it is safe to assume that an unhealthy amount of gaming may be detrimental to the well-being of an individual.

Future works are recommended to use the same instruments with a larger sample size in order to obtain more accurate and well-represented results. Future study may explore other gaming habits of students such as which days they play, what moods and emotions have led them to play, and the genre of games they frequently play, and correlating how these have affected the overall mental health and academic performance of the students.

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