

Video Games and Academic Performance

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Introduction and Background

The development of video games goes back to the 1940s and 1950s. Computer scientists had started working on early stages of video games by designing simulations and artificial intelligence as part of their computer science research. It is almost impossible to point out the very first video game produced during that time period due to the unorganized processes of creating video games and the lack of concern of preservation at that time, in addition to the fact that those early games were created on obsolete and unavailable computer systems. There are, however, a number of logic puzzles, board games, and military simulations that are considered to be the first video games produced.

The popularity of video games grew rapidly in the 1970s and the 1980s when they reached the mainstream population as game consoles, and computers were introduced to the public. During that time, there was little variety of video game; some of the popular ones were Gun Fight, Blockbuster and Space Invaders. Space Invaders was released in 1978 and created a renaissance in the video gaming industry as it was the new hit of the time.

In the last couple of decades, the popularity of video games has increased at an ever greater rate. Video games have rivaled all types of media for leisure time use. The technological competition among software manufacturers has led to an unprecedented advancement in video games. Several platforms have been developed, and graphics have been optimized to emulate real life images, making video games more interesting, thus attracting more hobbyists. Eighty-one percent of American youth report playing at least once per month, and about 9% of 8-18 years old can be considered pathological users. (Video Game Playing and Academic Performance in College Students, 2012) Overall, approximately 81% of 18-29 years old play video games. (Video Game Playing and Academic Performance in College Students, 2012)

Ever since the emergence of video games, there have been only a few research studies conducted for the sake of finding various types of effects of video games on human behavior and cognition. There are even fewer studies conducted to examine the relationship between playing video games and academic performance. Most video game studies focus on the behavioral effect of video games, in particular, the effect of violent video games and their possible effect on the level of aggression. Playing video games is often associated in our society with poor academic performance. This anecdotal idea is supported by some research. A 2000 study found a negative correlation between GPA and time spent playing video games (The Effect of Videogames on Student Achievement, 2011). However, several older studies contend that the results of research have been mixed. A 1997 study suggests that “there is no clear causal relationship between video game playing and academic performance” (The Effect of Videogames on Student Achievement, 2011).

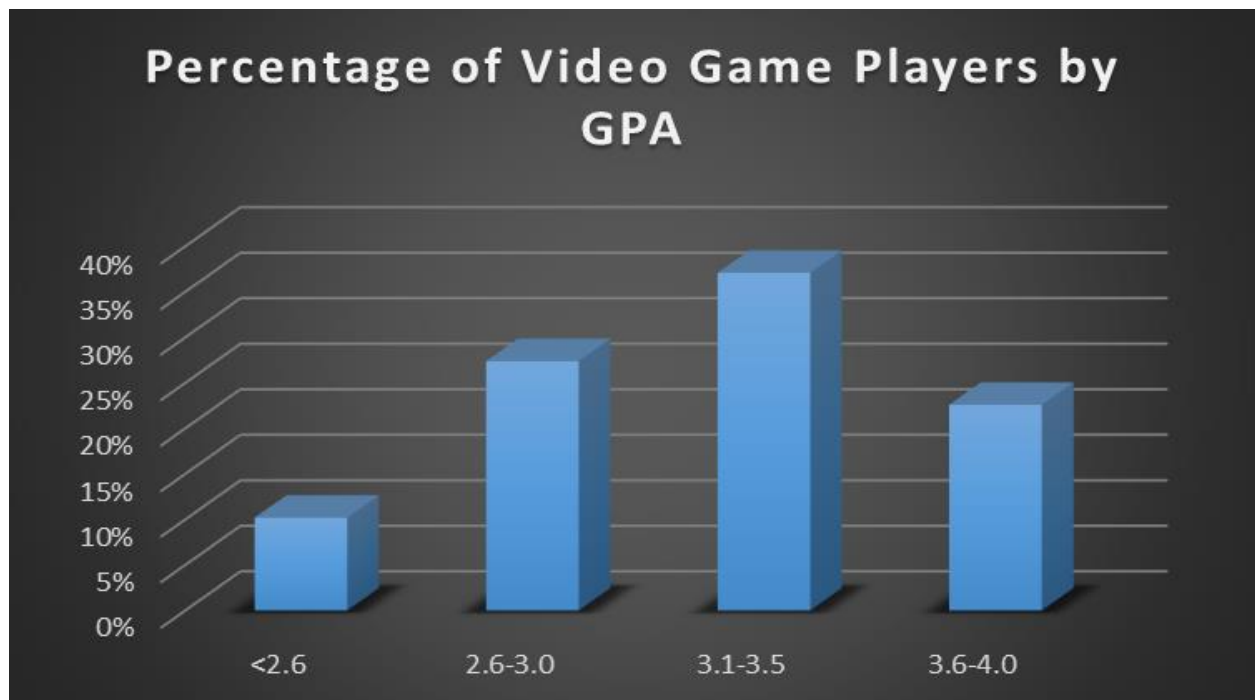
In 2005, a research paper suggested that video games are changing education and that games are more than a simple form of entertainment. It explains that student learning can be enhanced by experiences in vast virtual worlds. It suggests that students are able to actually experience and experiment with the things that they are learning rather than simply being told them as facts or equations (The Effect of Videogames on Student Achievement, 2011). On the other side, some research concludes there is little evidence to suggest that interactive media enhances the learning experience. Other sources have noted positive impacts on student performance. One study of a game relating to numerical analysis in an engineering curriculum found that students experienced significantly more intellectual intensity, intrinsic motivation, positive affect and overall student engagement when completing homework (The Effect of Videogames on Student Achievement, 2011).

Methods

To further explore this topic, a team of researchers conducted a survey at the College of Coastal Georgia to find out if there is a correlation between playing video games and academic performance. We hypothesized that there is a negative correlation between playing video games and academic performance, that is, the more time students put into playing video games the less satisfactory they perform academically. To properly conduct a valid and reliable survey, we composed a set of questions related to the information we were seeking to collect data. Another important procedure of the survey process was choosing a random sample of the population. The sample size was 191 students, and was taken from lower level curriculum classes, and other lower level electives such as English 1101, Introduction to Communication, and Introduction to Psychology, to ensure the inclusion of students of different majors, thus avoiding any inadvertent bias. The participants were 18-35+ years of age and were all given the survey in paper form. GPA of students was used to measure academic performance. Students were also asked about the time they spend playing video games on daily, weekly, and monthly basis.

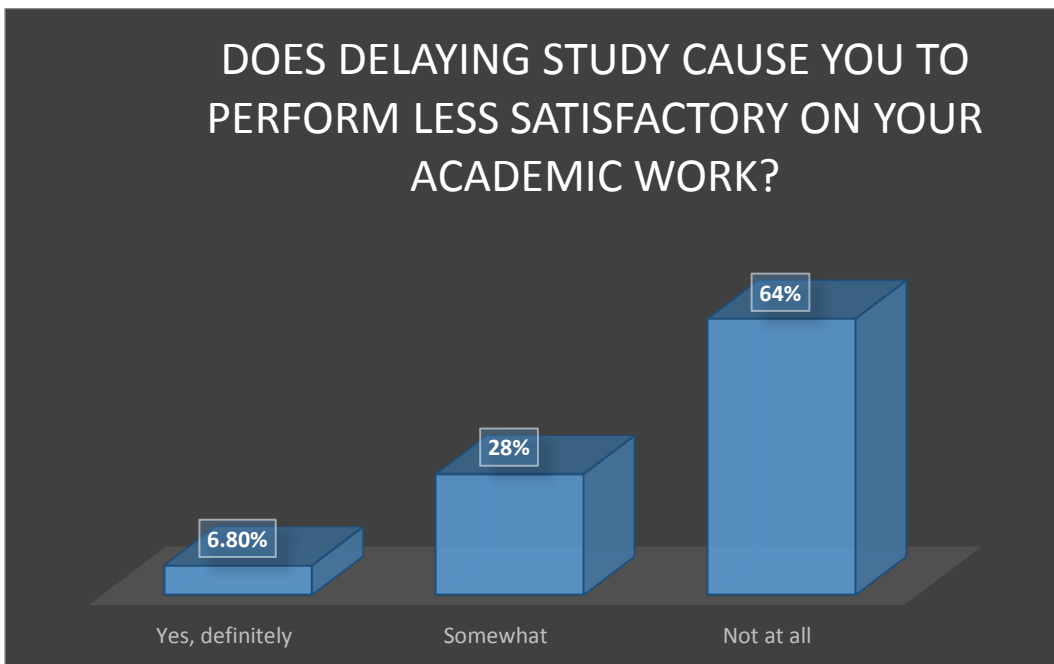
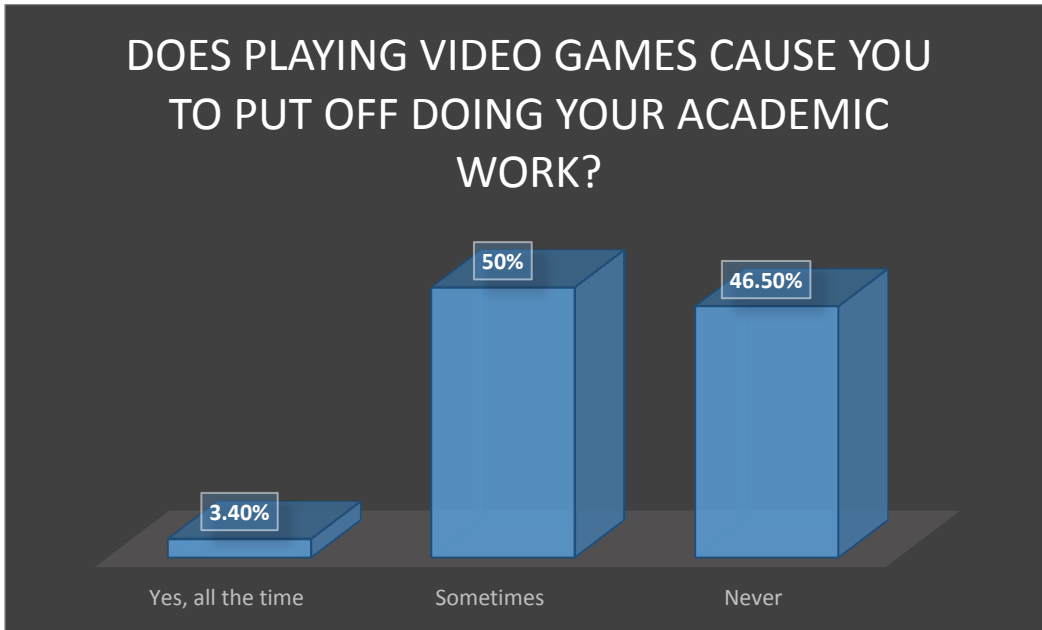
Choosing relative statistical tools is another important step in the effort of reflecting on clear and understandable results. We chose to make a contingency table, bar charts, and pie charts to measure academic performance in relation to time spent playing video games. We also used a number of bar and pie charts to illustrate some interesting findings of various facts pertaining to the study, such as which gender and age groups play video games most. Some of the survey questions asked concerned the preferred platform and the primary reasons for playing video games. We also asked the participants if playing video games causes them to put off doing their academic work and whether delaying study causes them to perform less satisfactorily academically.

Descriptive analysis of the demographics and video games experience revealed some interesting findings. As the chart below indicates, the majority of video game players have a GPA above 3.0

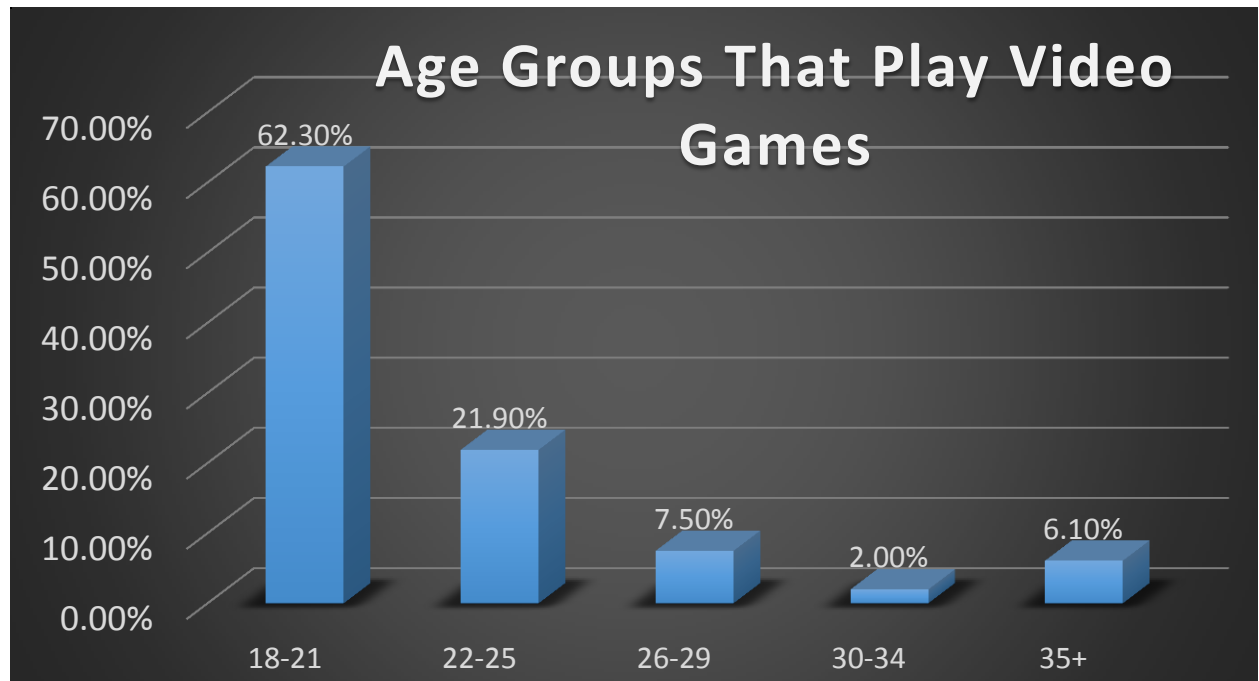


In addition, 76% of all survey participants play video games, of which 59% are males, 40% females, and 1% other. As for the preferred platform, 49% of those who do play video games prefer console, 40% prefer mobile, 10% computer, and 1% handheld. For the primary reasons of playing video games, boredom came on top with 56.8%, and stress relief was second with 13%.

The below chart reflects the result of asking the question “Does playing video games cause you to put off doing your academic work?”



Below is a bar chart of different age groups of the participants that play video games:



Finally, when we organized the data into a contingency table, the results were quite surprising. The hypothesis of the link between more hours playing video games and poorer academic performance, as measured through GPA scores, was unsubstantiated. In three different measures of academic success, we were unable to relate them to hours spent playing video games, and, therefore, it appears that there is no correlation whatsoever.

As the survey suggests, a lot of students of different age groups play video games for different reasons, but mostly for leisure when the video game player is bored. However, the absence of a correlation supports the claim that previous study and research results suggesting a relationship might not be accurate. Perhaps playing video games can have different effects on different people. As it diverts the focus away from academic material for some, it may work as a brain stimulant that boosts the mental capability to perform better academically for others.

Reference:

Burgess, S. R., Stermer, S. P., & Burgess, M. C. (2012). *Video Game Playing and Academic Performance in College Students*. Retrieved from: <http://www.paulstermer.com/resources/College-Journal.pdf>

Craton, J. (2011, April 26). *The Effect of Videogames on Student Achievement*. Retrieved from: <http://www.acsd.org/article/the-effect-of-videogames-on-student-achievement/>