The effects of video gaming on University grades

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Kandidatexamensarbete inom
Medieteknik Grundnivå, 15 hp
Stockholm, Sverige 2014

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ABSTRACT

In this 21st century IT-world, the use of video gaming has dramatically grown and taken a firm place in many young peoples' busy day-to-day schedule. As a result, many are growing worried that video gaming will affect people in a negative way, especially when it comes to students' academic performance.

This thesis is an investigation of the correlation between games and university grades amongst students.

Our results show that students, who played more, had more problems with their grades than the ones who played less. However, the results also show that gaming itself is not the problem, as the correlation between hours spent gaming and grades, is similar to the correlation between hours spent on other hobbies and grades. In essence, two hours of video gaming affects the grades just as much as two hours of physical exercise.

The conclusion from our research is that it is the time spent on other activities than studying, that affects the grades. Video gaming is however amongst the easiest activities to be engaged in for an extended period of time, and can therefore be indirectly harmful to students' grades.

SAMMANFATTNING

I dagens IT-värld har användningen av datorspel ökat enormt och tagit en ordentlig plats i många unga människors upptagna vardag. Som ett resultat av detta har det börjat växa en oro bland många att detta spelande påverkar människorna negativt, speciellt när det gäller de akademiska prestationerna.

Denna rapport är en undersökning för att finna eventuella samband mellan datorspel och högskolebetyg bland studenter.

Undersökningens resultat indikerar att studenter som spelar mer, har större problem med sina betyg än de som spelar mindre. Resultaten indikerar dock också att det inte är spelandet i sig som är orsaken till problemet, eftersom korrelationen mellan antal timmar spenderat på datorspel och betyg, och korrelationen mellan antal timmar spenderat på andra hobbys och betyg, är starkt jämförbara. Detta tyder på att två timmars datorspelande påverkar betygen lika mycket som två timmar av fysisk träning.

Slutsatsen av vår undersökning är att det är tiden som man spenderar på andra saker än att studera, som påverkar betygen. Däremot är datorspel bland de enklaste aktiviteterna att engagera sig i under en längre tidsperiod, och därmed också indirekt bland de mest potentiellt skadliga aktiviteterna för en students betyg.

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1. Introduction

This chapter will give an introduction and overview on the subject of this study.

1.1 Background

There are approximately 700 million online gamers worldwide and an American study shows that this number keeps increasing (NPD, 2013). With the popularization of online games and gaming in general an increase in the number of hours spent playing them has followed (NPD, 2013). This increase can be seen through the growing number of platforms that provide online purchases of games. Services like Steam and Origin provide thousands of games just one click away.

With the increasing accessibility of video games there is a general concern amongst parents about the negative effects of video games. Even though gamers are of all ages and almost equally spread amongst both genders (Spil Games, 2013), it is the effects of video games on children that most people find worrying. Numerous studies have thus been made on the effects of these video games and online games on children under the age of 19. These have however had mixed conclusions.

A new study published by the American Academy of Pediatrics finds that excessive gaming may lead to depression, anxiety, and poor grades in school (CNN, 2014) while other studies show that video game use, whether total time spent using, or exposure to violent content specifically, did not predict attention problems or GPA[1] (ScienceDirect, 2010).

Since very little is definite about the effects of video games on young scholars and none of these studies were focused on university students, this made it a very interesting subject for this study. Today, there is also a lot of talk and hype about the gamification[2] of learning and its positive effects, but what about the negative effects gaming have on academic achievements amongst university students?

[1] Grade Point Average is the average academic score a student has over his time of study

[2] Gamification is the use of game thinking and game mechanics in non-game contexts to engage users in solving problems (Wikipedia, 2014)

1.2 Purpose

The purpose of our thesis is to determine whether or not there exists a clear correlation, and if so what kind, between the number of hours a student spends on video games and their average F. We will be conducting a survey that we will spread amongst students who attend technological universities in Sweden through several platforms and social media channels, such as Facebook. With the gathered data we are able to interpret our results using the help of statistics and finally shed some light on the impacts that online video gaming have on university students' academic achievements.

1.3 Problem specification

Our research question is as follows:

"Is there a correlation, and if so what kind, between the number of hours a Swedish student at a technological university in Sweden spends on video games, and their number of failed courses?"

To answer our research question we will also investigate:

- The effects of the time spent gaming on the time spent studying outside of school hours.
- The effects of the time spent on other extracurricular activities on average F
- The effects of the time spent on other extracurricular activities as a function of the time spent studying outside of school hours

These three will serve as comparison for the main question. All of these questions will be answered with the analysis of the data gathered from our online survey.

1.3.1 Delimitations

When we speak of video games we only refer to games played on the computer or on console, where the player controls a character. Such genres might be shooters, MOBAs, RPGs or even racing. Web-based games that can be played using apps on smartphones like “Candy Crush” or “Farmville” are not included. This is because this thesis is only looking at the playing hours that could intervene with the students study hours, and games that can be played on-the-move on smartphones, in local transportation, cars etc, will not be part of this study.

In addition, we will only include players who are not addicted to gaming in our survey as addiction can be a symptom of many illnesses that can affect academic achievement (Brunborg,G., Mentzoni, R., & Frøyland, L., 2013). As mentioned in the research question, we will also only be looking at the grades of students that attend technological universities in Sweden.

1.4 Hypothesis

The time that students spend on video games has a negative effect on academic grades which can be seen through a correlation between the number of hours spent gaming per day and their ‘average F’.

Firstly, we believe that students who spend more time on video games have more F’s than other students. Secondly, we believe this would be due to the fact that students who play for several hours a day have less time to study, and less time to study would mean more failed grades.

2. Theory

This chapter is dedicated to explaining and clarifying some of the essential information that will be used in our study.

2.1 Previous studies - Effects of video gaming

Even though most of the collected information is from studies conducted on pupils under the age of 19, we would use it as guidelines for our study on students above this age. This was mostly due to the fact that not many studies have been made in the field of video gaming habits and academic performance compared to other behavioral studies such as the impacts of watching television on academic performance in children.

2.1.1 Positive effects of video gaming

Though it might seem intuitive that videogames are a distraction from one's educational ambitions, there are studies that beg to differ. Playing commercial video games for extended hours has been shown to enhance visual-spatial skills and attention, while playing educational video games has been shown to improve math, health and mechanical engineering (Ventura, M., Shute, V., & Kim, Y. J., 2012). Another study points out that violent video game exposure is associated with increased visuospatial cognition and did not support a relationship between aggressive behavior and violent video games (Ferguson, C., 2007). Video game play can even be seen as a manifestation of an active and well-adjusted lifestyle. Young people who play video games tend to perceive their family relations as close (Durkin, K., & Barber, B., 2002). This study points out that engagement in voluntary, structured activities such as video gaming sustains and challenges young people and is related to academic and personal development. Also, the association between time spent video gaming and negative outcomes [1] is negligible, claims this research (Brunborg,G., Mentzoni, R., & Frøyland, L., 2013)

2.1.2 Negative effects of video gaming

Several studies have shown that use of video games is associated with a host of different problems such as higher levels of depression, alcohol consumption, conduct problems and lower academic achievement (Brunborg,G., Mentzoni, R., & Frøyland, L., 2013). Another study shows a negative correlation between hours spent gaming and GPA (Anand, V., 2007). Players who were playing between 3 and 6 hours a day scored better on SATs[4] than those who played less or more, however, their GPA (Grade Point Average) was affected negatively. It has also been shown that video gaming can cause more symptoms of ADHD and inattention in adolescents who play for more than one hour a day (Chan, P., Rabinowitz, T., 2006)

[4] [1]SAT is a standardized test for most college admissions in the United States (Wikipedia, 2014)

2.1.3 Gaming addiction

Most research on the effects of video gaming agree upon the fact that there is a considerable difference between time spent gaming and gaming addiction (Brunborg, G., Mentzoni, R., & Frøyland, L., 2013). It is difficult to associate addiction solely with time management, since previous studies have indicated a myriad of factors, such as depression, anxiety, and/or a genetic disposition, that can cause addiction (Anand, V., 2007). Many of these symptoms can affect academic performance and therefore players who are considered addicted will not be included in our study. In fact, video game addiction is associated with poor academic achievement and conduct problems (Skoric, Teo & Neo, 2009).

2.2 Introduced notions

2.2.1 The notion of 'Average F'

To make sure that we would receive a good number of answers from our survey, we wanted to use subjects from all university years. This would of course mean that first year students would have less 'Fail' grades than students having already studied for several years. To counter this we introduced the notion of 'Average F' where we calculated the number of 'Fail' grades per year. This was made by dividing the amount of 'F' grades by the number of years studied.

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Average F = (number of F) / (number of years studied)
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For example a student who has studied a total of 2 years and has had 4 'F' grades would have an average F of 2. Average F = (4 'F') /(2 years) = 2 (F / Year).

2.2.2 Correlation does not imply causation"

This is a phrase that is often used in statistics. It means that just because there is a correlation between two variables, it doesn't prove causation between these two variables. As Steven Novella, a clinical neurologist and professor at Yale University, writes:

"Scientists are careful to point out that correlation does not necessarily mean causation. The assumption that A causes B simply because A correlates with B is a logical fallacy – it is not a legitimate form of argument." (Novella, 2009)

Its meaning was a cornerstone in the research as, no matter the results, our analysis could only be indicative and not evidential. This would also mean that we would need the data gathered from several questions and compare them in order to try and understand the nature of the eventual correlation.

2.2.3 Pearson's *r*

The Pearson product-moment correlation coefficient, or "Pearson's *r*", is a measure of the degree of dependence (correlation) between two variables. It can take any value between -1 and 1 where -1 is a total negative correlation, 0 is no correlation and 1 is a total positive correlation (Wikipedia, 2014).
In this study, we assumed two variables correlated if their Pearson's r was above 0.70 or below -0.70 as it is considered a threshold for high correlation. (Acastat, 2014)

$$r = \frac{\sum_{i=1}^{n}(X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum_{i=1}^{n}(X_i - \bar{X})^2}\sqrt{\sum_{i=1}^{n}(Y_i - \bar{Y})^2}}$$

2.2.4 Definition of character based video games

We were limited to games that are played only on a computer or a console, games that cannot be played on mobile devices. Some of these gaming genres included, but were not restricted, to:

- Role Playing Games (RPG).

These are the type of games where the player controls only one avatar (character) throughout the entire game, and is expected to engage in playing the role of the character.

- Massive Multiplayer Online Role Playing Games (MMORPG)

A subgenre of RPG's, these games takes place online and always includes interaction with other online players.

- Strategy Games

Many different genres are included into strategy games, where the players are required to think tactically and strategically to defeat their opponents. Two common sub genres are Real Time Strategy (RTS) where the action is live and ongoing, and Turn-Based Strategy (TBS) where the game enters a more chess-like form, with each player having time to think his next move through, and the other one will have to wait for his turn.

- Multiplayer Online Battle Arena (MOBA)

A subgenre to RTS, these types of games includes two teams of online players who battle against each other in order to win the game, where each player controls one character.

- Shooters

Shooters are games where the player controls a character with the main objective to shoot other characters in the game. Subgenres include First Person Shooters (FPS) where the player observes the virtual world through the eyes of the character, and Third Person Shooters (TPS) where the camera most often is placed behind and above the characters back.

- Sports

This genre includes all types of sports, including football, hockey and even racing.

3. Method

This chapter introduces the methods and its following theories that are used to carry out the thesis.

3.1 Theory

3.1.1 Choosing the Quantitative method.

The goal of this research was to get good enough statistics in order to analyze the results with precision and draw as accurate conclusions as possible. In our case, we wanted to find if there was any kind of correlation between the number of fails and the amount of hours spent in front of video games. Since we weren't looking to analyze any kind of behavior, but rather to analyze numerical data, the best solution was in this case a quantitative research using a survey.

3.1.2 Quantitative research - definitions

As mentioned before, the method that was to be used was a survey that followed the quantitative research theory. The following definition describes what is meant by quantitative research methods:

*"Quantitative research is 'explaining phenomena by collecting numerical data that are analyzed using mathematically based methods (in particular statistics).'" (*Aliaga and Gunderson, 2000)

The *"numerical data"* that we sought was all the answers that we got from the survey. The answers from one single person to this survey were labeled as a *"variable"*.

3.1.3 Google Forms

Google Forms is an online survey tool, available to anyone, where users can easily create a survey only accessible to those with the link to it. The survey is created and saved in the creators Google Drive account, and the results are viewable live with various types of statistical data available for the creator. The results can also be manipulated in many different ways, for example can they be transferred to an Excel document, with various types of viewing methods and statistical interpretations.

3.2 Procedure

3.2.1 Shaping and creating the survey

The most important part of the survey was that it had to be specific, short and effective. Since its purpose was to be spread to as many students as possible, it could not take too much of their time or ask them to do too much. Therefore, the survey could not be composed of more than six or seven questions and could not take more than two minutes to answer. While making the survey, the focus was hence on asking the right questions, staying within the limitations and always coming back to the research question.

Since the hypothesis of this study is that grades are affected by how many hours a student plays video games, and also by how many hours they do something else than studying during the time they should be studying, the survey included questions that were not directly connected to gaming. Questions like “What activities do you do when you are not studying” and “for how long do you do these activities?” serve as example. Based on this, we would be able to compare the grades of students who do other activities than video gaming for six hours and students who do play them for six hours.

Before the survey was sent out, it was assessed and criticized by a group of six other third year students. The survey can be found in the appendix A page 25.

3.2.2 Spreading the survey and focus group

Using Google Forms, we created a survey composed of seven questions that takes in total less than 2 minutes to answer. Since we had a narrow focus group, students who attended technological universities in Sweden, the survey was spread through personal contacts or using targeted groups on social media channels such as Facebook. Our goal was to reach over 300 people, as we considered it as a realistic amount using our ways of distribution, with the survey and a quick description of this project.

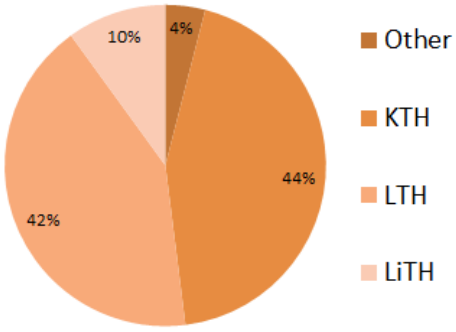
Age and gender of our subjects were not of importance in this case since we were studying students overall, and with the time limitation being over a week, there would not be a problem getting a biased result from one group of people since we assumed that almost everyone in the study would've signed into Facebook at least once during that week.

4. Results

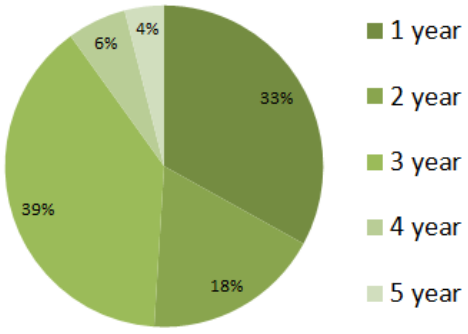
In this chapter, we will use graphical representation to introduce the results and data found in the survey.

4.1 Student demographics

After nine days of circulating on social Medias, the survey was answered by 137 students.



4.1.1
Student's year of study



1 University the students attend *4.1.2*

The first pie chart 4.1.1 shows the percentage of answers from each respective technological university in Sweden (Kungliga Tekniska Högskolan, Lunds Tekniska Högskola, Linköpings Tekniska Högskola and others). The second pie chart 4.1.2 shows the percentage of answers from each year of study between one and five. From the gathered data these averages were also calculated:

Average

Hours spent gaming per day	1 h 34 min
Hours spent on other activities per day	2 h 12 min
Hours spent studying per day	1 h 26 min
Average F	2 ‘Fail / year’

4.2 Survey results

The table below shows all the results collected from the raw data.

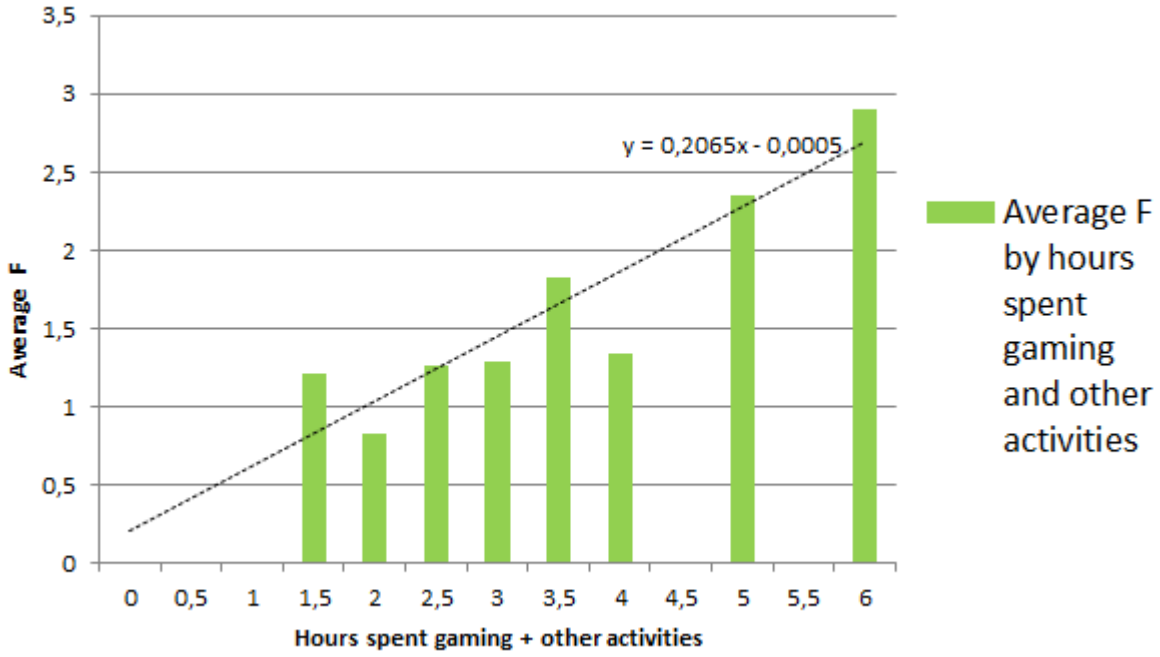
- The red column shows an average of average F by hours spent gaming
- The blue column shows an average of average F by hours spent on other extracurricular activities.
- The green column shows an average of average F by the total of hours spent on gaming and other extracurricular activities combined
- n.o.a stands for numbers of answers

Hours	Average F/ hours gaming	n.o.a	Average F/ hours other activities	n.o.a	Average F/ hours spent total	n.o.a
0	**1,10**	42	**1,25**	8	**0**	2
0,5	**1,39**	22				
1						
1,5	**1,10**	32	**1,36**	72	**1,21**	26
2					**0,83**	10
2,5	**1,79**	8	**1,80**	32	**1,27**	10
3					**1,29**	26
3,5	**2,39**	17	**1,60**	12	**1,82**	6
4					**1,33**	9
4,5	**2,37**	8	**0**	1	**0**	0
5					**2,36**	16
5,5	**1,02**	5	**0,56**	5	**0**	1
6					**2,90**	9
6,5	**0,34**	2	**0,73**	6	**0,4**	3
7					**1,32**	12
8					**0**	3
10					**0,62**	3

4.3 Relation between variables

In this part the relation between several variables are presented in form of the graphs.
To increase precision, extreme values having less than 6 answers have been removed.

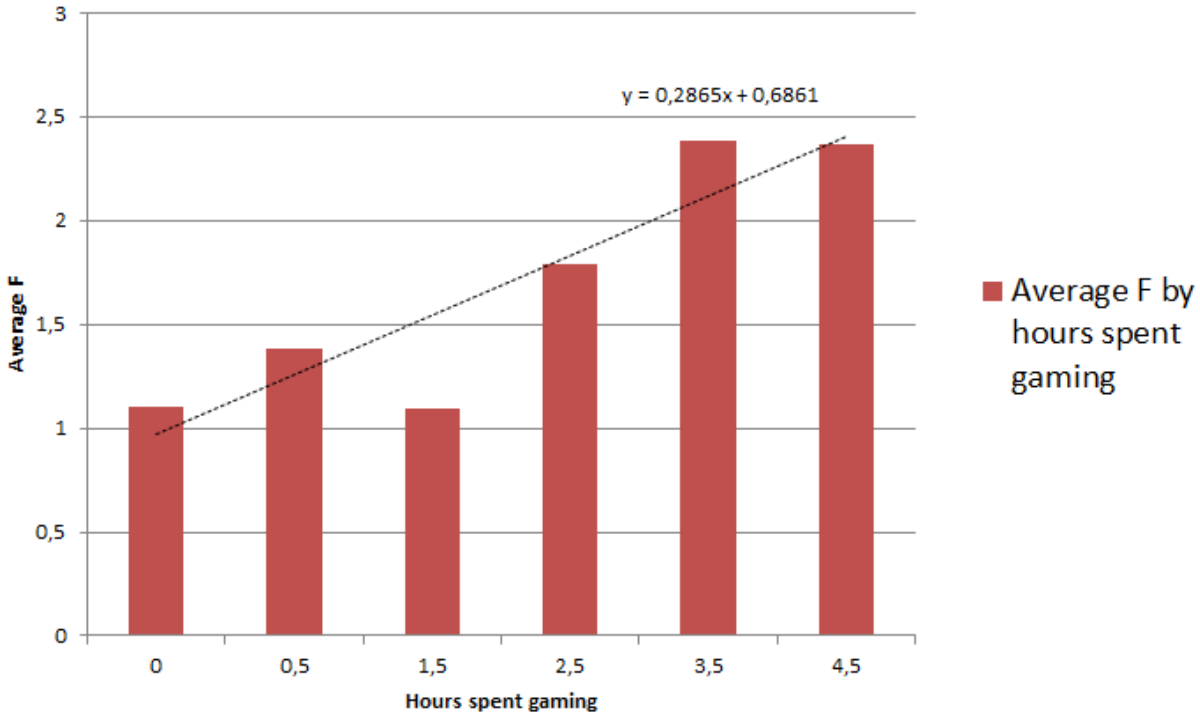
4.3.1 Average F' by total hours spent gaming and other activities combined



Graph 4.3.1 'Average F' by hours spent per day on extracurricular activities

We can see from the graph (4.3.1) that those who spend on average 1.5 hours on extracurricular activities per day have an 'average F' of 1.2, students who spend an average of 3.5 hours a day have an 'average F' of 1.8 and those who spend 6 hours a day have an 'average F' of 2.9. The trend line indicates towards a positive correlation between the number of average F and hours spent on extracurricular activities. Using the Pearson's r method included in excel we can calculate the degree of linear dependence between these two variables. In this case, Pearson's r is 0.91.

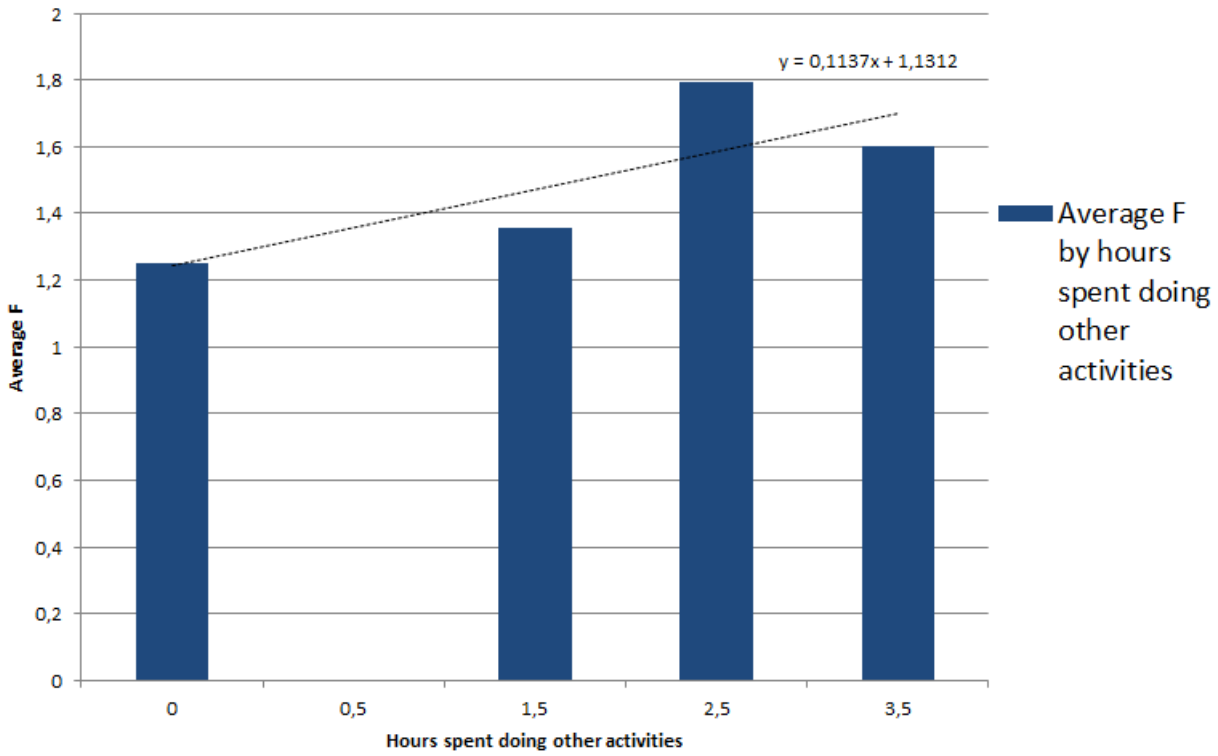
4.3.2 ‘Average F’ by hours spent gaming



Graph 4.3.2 ‘Average F’ by hours spent per day on gaming

Students who spend 0 hours per day gaming have an ‘average F’ of 1.1, students who spend 2.5 hours gaming per day have an ‘average F’ of 1.8 and students who spend 4.5 hours gaming per day have an ‘average F’ of 2.4. Pearson’s r is 0.92. We can see from the same graph the trend lines’ equation is 0.29x + 0.58 .

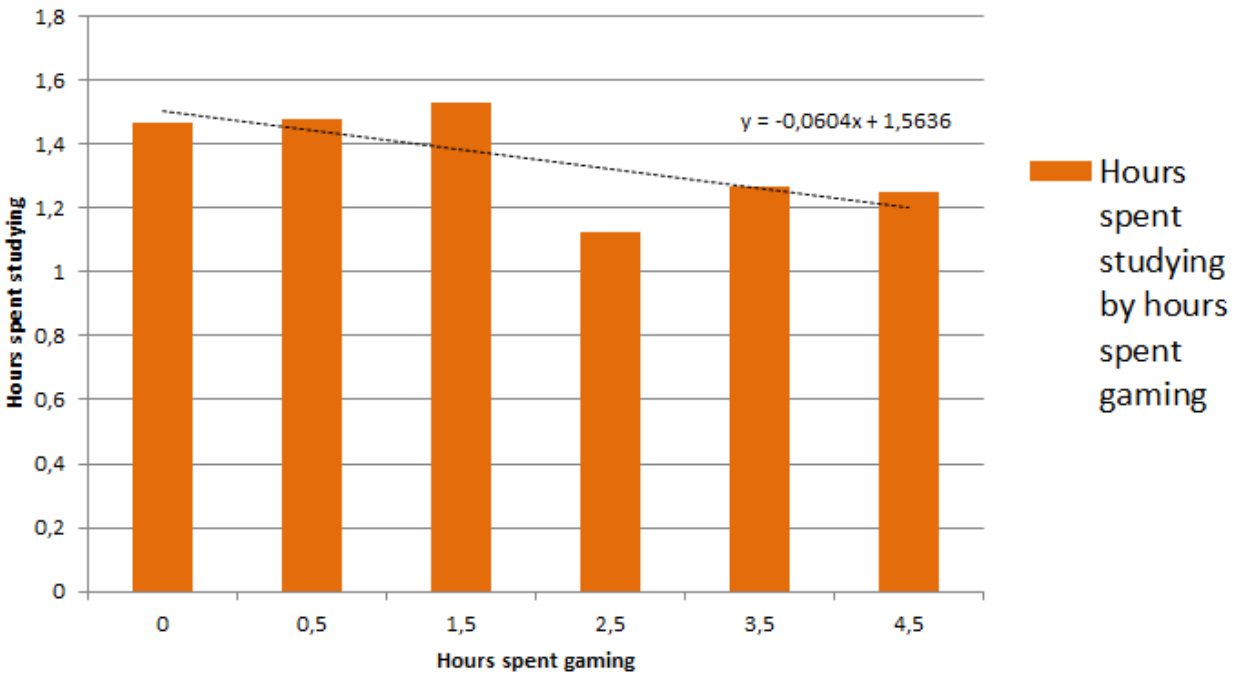
4.3.3 Average F' by other extracurricular activities



Graph 4.3.3 'Average F' by hours spent per day on other extracurricular activities

From graph (4.3.3) we can see that students who spend 0 hours on other extracurricular activities per day have an 'average F' of 1.2, students who spend 1.5 hours on extracurricular activities per day have an 'average F' of 1.4 and students who spend 2.5 hours on extracurricular activities per day have an 'average F' of 1.8. Pearson's r is 0.79. The trend lines' equation is 0.11x + 1.2 .

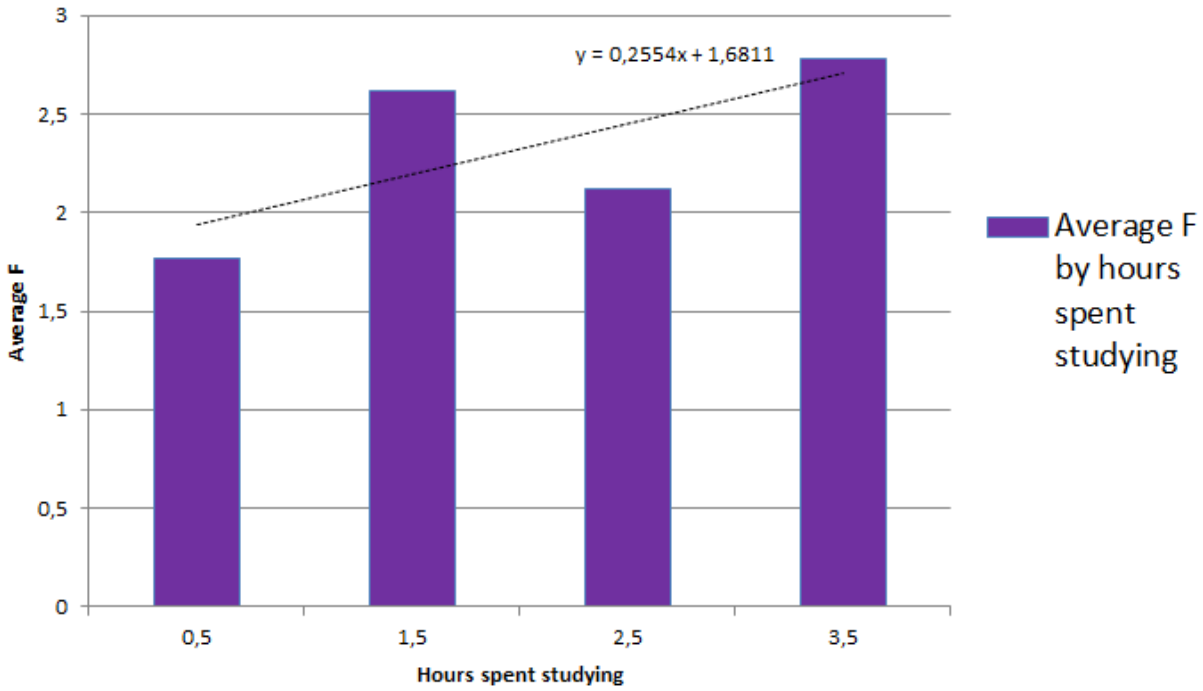
4.3.4 Numbers of hours studied by hours spent gaming



Graph 4.3.4 Hours spent studying by hours per day spent gaming

From graph (4.3.4) we can see that students who spend between 0 and 1.5 hours per day gaming spend on average 1.5 hours studying whereas students who spend between 2.5 and 4.5 hours per day gaming spend on average 1.2 hours studying. Pearson's r is -0.71.The trend line's equation is -0.06x + 1.5 .

4.3.5 Average F by hours spent studying outside of school hours



Graph 4.3.5 'Average F' by hours spent per day studying

Students who spend 0.5 hours studying per day have an 'average F' of 1.7, students who study for 2.5 hours per day have an 'average F' of 2.1 and students who study for 3.5 hours per day have an 'average F' of 2.8. Pearson's r is 0.71 and the trend line's equation is 0.26x + 1.7 .

5. Analysis

In this chapter we present our analysis of the results found.

5.1 Analysis of results

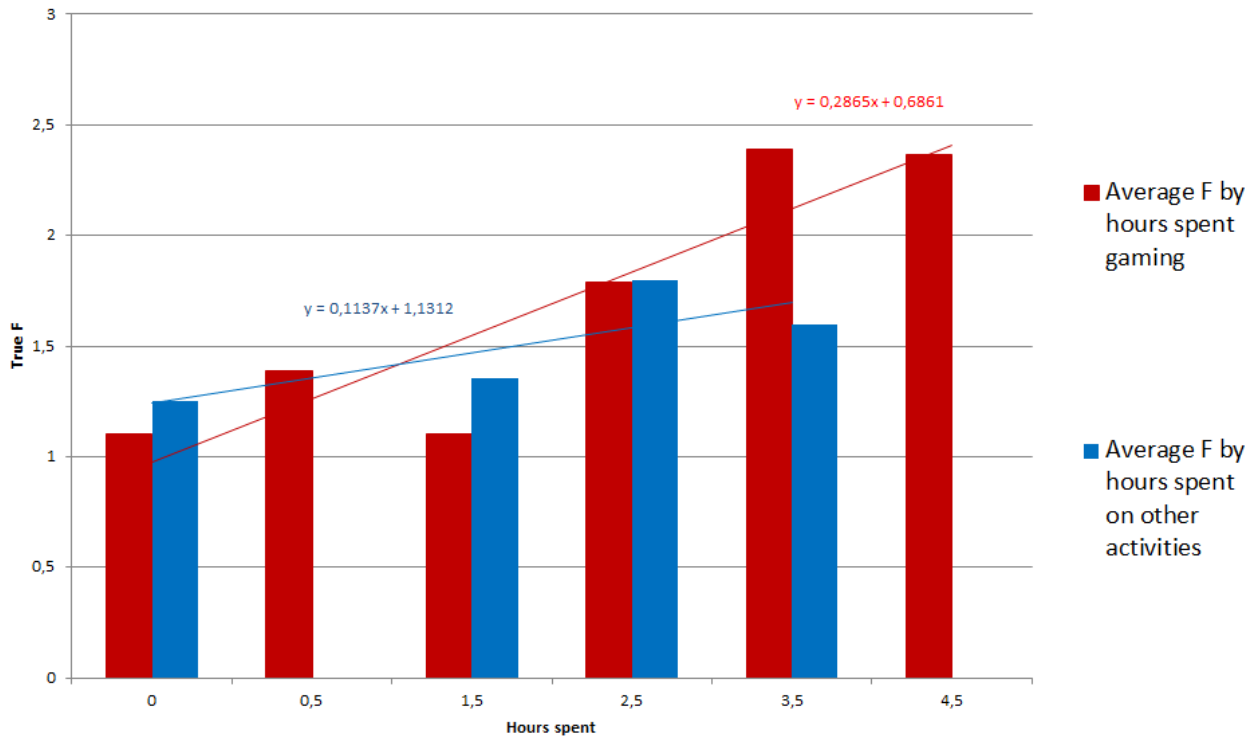
As a reminder, the research question is as follows: *"Is there a correlation, and if so what kind, between the number of hours a student, who attends a technological university in Sweden, spends on video games and their average F?"*

From paragraph (4.3.1) we can see that the more students spend time on extracurricular activities (gaming included), the higher their average F. Pearson's r is in this case is 0.91 which is close enough to 1 to assume that there is a positive correlation between the number of hours spent on extracurricular activities and average F (Acastat, 2014). As we can see from the same graph (4.3.1) the trend line's equation is y = 0.2x which means that, in theory, if a student spends 0 hours on extracurricular activities, the student should have an average F of 0. This would mean that grades are negatively affected by time spent on either gaming, on other extracurricular activities or both. However, since a correlation does not imply causation (Novella, 2009) this information is purely indicative and serves only as pointer for how grades are affected by gaming.

From the results in paragraph (4.3.2), we see that the more students play video games the higher their average F. Since Pearson's r is 0.92 in this case, which is close enough to 1, we can assume that there is a correlation between the number of hours a student spends on video games and their average F. The trend line's equation is y = 0.29x + 0.58 which means that, compared to the previous paragraph where the coefficient was only 0.2 whereas 0.29 in this case, time spent on video gaming affects grades more negatively than extracurricular activities in general.

From paragraph (4.3.3), we can see that, similarly to the previous results, other extracurricular activities also negatively affect grades. Pearson's r in this case is 0.79, which despite having lower data quality, is close enough to 1 to assume that there is a correlation between the time spent on other extracurricular activities and average F. We can also see from the graph that the trend line's equation is y = 0.11x + 1.2. By comparing the slope coefficients (0.29 for gaming and 0.11 for other extracurricular activities) we can see that gaming affects grades more negatively than other extracurricular activities. However, looking at the graphs (5.1) below we can see that up until 3 hours per day, gaming and other extracurricular activities have the same average F values. It is only after 3 hours per day that gaming affects grades more negatively than other extracurricular activities. We can also see that there are no values above 3.5 hours for other extracurricular activities because no one, or very few, answered those options, whereas gaming has 4.5 hours per day with 8 answers. Gaming would therefore affect grades more negatively, not because it is worse than any other activity, but because students who do play video games, spend more time on average each day doing so.

Chart (5.1) shows graph (4.3.2) and (4.3.3) combined.



5.1. Average F by hours spent gaming and hours spent on other activities

Since a correlation does not imply causation we will try to understand why grades are negatively affected by hours spent gaming. We will do this by looking at how hours spent gaming affect the time spent studying and how time spent studying affects grades.

From paragraph (4.3.4) we can see that there is no obvious relation between hours spent gaming and hours spent studying. However, Pearson's r in this case is -0.71 which is just below the limit of -0.7 to assume that there is a negative correlation between these two variables. This reinforces the second part of our hypothesis of this study as we believe that gaming indirectly affects grades negatively by negatively affecting the time spent studying.

We have to now study the relation between hours spent studying (outside of school hours) and average F to verify our hypothesis. From graph (4.3.5) we can see that, the more students study, the higher their average F. Pearson's r in this case is 0.71 which is close enough to 1 to assume that there is a correlation between these two variables, even though it's just above the limit of 0.7. This disproves the second part of our hypothesis and seems like a logical fallacy since studying should improve academic performance and not the opposite. The hypothesis itself however, is not affected.

The previous results, showing that students who spend more time studying have a higher average F than others, could be due to the fact that these students might feel the need to study more. Having failed several courses, these students might feel the need to put more time into studying, than the average student to understand and pass the course. This would imply that our hypothesis is not entirely disproved.

Another aspect that needs to be taken into consideration is the accessibility of each hobby. In this aspect, video gaming is far more accessible than most, or any, other hobby. It is also without a doubt one of the least physically demanding activity. Furthermore, it's the least interfering one. Imagine someone playing the piano or any other instrument for a couple of hours, how the surroundings would be affected and most probably annoyed, not to mention the exhaustion over time that comes with such hobbies.

There is, after all, a reason why the results show that most people don't spend more than 3 hours on other hobbies (as shown in graph 5.1), and why the survey got far more answers on 3 hours or more on gaming than its equivalent for other hobbies and activities.

This leads to the logical argument, that because video gaming is far more accessible and the least physically demanding activity, it has the most potential to overlap onto the time that should be spent on studying.

Most people would not argue against that practicing a physical hobby between one and two hours a day is a good thing. Most people would probably believe, and agree with, that if “the body and mind is in better shape, that would improve the ability to learn”. The results, however, show that it is just as bad as playing video games for the same amount of time. Thus, the activity itself that one spends time on, does not matter at all in the eyes of average F. This realization is the pinnacle of our thesis.

5.2 Evaluation of methods

5.2.1 The survey

A vital part of the survey was to get a wide range of different people to answer it, including those who don't play at all. The latter one was extremely important to have answers from, because without these, we wouldn’t have a point of reference. Fortunately for us, we did get a lot of responses from people who didn’t play at all. However, we did not expect that we actually would get a few responses that would belong to the extremes of the survey (for example, someone who played for 8 hours + a day). We managed this problem by cutting out any options that had less than six answers, thus keeping the statistical integrity intact.

Because of the fact that we needed a quantitative research we asked very few questions on our survey and we cannot draw any more exact conclusions from the data we have gathered, other than the conclusions that we’ve made. This may have led to some undiscovered reasons why people have had bad grades. Furthermore, it was difficult for us to identify those who might be gaming addicts, and therefore not suitable to make the survey.

5.2.2 Graph (4.3.3)

One might notice that there is no information on the graph concerning ‘average F’ when it comes to 0.5 hours spent on other activities. This is due to the fact that we forgot this option in our survey and unfortunately will affect the quality of these statistics.

5.2.3 Finding and removing people with gaming addiction

To try and make the survey as accurate as possible, we tried to remove anyone who showed signs of gaming addiction, as defined in our theory.

Since we couldn't identify anyone in the survey, we only had the number of hours they spent gaming to go after. We therefore took away any values from the survey that we thought were extreme cases, for example those who played more than five hours and at the same time admitted to studying below one hour in addition to having no other hobbies, even though they did not fill in that they felt addicted to gaming.

This is a flaw in the gathering of data, but because of the complexity that comes with trying to establish if someone is really addicted, this was the best way for us and we do believe that we managed to deal with this issue in an honorable fashion.

5.2.4 The Average F measurement

The Average F measurement was put into place to counter the negative effects that came with the fact that the students have not spent the same amount of years in the university. Even though this is a great way to handle the problem, one issue still remains. This is the fact that students that have all read for example three years of university studies, haven’t necessarily studied an equal amount of classes. Therefore, there might be students with slightly higher numbers of F’s, since they’ve read more classes.

While this is in theory a valid problem, the research was done solely amongst technological institutes in Sweden, where the students all attend programs for Masters of Science and Engineering, which all follow same structural and educational framework, and were all studying “100%”, which means they all studied the same amount of time. This means that the total amount of courses doesn’t differ so much as to cause any problems in the survey, and the error that occurs is not big enough to be taken into consideration.

5.3 Conclusion

We found that there is indeed a correlation (using pearson's r to measure the degree of correlation) between the number of hours spent on video games and average F as well as a correlation between time spent gaming and time spent studying. These correlations however, do not imply that video gaming in itself is bad for grades, since we could find a similar correlation between time spent on other hobbies than video gaming and grades. For every hour a student puts into any other activity than studying each day, the grades will be negatively affected. This is just as true, for whether it's video gaming or not. Therefore, the real problem is whether or not a student puts enough time on studying, and not what the student chooses to use his spare time on.

We did however find that video gaming has a potential for taking up more time than any other hobby, something that can be explained by, for example, the fact that video gaming is not physically demanding. Most students answered that they spent between 0 to 3.5 hours a day on other activities than gaming, whereas most answers for time spent gaming were between 0 and 4.5 hours per day. This leads to a higher number of hours spent on gaming than other activities amongst students at technological universities and as a result of its accessibility, video gaming has the highest potential of being a time consumer, and in extension having a negative impact on student grades. Students who spend on average 3.5 hours playing video games each day have an average F of 2.4, whereas students who spend on average 0 hours playing video games per day have an average F of 1.1.

Our conclusion is that for every hour a student puts into any other activity than studying each day, the grades will be negatively affected. This is just as true, for whether its video gaming or not. Therefore, even if video gaming has the potential of being the most damaging to the students' grades because of its accessibility, the real problem is whether or not a student puts enough time on studying, and not what the student chooses to use his spare time on.

5.4 Future research

Since the previous research we've used in this thesis was aimed at high-school students, this specific field of research still has a lot of uncovered ground. The data we've have gathered here, and the conclusions, are only indicative and also up for interpretations. A study over a longer period of time and with a larger test group would be able to further determine the eventual cause of bad student grades.

Another aspect that needs to be taken in consideration is the fact that this study has only used failed classes as a measurement, and not the passing grades. A future study that takes the average scale into consideration as well would eventually get a more precise answer.

This research has so far found that there is indeed a correlation between fail grades and time spent on computer gaming, however we have also found that a similar correlation exists between other non-school related activities and fail grades as well.
Since this study focuses on the time spent gaming and not the activity itself, the question if video gaming in itself affects student grades negatively yet remains unanswered.

6. Appendix

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6.2 Survey

Denna enkät är del av ett kandidatexamens arbete som pågår vid Kungliga Tekniska Högskolan. Arbetets uppgift är att försöka hitta ett samband mellan antal timmar lagt på TV/Datorspel och antal 'F' hos högskolestudenter vid tekniska lärosäten. Vi är därför väldigt tacksamma om du kan ta 2 minuter för att besvara enkäten.

Observera att detta handlar endast om TV- och Datorspel, inte mobilspel eller andra typer av bärbara spel.

MvH Sam Ajami & Lucas Maupin

*Obligatorisk

Vilken högskola studerar du vid? *

- Kungliga Tekniska Högskolan
- Lunds Tekniska Högskola
- Linköping Tekniska Högskola (LiTH)
- Annan

Hur många år har du studerat vid en teknisk högskola sammanlagt? *

- 0-1 år
- 1-2 år
- 2-3 år
- 3-4 år
- 4+ år

Hur ofta spelar du karaktärsbaserade TV/Datorspel i snitt, per dag? *
Med "karaktärsbaserade" menas allt där du själv styr en eller flera karaktärer, genrer som ingår är t.ex Shooters, MOBA, Racing, RPG, RTS, etc.

- 0 tim
- 0-1 tim
- 1-2 tim
- 2-3 tim
- 3-4 tim
- 4-5 tim
- 5-6 tim
- 6+ tim

På en skala från 0 till 5, hur pass mycket anser du dig själv vara beroende av tv/datorspel?
Tecken på beroende beteende: Det mesta av tiden utanför skolan spenderar du genom att spela spel, sjunkande betyg, ljuga om ditt spelande, hoppa av sociala grupper (sporter eller "clubs")

- 0 - Inte alls beroende

- 1
- 2
- 3
- 4
- 5 - Extremt beroende

Hur många timmar om dagen, i snitt, lägger du ner på andra aktiviteter (träning/hobby)? *
Träning inom alla sporter, hobbies som musik, etc.

- 0 tim
- 1-2 tim
- 2-3 tim
- 3-4 tim
- 4-5 tim
- 5-6 tim
- 6+ tim

Hur många F har du fått totalt? *
Med "totalt" innebär samtliga F, inklusive de du har omtentat upp till högre betyg, under samtliga dina läsår (oavsett om du har bytt skola/linje)

- 0
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 10+

Hur många timmar om dagen, i snitt, lägger du ner på studier utanför skolans schemalagda timmar? *

- 0-1 tim
- 1-2 tim
- 2-3 tim
- 3+ tim

6.3 Raw data results

Tidstämpel	Vilken högskola studerar du vid?	Hur många år har du studerat vid en teknisk högskola sammanlagt?	Hur ofta spelar du karaktärsbaserade TV/Datorspel i snitt, per dag?	På en skala från 0 till 5, hur pass mycket anser du dig själv vara beroende av tv/datorspel?	Hur många timmar om dagen, i snitt, lägger du ner på andra aktiviteter (träning/hobby)?	Hur många F har du fått totalt?	Hur många timmar om dagen, i snitt, lägger du ner på studier utanför skolans schemalagda timmar?
2014-03-17 09.26.45	Kungliga Tekniska Högskolan	3 år	3-4 tim	3	3-4 tim	5	1-2 tim
2014-03-17 09.26.30	Kungliga Tekniska Högskolan	3+ år	4-6 tim	4	1-2 tim	5	0-1 tim
2014-03-17 09.29.14	Kungliga Tekniska Högskolan	3+ år	4-6 tim	2	1-2 tim	3	1-2 tim
2014-03-17 09.30.07	Kungliga Tekniska Högskolan	3 år	3-4 tim	1	1-2 tim	2	2-3 tim
2014-03-17 09.35.27	Kungliga Tekniska Högskolan	3+ år	1-2 tim	0 - Inte alls beroende	1-2 tim	5	2-3 tim
2014-03-17 09.31.32	Kungliga Tekniska Högskolan	3 år	1-2 tim	1	1-2 tim	2	3+ tim

2014-03-17 09.38.16	Kungliga Tekniska Högskolan	3 år	3-4 tim	3	1-2 tim	2	1-2 tim
2014-03-17 09.40.11	Kungliga Tekniska Högskolan	3 år	3-4 tim	2	6+ tim	3	0-1 tim
2014-03-17 09.42.03	Kungliga Tekniska Högskolan	1 år	1-2 tim	1	1-2 tim	2	0-1 tim
2014-03-17 09.42.05	Kungliga Tekniska Högskolan	3 år	3-4 tim	1	1-2 tim	5	1-2 tim
2014-03-17 09.44.14	Linköping Tekniska Högskola (LiTH)	2 år	3-4 tim	4	3-4 tim	3	0-1 tim
2014-03-17 10.01.46	Kungliga Tekniska Högskolan	3 år	1-2 tim	2	1-2 tim	2	3+ tim
2014-03-17 10.03.48	Kungliga Tekniska Högskolan	3 år	0 tim	0 - Inte alls beroende	1-2 tim	2	1-2 tim
2014-03-17 10.09.02	Kungliga Tekniska Högskolan	1 år	1-2 tim	0 - Inte alls beroende	0 tim	0	3+ tim
2014-03-17 10.23.48	Lunds Tekniska Högskola	3 år	3-4 tim	4	1-2 tim	3	0-1 tim

2014-03-17 10.26.48	Kungliga Tekniska Högskolan	1 år	3-4 tim	2	3-4 tim	0	0-1 tim
2014-03-17 10.27.35	Lunds Tekniska Högskola	2 år	0 tim	0 - Inte alls beroende	1-2 tim	8	3+ tim
2014-03-17 10.28.54	Lunds Tekniska Högskola	2 år	0 tim	0 - Inte alls beroende	3-4 tim	4	1-2 tim
2014-03-17 10.32.56	Lunds Tekniska Högskola	2 år	0 tim	0 - Inte alls beroende	1-2 tim	0	1-2 tim
2014-03-17 10.32.45	Lunds Tekniska Högskola	2 år	1-2 tim	2	0 tim	0	0-1 tim
2014-03-17 10.27.51	Kungliga Tekniska Högskolan	3 år	1-2 tim	0 - Inte alls beroende	1-2 tim	4	0-1 tim
2014-03-17 10.35.53	Lunds Tekniska Högskola	2 år	1-2 tim	1	1-2 tim	1	0-1 tim
2014-03-17 10.57.05	Lunds Tekniska Högskola	3 år	0 tim	0 - Inte alls beroende	1-2 tim	1	1-2 tim
2014-03-17 11.03.52	Kungliga Tekniska Högskolan	3+ år	3-4 tim	2	1-2 tim	5	3+ tim
2014-03-17 11.07.08	Lunds Tekniska Högskola	2 år	0 tim	0 - Inte alls beroende	1-2 tim	0	1-2 tim
2014-03-17 11.07.21	Kungliga Tekniska Högskola		0 tim	0 - Inte alls beroende	4-6 tim	2	1-2 tim

	n						
2014-03-17 11.08.58	Lunds Tekniska Högskola	1 år	0 tim	0 - Inte alls beroende	1-2 tim	1	2-3 tim
2014-03-17 19.47.37	Lunds Tekniska Högskola	0-1 år	1-2 tim	3	0 tim	0	0-1 tim
2014-03-17 19.20.30	Kungliga Tekniska Högskolan	2-3 år	1-2 tim	2	1-2 tim	3	0-1 tim
2014-03-17 19.58.31	Kungliga Tekniska Högskolan	2-3 år	0 tim	0 - Inte alls beroende	1-2 tim	4	0-1 tim
2014-03-17 20.00.54	Lunds Tekniska Högskola	2-3 år	0 tim	0 - Inte alls beroende	3-4 tim	3	1-2 tim
2014-03-17 20.35.26	Lunds Tekniska Högskola	2-3 år	0 tim	0 - Inte alls beroende	6+ tim	2	2-3 tim
2014-03-17 20.48.31	Lunds Tekniska Högskola	2-3 år	0 tim	0 - Inte alls beroende	1-2 tim	0	2-3 tim
2014-03-17 21.09.27	Lunds Tekniska Högskola	2-3 år	0-1 tim	3	1-2 tim	1	1-2 tim
2014-03-17 22.29.15	Kungliga Tekniska Högskolan	4+ år	1-2 tim	2	1-2 tim	0	0-1 tim
2014-03-17 22.51.28	Lunds Tekniska Högskola	2-3 år	1-2 tim	2	1-2 tim	1	1-2 tim
2014-03-17	Lunds Tekniska	2-3 år	1-2 tim	0 - Inte alls beroende	4-6 tim	2	1-2 tim

22.47.03	Högskola						
2014-03-17 22.34.53	Lunds Tekniska Högskola	2-3 år	0 tim	0 - Inte alls beroende	1-2 tim	3	1-2 tim
2014-03-17 22.48.20	Kungliga Tekniska Högskolan	2-3 år	1-2 tim	3	1-2 tim	0	1-2 tim
2014-03-18 00.23.24	Kungliga Tekniska Högskolan	2-3 år	0 tim	0 - Inte alls beroende	1-2 tim	0	2-3 tim
2014-03-18 04.56.00	Kungliga Tekniska Högskolan	2-3 år	0 tim	0 - Inte alls beroende	1-2 tim	4	0-1 tim
2014-03-18 09.56.55	Kungliga Tekniska Högskolan	4+ år	0-1 tim	1	1-2 tim	0	0-1 tim
2014-03-18 14.23.00	Annan	0-1 år	0 tim	3	0 tim	0	0-1 tim
2014-03-18 15.53.51	Kungliga Tekniska Högskolan	4+ år	2-3 tim	1	2-3 tim	10+	1-2 tim
2014-03-18 18.37.04	Kungliga Tekniska Högskolan	2-3 år	3-4 tim	3	2-3 tim	8	0-1 tim
2014-03-18 18.42.03	Kungliga Tekniska Högskolan	2-3 år	1-2 tim	2	1-2 tim	1	0-1 tim
2014-03-	Kungliga	2-3 år	0-1 tim	0 - Inte alls	5-6 tim	5	2-3 tim

18 18.42.05	Tekniska Högskola n			beroende			
2014-03-18 18.42.22	Kungliga Tekniska Högskola n	2-3 år	1-2 tim	2	1-2 tim	1	0-1 tim
2014-03-18 22.46.34	Kungliga Tekniska Högskola n	2-3 år	0 tim	0 - Inte alls beroende	1-2 tim	4	2-3 tim
2014-03-19 00.04.52	Lunds Tekniska Högskola	0-1 år	4-5 tim	3	5-6 tim	0	2-3 tim
2014-03-19 00.06.39	Lunds Tekniska Högskola	2-3 år	0-1 tim	0 - Inte alls beroende	1-2 tim	4	0-1 tim
2014-03-19 00.08.01	Lunds Tekniska Högskola	0-1 år	0-1 tim	0 - Inte alls beroende	1-2 tim	0	0-1 tim
2014-03-19 00.09.27	Lunds Tekniska Högskola	0-1 år	0-1 tim	3	3-4 tim	2	0-1 tim
2014-03-19 00.11.51	Lunds Tekniska Högskola	0-1 år	0 tim	0 - Inte alls beroende	2-3 tim	0	2-3 tim
2014-03-19 00.30.49	Lunds Tekniska Högskola	0-1 år	4-5 tim	3	2-3 tim	1	2-3 tim
2014-03-19 00.45.54	Lunds Tekniska Högskola	2-3 år	5-6 tim	4	2-3 tim	0	0-1 tim
2014-03-19 00.47.50	Lunds Tekniska Högskola	0-1 år	2-3 tim	3	2-3 tim	1	2-3 tim
2014-03-	Lunds	2-3 år	0-1 tim	3	1-2 tim	4	1-2 tim

19 01.15.45	Tekniska Högskola						
2014-03-19 06.13.38	Lunds Tekniska Högskola	0-1 år	3-4 tim	1	1-2 tim	4	1-2 tim
2014-03-19 06.28.47	Lunds Tekniska Högskola	0-1 år	1-2 tim	0 - Inte alls beroende	2-3 tim	0	1-2 tim
2014-03-19 07.11.40	Lunds Tekniska Högskola	0-1 år	3-4 tim	2	0 tim	3	1-2 tim
2014-03-19 07.34.17	Lunds Tekniska Högskola	2-3 år	4-5 tim	4	1-2 tim	2	0-1 tim
2014-03-19 07.40.36	Lunds Tekniska Högskola	0-1 år	0-1 tim	1	2-3 tim	1	1-2 tim
2014-03-19 09.16.08	Lunds Tekniska Högskola	0-1 år	1-2 tim	2	0 tim	2	1-2 tim
2014-03-19 10.38.25	Lunds Tekniska Högskola	0-1 år	3-4 tim	1	2-3 tim	0	1-2 tim
2014-03-19 10.48.11	Lunds Tekniska Högskola	0-1 år	3-4 tim	2	2-3 tim	3	2-3 tim
2014-03-19 11.35.07	Lunds Tekniska Högskola	0-1 år	0-1 tim	0 - Inte alls beroende	6+ tim	1	3+ tim
2014-03-19 11.58.06	Lunds Tekniska Högskola	0-1 år	4-5 tim	2	1-2 tim	1	2-3 tim
2014-03-19 12.12.59	Kungliga Tekniska Högskolan	2-3 år	0-1 tim	1	2-3 tim	2	0-1 tim

2014-03-19 12.18.11	Kungliga Tekniska Högskolan	2-3 år	1-2 tim	2	5-6 tim	0	1-2 tim
2014-03-19 12.24.33	Kungliga Tekniska Högskolan	1-2 år	0 tim	0 - Inte alls beroende	1-2 tim	0	0-1 tim
2014-03-19 12.28.02	Kungliga Tekniska Högskolan	1-2 år	0 tim	0 - Inte alls beroende	1-2 tim	0	3+ tim
2014-03-19 12.34.38	Kungliga Tekniska Högskolan	2-3 år	0 tim	0 - Inte alls beroende	1-2 tim	4	0-1 tim
2014-03-19 12.38.03	Kungliga Tekniska Högskolan	1-2 år	0 tim	0 - Inte alls beroende	2-3 tim	0	1-2 tim
2014-03-19 14.37.21	Lunds Tekniska Högskola	2-3 år	2-3 tim	2	2-3 tim	8	0-1 tim
2014-03-19 13.18.26	Kungliga Tekniska Högskolan	2-3 år	0 tim	0 - Inte alls beroende	2-3 tim	4	1-2 tim
2014-03-19 14.57.31	Lunds Tekniska Högskola	2-3 år	5-6 tim	4	1-2 tim	7	0-1 tim
2014-03-19 15.08.42	Lunds Tekniska Högskola	2-3 år	3-4 tim	3	0 tim	0	3+ tim
2014-03-19 16.46.00	Lunds Tekniska Högskola	1-2 år	0 tim	0 - Inte alls beroende	2-3 tim	1	2-3 tim

2014-03-19 17.48.14	Kungliga Tekniska Högskolan	1-2 år	0-1 tim	0 - Inte alls beroende	2-3 tim	3	0-1 tim
2014-03-19 18.09.58	Kungliga Tekniska Högskolan	2-3 år	1-2 tim	2	1-2 tim	4	2-3 tim
2014-03-19 18.29.55	Lunds Tekniska Högskola	0-1 år	1-2 tim	1	1-2 tim	0	1-2 tim
2014-03-19 19.21.53	Lunds Tekniska Högskola	2-3 år	3-4 tim	3	1-2 tim	10+	2-3 tim
2014-03-19 18.52.24	Lunds Tekniska Högskola	2-3 år	0 tim	0 - Inte alls beroende	2-3 tim	10+	1-2 tim
2014-03-19 19.32.28	Lunds Tekniska Högskola	0-1 år	1-2 tim	2	3-4 tim	0	1-2 tim
2014-03-19 20.03.12	Lunds Tekniska Högskola	0-1 år	0 tim	0 - Inte alls beroende	2-3 tim	2	1-2 tim
2014-03-19 20.18.09	Lunds Tekniska Högskola	2-3 år	0 tim	0 - Inte alls beroende	1-2 tim	10+	1-2 tim
2014-03-19 20.43.26	Lunds Tekniska Högskola	1-2 år	0 tim	0 - Inte alls beroende	3-4 tim	1	0-1 tim
2014-03-19 21.07.29	Kungliga Tekniska Högskolan	3-4 år	0-1 tim	1	2-3 tim	5	0-1 tim
2014-03-19 21.00.21	Lunds Tekniska Högskola	0-1 år	2-3 tim	2	2-3 tim	0	0-1 tim

2014-03-19 22.28.44	Lunds Tekniska Högskola	0-1 år	4-5 tim	3	2-3 tim	1	2-3 tim
2014-03-19 22.30.06	Kungliga Tekniska Högskolan	1-2 år	0-1 tim	0 - Inte alls beroende	1-2 tim	1	2-3 tim
2014-03-19 22.33.00	Lunds Tekniska Högskola	0-1 år	4-5 tim	4	1-2 tim	3	0-1 tim
2014-03-19 23.06.18	Lunds Tekniska Högskola	2-3 år	1-2 tim	1	1-2 tim	1	1-2 tim
2014-03-20 00.06.19	Kungliga Tekniska Högskolan	2-3 år	0-1 tim	1	2-3 tim	6	1-2 tim
2014-03-20 01.37.41	Lunds Tekniska Högskola	2-3 år	0 tim	0 - Inte alls beroende	6+ tim	1	3+ tim
2014-03-20 15.54.26	Lunds Tekniska Högskola	2-3 år	0 tim	0 - Inte alls beroende	2-3 tim	5	2-3 tim
2014-03-20 20.37.27	Kungliga Tekniska Högskolan	2-3 år	0-1 tim	0 - Inte alls beroende	3-4 tim	4	0-1 tim
2014-03-20 20.37.20	Lunds Tekniska Högskola	1-2 år	0 tim	0 - Inte alls beroende	1-2 tim	0	1-2 tim
2014-03-20 20.41.48	Kungliga Tekniska Högskolan	2-3 år	0-1 tim	1	1-2 tim	5	1-2 tim
2014-03-20	Linköping	0-1 år	0 tim	3	1-2 tim	1	0-1 tim

21.06.34	Tekniska Högskola (LiTH)						
2014-03-20 21.07.06	Linköping Tekniska Högskola (LiTH)	0-1 år	1-2 tim	1	1-2 tim	1	0-1 tim
2014-03-20 21.09.07	Linköping Tekniska Högskola (LiTH)	1-2 år	1-2 tim	0 - Inte alls beroende	2-3 tim	4	2-3 tim
2014-03-20 21.10.48	Annan	0-1 år	0-1 tim	0 - Inte alls beroende	2-3 tim	2	0-1 tim
2014-03-20 21.13.36	Linköping Tekniska Högskola (LiTH)	0-1 år	0-1 tim	1	6+ tim	0	1-2 tim
2014-03-20 21.13.33	Linköping Tekniska Högskola (LiTH)	0-1 år	5-6 tim	3	2-3 tim	0	0-1 tim
2014-03-20 21.15.11	Linköping Tekniska Högskola (LiTH)	1-2 år	4-5 tim	4	1-2 tim	5	1-2 tim
2014-03-20 21.21.30	Linköping Tekniska Högskola (LiTH)	3-4 år	1-2 tim	2	2-3 tim	10+	0-1 tim

2014-03-20 21.24.44	Linköping Tekniska Högskola (LiTH)	0-1 år	0 tim	0 - Inte alls beroende	1-2 tim	0	1-2 tim
2014-03-20 22.35.19	Linköping Tekniska Högskola (LiTH)	0-1 år	0 tim	0 - Inte alls beroende	2-3 tim	0	0-1 tim
2014-03-20 21.28.06	Linköping Tekniska Högskola (LiTH)	1-2 år	0 tim	0 - Inte alls beroende	1-2 tim	6	1-2 tim
2014-03-20 21.30.14	Linköping Tekniska Högskola (LiTH)	1-2 år	6+ tim	2	3-4 tim	1	0-1 tim
2014-03-20 21.31.15	Kungliga Tekniska Högskolan	0-1 år	2-3 tim	3	1-2 tim	0	1-2 tim
2014-03-20 21.36.56	Annan	1-2 år	1-2 tim	2	1-2 tim	0	1-2 tim
2014-03-20 21.49.35	Annan	0-1 år	1-2 tim	2	1-2 tim	0	0-1 tim
2014-03-20 22.09.08	Kungliga Tekniska Högskolan	2-3 år	0 tim	0 - Inte alls beroende	3-4 tim	1	1-2 tim
2014-03-21	Annan	3-4 år	0 tim	0 - Inte alls beroende	2-3 tim	0	2-3 tim

00.29.03							
2014-03-21 10.52.02	Kungliga Tekniska Högskolan	0-1 år	0-1 tim	0 - Inte alls beroende	1-2 tim	0	0-1 tim
2014-03-21 11.24.23	Kungliga Tekniska Högskolan	1-2 år	1-2 tim	3	1-2 tim	4	3+ tim
2014-03-21 11.28.25	Kungliga Tekniska Högskolan	0-1 år	6+ tim	3	1-2 tim	0	0-1 tim
2014-03-21 16.10.22	Kungliga Tekniska Högskolan	3-4 år	0 tim	0 - Inte alls beroende	1-2 tim	0	2-3 tim
2014-03-21 12.26.48	Kungliga Tekniska Högskolan	4+ år	0-1 tim	0 - Inte alls beroende	1-2 tim	0	3+ tim
2014-03-21 12.44.12	Kungliga Tekniska Högskolan	0-1 år	1-2 tim	3	2-3 tim	0	0-1 tim
2014-03-21 12.46.10	Kungliga Tekniska Högskolan	0-1 år	2-3 tim	3	1-2 tim	0	2-3 tim
2014-03-21 12.50.28	Linköping Tekniska Högskola (LiTH)	0-1 år	0 tim	0 - Inte alls beroende	6+ tim	0	0-1 tim
2014-03-21	Kungliga Tekniska	1-2 år	0 tim	0 - Inte alls beroende	1-2 tim	2	1-2 tim

13.43.32	Högskolan						
2014-03-21 15.54.12	Annan	2-3 år	0 tim	0 - Inte alls beroende	2-3 tim	1	3+ tim
2014-03-21 22.28.46	Lunds Tekniska Högskola	0-1 år	3-4 tim	1	1-2 tim	1	2-3 tim
2014-03-22 06.59.55	Kungliga Tekniska Högskolan	1-2 år	0 tim	0 - Inte alls beroende	5-6 tim	0	0-1 tim
2014-03-24 11.39.43	Kungliga Tekniska Högskolan	3-4 år	1-2 tim	3	1-2 tim	5	2-3 tim
2014-03-24 22.11.45	Kungliga Tekniska Högskolan	4+ år	2-3 tim	2	1-2 tim	4	0-1 tim
2014-03-24 22.17.16	Kungliga Tekniska Högskolan	2-3 år	0-1 tim	0 - Inte alls beroende	4-5 tim	0	1-2 tim
2014-03-24 22.47.10	Kungliga Tekniska Högskolan	2-3 år	0-1 tim	2	1-2 tim	5	1-2 tim
2014-03-25 13.29.42	Kungliga Tekniska Högskolan	1-2 år	0 tim	0 - Inte alls beroende	0 tim	0	0-1 tim
2014-03-27 13.02.45	Kungliga Tekniska Högskolan	0-1 år	1-2 tim	2	3-4 tim	2	0-1 tim

2014-03-28 15.50.45	Lunds Tekniska Högskola	0-1 år	2-3 tim	2	2-3 tim	3	1-2 tim
2014-03-30 20.17.47	Lunds Tekniska Högskola	2-3 år	4-5 tim	3	1-2 tim	7	1-2 tim