Video Game Play among Adolescents: 
Gender Differences and Effects on Anger 
and Physical Aggression

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VIDEO GAME PLAY AND AGGRESSION AMONG ADOLESCENTS

Foreword

Submitted in partial fulfillment of the requirements of the BSc Psychology degree, Reykjavik University, this thesis is presented in the style of an article for submission to a peer-reviewed journal.
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Abstract - English

Evidence of the effects of playing video games on children’s anger and aggression has been mixed. This study examined the following hypotheses: 1) Video game play would have an effect on anger and physical aggression, 2) The more video game play the higher levels of anger and aggression in both genders, 3) There would, as a result of video game play, be a difference in aggression and anger between the genders, boys would show higher levels. The current study was based on archival data from the Icelandic Centre for Social Research and Analysis (ICSRA), *Youth in Iceland 2014*. Four questions from the questionnaire were used and the study used responses from a random sample from the population which included 2055 participants. Students who spent no time playing video games were excluded from the study leaving 775 participants, 559 boys and 202 girls. The participants’ age was between 13 and 18 years. The results confirmed that video game play did not have a significant effect on anger or aggression. However, they specify a significant interaction between gender and time spent playing video games on aggression. Conclusions were that gender plays an important role in how video games affect adolescents’ aggression.

*Keywords:* video games, computer games, negative effects, anger, aggression, aggressive behavior, sex differences

Abstract - Icelandic


*Lykilorð:* tölvuleikir, neikvæð áhrif, reiði, ýgi, árásargjör, árásargjörn hegðun, kynjamunur
Video Game Play among Adolescents: Gender Differences and Effects on Anger and Physical Aggression

Every year the video game industry is growing larger and with improvement in technology video games are becoming more and more realistic and popular. Video games have been popular among different age groups from young kids to adults (Hollingdale & Grieitemeyer, 2014). They have been particularly popular among adolescents (Colwell & Kato, 2003), even dating back to the ‘90s (Buchman & Funk, 1996). Boys spend more time on video games than girls with higher prevalence and frequency (Gentile, Lynch, Linder, & Walsh, 2004). A great difference was found in one study where 80.3% boys and only 28.8% girls reported playing video games. The frequency in video game play a day was between 0 and 1 hour for girls but 1 or 2 hours a day for boys (Willoughby, 2008). Nonetheless these results differ between studies. In a survey among American teens the numbers were surprisingly high as about 97% of teens aged 12-17 played computer or web games and 50% of them reported having played the previous day. The gender difference was not large; about 99% of the boys reported playing video games and 94% of the girls (Lenhart et al., 2008).

Given the popularity of video games among adolescents, possible effects of them have become an interesting topic of research. As adolescents tend to be quite impressionable the possible effects video games might have on them is an important research topic. Aggression is one of those effects but their findings have been quite controversial. Numerous studies have been conducted and differ in their findings with respect to the relation between video games and aggression (Colwell & Kato, 2003; Wiegman & Schie, 1998; Yağci & Çağlar, 2010).

Aggression and anger are words that most people know and are familiar with. However, people often mistake the true definition of the words. Over time multiple different definitions have been made about aggression and studies tend to use definitions quite disparately. One states that aggression is “behavior that is intended to injure another person
VIDEO GAME PLAY AND AGGRESSION AMONG ADOLESCENTS (physically or verbally) or to destroy property” (Nolen-Hoeksema, Fredrickson, Loftus, & Wagenaar, 2009, p. 694). Another similar one is “aggression is behavior intended to harm another individual who is motivated to avoid that harm” (Anderson & Bushman, 2001, p. 354). One definition states anger as a trait “a relatively stable (not temporary) tendency to perceive situations as frustrating, unfair, or threatening” (Barnett, Miller-Perrin, & Perrin, 2011). By trying to find a link between what triggers or causes aggression one word often comes up, which is frustration. “Frustration, which occurs when some event interferes with our progress towards a goal, increases the risk of verbal and physical aggression” (Holt et al., 2012, p. 555). As many, if not most, video games contain a goal that the player is working towards, it is not absurd to say that as a player is restrained from reaching his or her goal frustration is triggered in the player, which could increase the possibility of aggression.

The possible negative effect video game play may have on children has been a hot topic of research over the years. This is because results have speculated that video games may have an effect on children’s aggression but not all studies are in agreement and they reveal different conclusions. For example, Colwell and Kato (2003) did a study on children aged 12-13 to examine the relation between video game play and aggression. Their results showed that 96.9% boys and 87.7% girls reported playing video games. Most of the participants played 1-2 times per week, and about 1-2 hours at a time. They also found that boys reported significantly higher scores of aggression than girls and there was a significant positive correlation between aggression and how often the children played.

However, a study by Wiegman and Schie (1998), showed different results. Their study was conducted on children aged 10-14, to examine the correlation between how much time children spent playing video games and the amount of aggressive behavior. Their results showed no significant difference in aggression between the children who spent no time at all playing video games and those who spent a lot of time. Therefore, they found no connection
between video game play and aggression in children. The similar results were found in a relatively new study on adolescents aged 9-11, where playing video games had no significant effects on the levels of anger and aggression of adolescents. Also, the results were that levels of anger and aggression were not significant between the types of games played and there was no significant difference between the genders and their levels of anger and aggression (Yağcı & Çağlar, 2010).

These studies revealed two different conclusions. The different results relating to the effect video game play may have on children’s aggression may be linked to the different methods used to collect the data. For example, while Colwell and Kato (2003) and Yagci and Caglar (2010) used a questionnaire Wiegman and Schie (1998) used a diary. The diary benefit might have been that the children wrote down the information right away, which may have been beneficial because they did not have to think back in time to find how much time they spent on video games like they had to do with the questionnaire. Nonetheless, the diary was written for only one week, which may not have been an adequate amount of time.

It is also important to view if the time spent playing video games has any effect on children’s aggression levels. One of the goals of a research conducted by Gentile, Lynch, Linder, and Walsh (2004) was to study the relation between violent video game play and hostility, aggression, arguments with teacher and physical fights. Their results revealed that the more time children spent playing video games the more aggressive and hostile they were. They participated more often in physical fights and got more often into arguments with their teachers.

Over time there has, however, been a debate about if the content of video games has anything to do with the relation between video game play and aggression in children. Studies have shown different conclusions. Some have shown that violent video games are significantly related to increased hostility, arguments and physical fights (Gentile et al., 2004).
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and correlated with and raised aggressive behavior in children (Anderson & Bushman, 2001; Hollingdale & Greitemeyer, 2014) while others state that violent video games are not related to the children’s aggression (Ferguson, Garza, Jerabeck, Ramos, & Galindo, 2013; Ferguson, San Miguel, Garza, & Jerabeck, 2012). Because studies reveal such diverse conclusions and both violent and non-violent games are popular among teens (Lenhart et al., 2008) it is also important to look at video games without analyzing their content to see if there is possibly something else that is affecting the different aggression levels.

Studies have shown that video game play can have various effects on children and adolescents’ anger and aggression. Study results are not consistent as to the question whether video games have effects on children’s anger and aggression and if they increase it. Results on that topic are on both spectrums; from finding they have a significant effect on anger and aggression to stating they have no effect on children at all. Also, researchers have looked further into this relation and evaluated if there is any difference between games, or for example between violent and non-violent video games and aggression. Results from those studies are also twofold; some have shown that violent video games increase aggression but not non-violent video games, and finally, there are other results that show no difference in aggression between playing violent and non-violent video games. Therefore, the aim of the current study was to examine what effects would be found in a representative Icelandic sample and only view the participants who play video games, and not to discriminate between types of games, but rather research a possible gender difference further which seems to be lacking in most studies. The current study examined the following hypotheses: 1) Video game play would have an effect on anger and physical aggression, 2) The more video game play the higher levels of anger and aggression in both genders, 3) There would as a result of video game play, be a difference in aggression and anger between the genders in the way that boys would show higher levels of anger and aggression than girls.
Method

Participants

The study utilized population-wide cross sectional data from the *Youth in Iceland* 2014 survey conducted by the Icelandic Centre for Social Research and Analysis (ICSRA) (Hrefna Pálsdóttir et al., 2014). Participants were students in 8th, 9th and 10th grades from all secondary schools in Iceland in 2014. All the participants in the study were day school students who were present in school on the day the research was conducted. All participants in the study were volunteers and did not get any payment or reward for their participation. Overall valid answers from 11,013 students were received, with a response rate of 86.3% nationwide. The current study used responses from a random sample from the population which included 2055 participants. An exclusion criterion was used where those students who spent no time playing video games were excluded from the study leaving 775 participants. The gender rate was 559 (72.1%) boys and 202 (26.1%) girls, 14 students did not state their gender. Participants were between the ages of 13 to 18 years, with a mean age of 14.92 years and standard deviation of 0.85. However, most participants, 98.2%, were within the ages of 14 to 16.

Instruments and Measures

The measuring instrument used in the study was a detailed questionnaire from ICSRA. It was 28 pages and contained 82 questions (Hrefna Pálsdóttir et al., 2014). The questions revolved around various aspects in the students’ lives. For the current study four questions from the ICSRA questionnaire were used, two dependent variables, anger and aggression, and two independent variables, gender and online video game play (see Appendix A).

**Anger.** To measure participants’ anger they were asked the following question: “How often were you aware of the following distress or discomfort last week?” Five items were used which included the following statements; “you were easily irritated or aggravated”, “you
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had fits of anger you could not control”, “you wanted to break or smash objects”, “you got into an argument” and “you screamed or threw objects” (see Appendix A). Participants’ responses were scored on a 4-point Likert-scale ranging from 1 (almost never) to 4 (often). The responses to each item were then added to yield a total score ranging from 0 (little anger) to 15 (high anger), where a higher score meant more anger. Reliability was measured by using Cronbach’s Alpha. Results indicated good internal consistency with a high reliability, Cronbach’s α = .851.

Physical Aggression. To measure participants’ physical aggression they were asked the following question: “How often have you shown a particular behavior for the last 12 months?” Six items were used which included the following statements: “punched someone”, “pushed someone”, “kicked someone”, slapped someone”, “grabbed someone by the throat”, and “threatened someone with violence” (see Appendix A). Participants’ responses were scored on a 7-point scale from 1 (never) to 7 (18 times or more). The responses to each item were added to yield a total score ranging from 0 (none or little physical aggression) to 36 (a lot of physical aggression). Reliability measures using Cronbach’s Alpha revealed high reliability indicating good internal consistency, Cronbach’s α = .908.

Gender. Participants were asked to state their gender; “Are you a boy or a girl?” Therefore the variable took two levels. There were more boys or 559 and only 202 girls.

Online video game play. Participants were asked; “How much time do you spend on playing online video games on an average day?” (see Appendix A). The response format was on an 8-point scale on how many hours were spent per day paying online video games, ranging from 1 (almost no time) to 8 (6 hours or more). When processing the data a few alterations were made. The question about how many hours participants spent playing online video games each day came with eight choices, “almost no time”, “1/2 – 1 hour”, “about 1 hour”, “about 2 hours”, “about 3 hours”, “about 4 hours”, “about 5 hours”, “6 hours or more”. 

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The variable was renamed as the gaming category 3, and responses from participants who answered “almost no time” were excluded from the study as the research was aimed at those who play video games. Responses for the remaining participants were divided into three groups and therefore took 3 levels; those who answered “1/2 – 1 hour” were one group whose participants spent little time each day playing video games. The second group included those who answered “about 1 hour” and “about 2 hours” and included the participants who spent average time on playing video games. The third group were those who answered “about 3 hours”, “about 4 hours”, “about 5 hours” and “6 hours or more”, being the participants who spent a lot of time each day playing video games. The groups were not even with 31% in the first group, 41% in the second group and 28% in the third group.

Procedure

The survey reported here *Youth in Iceland 2014* was conducted by ICSRA in October 2014 (Hrefna Pálsdóttir et al., 2014). About 2 weeks prior to the study ICSRA sent to parents of the participants a letter containing information about the survey and instructions about how do withdraw their children from participating in the study. ICSRA used a passive consent (see Appendix B). Data were gathered by using a questionnaire which all 8th, 9th and 10th graders in Iceland were asked to answer. Under ICSRA oversight, teachers at each school supervised questionnaire completion onsite. All students who attended school on the day that the survey was scheduled completed the questionnaires within their regular classrooms. No identifying information was demanded, no one was to provide their names or ID numbers. The students were asked to answer each question as well as they were capable of and their conscience told them to. After having finished answering all the questions on the questionnaire the students placed the papers in a white unmarked envelope and handed it to the teacher. This meets the requirements of the Iceland law on the protection of human subjects and approved by the Icelandic Data Protection Authority.
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Design and Data Analysis

A 2x3 Factorial analysis of variance, FANOVA, i.e. an independent factorial design, was used to analyze the data using the program SPSS Statistics. The independent variable gender took two levels, either a boy or a girl while the other independent variable online video game play took three levels, those who spend little time each day playing video games, those who spent average time on playing video games and the third group were those who spent a lot of time each day playing video games. The 2x3 Factorial analysis of variance was used twice, once for the dependent variable anger and once for the dependent variable physical aggression. The assumptions of FANOVA were tested using the Kolmogorov-Smirnov test for the assumption of normality and the Levene’s to test for homogeneity of variance. The Levene’s test revealed unequal variance of the dependent variable anger across groups $F(5, 742) = 6.38, p < 0.01$ and also unequal variance of the dependent variable aggression across groups $F(5, 730) = 15.52, p < 0.01$.

Results

Table 1 shows descriptive statistics for all the variables included in the study. Valid responses to anger were 761, with the minimum score 0 and the highest score 15, a higher score indicating more anger. The mean for anger was low ($M = 3.19, SD = 3.51$). The distribution of frequency in anger was positively skewed, most participants had low levels of anger which was supported by a significant Kolmogorov-Smirnov test, $D(736) = 0.203, p < 0.001$. The distribution in scores was not normal therefore. Valid responses for physical aggression were 745, with the minimum score 0 and the highest score 36, as a higher score indicates more physical aggression. The mean for physical aggression was low ($M = 3.52, SD = 6.54$). Therefore the distribution of frequency in physical aggression the last 12 months was positively skewed, i.e. most participants had low physical aggression levels. This was supported by a significant Kolmogorov-Smirnov test, $D(736) = 0.294, p < 0.001$, which
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means that the distribution in scores was significantly not normal. The amount of time adolescents spent playing video games can also be seen in table 1. Most participants spent an average amount of time playing video games ($M = 1.97$, $SD = 0.77$).

Table 1

Descriptive Statistics Showing Number of Participants, Minimum, Maximum and Standard Deviation

<table>
<thead>
<tr>
<th>Variable</th>
<th>$n$</th>
<th>Min.</th>
<th>Max.</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>761</td>
<td>1</td>
<td>2</td>
<td>1.27</td>
<td>0.44</td>
</tr>
<tr>
<td>Online video game play</td>
<td>775</td>
<td>1</td>
<td>3</td>
<td>1.97</td>
<td>0.77</td>
</tr>
<tr>
<td>Anger</td>
<td>761</td>
<td>0</td>
<td>15</td>
<td>3.19</td>
<td>3.51</td>
</tr>
<tr>
<td>Physical aggression</td>
<td>745</td>
<td>0</td>
<td>36</td>
<td>3.52</td>
<td>6.54</td>
</tr>
</tbody>
</table>

The participants, who reported spending little time playing video games ranging from 1/2 – 1 hour each day, were 240 adolescents. Those who spent an average amount playing video games were 318, ranging from about 1 hour to about 2 hours. And 217 adolescents spent a lot of time playing video games each day, ranging from about 3 hours to 6 hours or more.

In table 2 are the results on anger and aggression regarding the independent variables gender and the amount of time spent playing video games. The table shows how many participants are in each group and also the standard deviation. As shown in table 2 the sample is not divided into equal groups. The greatest number of young people, 236, was found in the group anger with boys who played an average amount of video game each day. The lowest number of participants was 14 in the group aggression with girls who played a lot of video games each day. The greatest difference in standard deviation was 9.12, which means that the most items had wavering standard deviations.
Table 2

The number of participants in each group, their anger and aggression by gender and the amount of video game play

<table>
<thead>
<tr>
<th>Amount of video gaming</th>
<th>Anger</th>
<th>Aggression</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boys</td>
<td>Girls</td>
</tr>
<tr>
<td></td>
<td>n = 120</td>
<td>n = 112</td>
</tr>
<tr>
<td>Little video gaming 1/2 - 1 hour</td>
<td>M = 2.56</td>
<td>M = 3.54</td>
</tr>
<tr>
<td></td>
<td>SD = 2.95</td>
<td>SD = 3.15</td>
</tr>
<tr>
<td></td>
<td>n = 236</td>
<td>n = 74</td>
</tr>
<tr>
<td>Average video gaming 1 - 2 hours</td>
<td>M = 2.66</td>
<td>M = 4.03</td>
</tr>
<tr>
<td></td>
<td>SD = 3.11</td>
<td>SD = 4.05</td>
</tr>
<tr>
<td></td>
<td>n = 192</td>
<td>n = 14</td>
</tr>
<tr>
<td>A lot of video gaming 3 - 6 hours or more</td>
<td>M = 3.60</td>
<td>M = 3.86</td>
</tr>
<tr>
<td></td>
<td>SD = 3.93</td>
<td>SD = 3.96</td>
</tr>
</tbody>
</table>

Table 2 also reveals the highest mean of anger, it was identified in the groups of girls who played an average amount of video games (M = 4.03, SD = 4.05). The lowest mean of anger was identified in the group boys who spent little time each day playing video games (M = 2.56, SD = 2.95). The highest mean for aggression was found in the group girls who spent a lot of time playing video games (M = 5.00, SD = 11.98). The lowest mean of aggression was in the group girls who spent little time playing video games (M = 1.29, SD = 2.86).

There was an examination of how much the independent variables explain the statistical variation of the accompanying independent variables. The results show that 2.4% in anger ($R^2 = .024$) can be statistically explained with independent variables, gender and video game play. Also, 4.2% in aggression ($R^2 = .042$), can be explained statistically with both independent variables.

There was a non-significant main effect of the time spent on video game play on the anger of the participants $F (2, 742) = 0.99, p = 0.37$. The Bonferroni post hoc test revealed
that anger was not significantly different between the times spent playing video games ($p > 0.05$) for all three groups. However, figure 1 shows the mean anger in participants according to their gender. The mean for girls was higher than for boys respectively. The girls reported experiencing more anger than the boys. There was a significant main effect of gender on the anger of participants $F (1, 742) = 5.13, p = 0.02$.

![Graph showing mean anger by gender](image)

*Figure 1.* The mean in anger measured by the gender of the participants.

There was a non-significant interaction between gender and time spent playing video games on anger $F (2, 742) = 0.59, p = 0.55$. However, looking at figure 2, girls scored higher than boys and were quite consistent in anger according to how much time they spent playing video games. But boys were affected by the amount of time spent playing video games. They expressed more anger the more time they spent each day playing video games especially between average ($M = 2.66, SD = 3.11$) and a lot time playing video games ($M = 3.60, SD = 3.93$).
When viewing the main effects of the time spent on video game play on aggression it came close to being significant \( p = 0.053 \). However, there was a non-significant main effect of the time spent on video game play on aggression of the participants \( F (2, 730) = 2.94, p = 0.053 \). The Bonferroni post hoc test revealed that aggression was significantly different between those who spent little time and those who spent a lot of time playing video games \( p = 0.016 \), and those who spent average and a lot of time playing video games \( p = 0.002 \). The aggression of participants who spent little and average time playing video games were not significantly different \( p = 1.00 \). Figure 3 shows the mean aggression of the participants according to their gender. Boys reported more aggression than girls, there was a significant main effect of gender on aggression of the adolescents \( F (1, 730) = 4.30, p = 0.039 \).
**Figure 3.** The mean aggression of participants according to their gender.

When examining interaction between gender and time spent playing video games on aggression (figure 4), there was a significant interaction $F(2, 730) = 3.48, p = 0.03$ which can be seen in figure 4 below.

**Figure 4.** Interaction between gender and time spent playing video games on aggression.

Figure 4 shows that girls were more affected by the amount of time they spent playing video games than boys. When girls spent little time playing video games their aggression levels were low ($M = 1.29, SD = 2.86$). As the time they spent playing video games increased their aggression equaled and even exceeded the boys when they spent a lot of time playing.
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video games \( (M = 5.00, SD = 11.98) \). For boys, their aggression was considerably higher than for the girls when they spent little time on video game play \( (M = 4.88, SD = 9.01) \), dropped down when they spent an average amount of time \( (M = 3.06, SD = 4.78) \), but increased again when they spent a lot of time \( (M = 4.89, SD = 7.75) \) at which point it was almost the same as for the girls.

**Discussion**

The aim of the current study was to examine if video game play would have an effect on anger and physical aggression and to see if there was a close relationship, the more video game play the higher levels of anger and aggression. Also, to explore if there would be a difference in aggression and anger between the genders, if boys showed higher levels of anger and aggression than girls. The study excluded all participants who did not spend any time playing video games. This was done as the main focus of the study was to examine the effect video games would have on anger and aggression and therefore those who did not play video games were irrelevant to the current study. Having excluded those who did not play video games a big gender difference came through, namely that not an equal number of boys and girls played video games as there were more boys, 559, and only 202 girls. This gender difference is consistent with previous studies which have found that boys tend to play video games more often than girls (Gentile et al., 2004). The percentage of boys and girls who play video games in the current study is very close to what has been shown in other studies (Willoughby, 2008), here the numbers were 72.1% boys and 26.1% girls.

The first hypothesis that video game play would have an effect on anger and physical aggression was not supported. There was a non-significant main effect of the time spent on video game play on the anger of the participants. However, looking at the main effects of the time spent on video game play on aggression it was marginally significant but there was a non-significant main effect of the time spent on video game play on aggression of the
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participants. These results are in accordance with the results from Yagci and Caglar (2010) who found that video game play had no significant effect on adolescents’ anger and aggression.

The second hypothesis was that the more video game play, the higher levels of anger and aggression would be noted in both genders. The more video game play the higher levels of anger was not supported, according to the post hoc test anger was not significantly different between different amount of hours spent playing video games for all three groups. However, the main effect of time spent playing video games on aggression was marginally significant, so the post hoc test revealed that aggression was significantly different between those who spent little time and those who spent a lot of time playing video games ($p = 0.016$), and those who spent average and a lot of time playing video games ($p = 0.002$). These results are partly similar to others which have found a significant positive correlation between aggression and how often children play video games (Colwell & Kato, 2003) and physical fights (Gentile et al., 2004), which is probably why physical aggression had more effect here than anger. Also, frustration could be playing a role here by increasing physical aggression when something interferes with a progress towards a goal in a video game.

The third and final hypothesis was that there would, as a result of video game play, be a difference in aggression and anger between the genders in the way that boys would show higher levels of anger and aggression than girls. The interesting thing here is that this one was not supported by the results. Girls reported experiencing more anger than the boys and there was a significant main effect of gender on the level of anger. The results showed, however, that there was a non-significant interaction between gender and time spent playing video games on anger, therefore the time spent playing did not have an effect on anger. The interesting findings were that boys reported more aggression than girls, there was a significant main effect of gender on aggression of the adolescents but there was also a significant
interaction between gender and time spent playing video games on aggression. Boys’ aggression levels were much higher than the girls’ when they spent little time, then they dropped down when the boys spent an average amount of time, but increased again when they spent a lot of time at which point they were almost the same as for the girls. But girls who spent little time playing video games showed much lower levels of aggression than the boys. However, as the time factor increased girls’ aggression exceeded that of the boys’ when they spent a lot of time playing video games. Girls were more affected by the amount of time they spent playing video games than boys. This gender difference is something that needs to be examined further. Gender is normally not a prime topic in researches about video game playing but some research have found that boys reported significantly higher scores of aggression than girls (Colwell & Kato, 2003).

The study had its limitations. The first and one of the most important ones was the violation of two important assumptions. The assumptions of the normality of the dependent variables anger and physical aggression were violated, with physical aggression being further away from being normally distributed. This is partly because these two variables are not meant to be normally distributed as we do not want to have an average amount of anger and physical aggression in children and adolescents since these qualities are not considered favorable. The assumption for homogeneity of variance was also violated, which tells us that the distribution between groups was different. The large number of boys and the small number of girls who play video games and the difference in how many hours each gender spends playing video games causes the distribution in groups to be uneven. And even though the girls’ aggression levels grew higher with increased time spent playing the number of girls playing a lot are very low compared to the boys. Despite violating these assumptions the aim of the study was to examine the changes in statistical means to see if any significant differences would come though. A second limitation is that the study does not establish any
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causality between video games or gender on anger or aggression. It can’t be stated therefore which direction the relationship was. Third, using a questionnaire depends on the adolescents to answer each question as well as their conscience tells them. This does not ensure correct reports and possibly, reports from others who are in the adolescents’ lives could give a clearer picture. Future studies might combine quantitative and qualitative methods and collect information from a variety of sources to get the most reliable and authentic information as possible to understand the relations better.

There is a large number of research in which the relation between video game play and anger and aggression has been studied. However, many of their findings show different results. Therefore, it would be an interesting research topic to come closer to a possible ultimate truth, which may require a prolonged period of time. By viewing the findings of this research it is clear that more attention should be given to the gender difference, especially why the genders are different regarding anger and aggression and why a different amount of time spent on playing video games has different effects on the genders.
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Appendix A

Questionnaire

1. Ert þú strákur eða stelpa?
   □ Strákur □ Stelpa

2. Hvaða ár eftir þá fæðð(ur)? (Merktu aðeins í EINN reit)

29. Hversu oft varðst þú var/vör við eftirfarandi vanliðan eða óþegindi súðastliða víkum?
   Nær alrei Sjáldan Stundum Oft
   □ □ □ □
   a) Það var auðvelt að pirra þig eða engja
   b) Þú fékkst reikvöld sem þú gast ekki stjörnadal
   c) Þig langaði að brjótta eða mýlva hluti
   d) Þú lentir í rífríði
   e) Þú öskraðir eða hentir hlutum

33. Hve oft hefur þú beitt eftirvíklu síðustu 12 mánuðið? (Merktu í EINN reit í hverjum lið)
   Aldrei 1 sinni 2-5 sinnum 6-9 sinnum 10-13 sinnum 14-17 sinnum 18 sinnum eða oftar
   □ □ □ □ □ □ □
   a) Kýlt einhvern
   b) Hrint einhverjar
   c) Sparkað í einhvern
   d) Slegið einhvern
   e) Tækki einhvern hálstaki
   f) Hótað einhverjar ofbækti

70. Hversu miklum tíma verð þú að jafnæfri í eftirlitöd á hverjum degi?
   Nær engum tíma ½-1 klst. Um 1 klst. Um 2 klst. Um 3 klst. Um 4 klst. Um 5 klst. 6 klst. eða fleiri
   □ □ □ □ □ □ □
   b) Spila töluleiki á Netinu
Appendix B

Consent letter to parents

Ungt fólk 2014

Rannsókn á högum og líðan nemenda í 8. – 10. bekk á Íslandi.

Ágætu foreldrar / forráðamenn,


Megináherslur rannsóknanna Ungt fólk eru þær sömu í ár og áður hefur verið og lúta að því að kanni hagi og líðan ungmenna og félagslegs þætti svo sem tengsl við foreldra og vini, íþróttir og tómstundir, félagstífr, líðan, einelti, stefnumótunum, mataraði, nám, brottfallslák, félagstíð, félagstíðunum, svenfnefur, lestu, tölvunotkun (skjánotkun), vísindafnæslum, ráðunastöðum og annað mikilvægt.

Sem fyrr er Ungt fólk könnunin unnin samkvæmt lögum um persónuvernd, er nafnlaus og því ekki hægt að rekja neinar upplýsingar til einstaklinga. Nemendur eru sérstaklega beðnir að rita hvað þeir sýna fyrir í þeirra spurningalístrum. Þegar útfyllingu spurningalistanna er loklað leggja nemendur þá í lokað umslag og loka vandlega aður en listunum er safnað saman. Listarnir eru svo sendir greiningaráætlum sem tölvuskrá upplýsingar af þeim að geta með nokkrum móti vitað hverjum þær tílheyra. Öll gögn rannsóknarinnar eru opensonurekjanleg. Að skráningu löknin er spurningalistunum eytt. Könnunin tekur að meðaltali um 50 mínútur.

Péssar upplýsingar eru sendir til að upplýsa þig um fyrirhugaða gagnaöflun. Ef þú óskar eftir að barn þitt barn þitt taki ekki þátt í Ungt fólk könnuninni í ár, hafðu þá samband við starfsfólk Rannsóknir & greiningur með tölvupósti rannsóknir@rannsóknir.is eða í síma 599 6431.

Verði þátttaka göð koma upplýsingarnir til með að skila mikilsverðum niðurstöðum, þeði hagnýttum og fæðilegum líkt og fyrr ekki kannanir af þessu taka hafa gert.

Ef nánari upplýsinga er óskað þá vinsamlega hafði samband við Rannsóknir & greiningu.

Með kærri kveðju
Starfsfólk Rannsóknar & greiningar.