



Adolescents' Internet Use: Academic Achievement and Well-being

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Foreword

Submitted in partial fulfilment 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.

Abstract

Internet use is gradually becoming more of an important factor in modern society, of which majority of users are adolescents and young people. Internet use has been connected with impairment and change in academic performance, mood, daily routines and relations with family members, for adolescents and young people. The aim of the study was to examine students' internet use and how it may connect to academic achievement, alcohol consumption, depression and self-esteem. The participants were 175 students from three different schools in Iceland. A t-test, ANOVA, cross-tables and correlation calculations were used to do a comparison between the students' gender, age and school, in internet use. The results showed that male and female students are using the internet quite differently. Also, there was a negative correlation between students' internet use and how well they did at school. Furthermore, there was a negative correlation between students' internet use and self-esteem, but a positive correlation between internet use and depression.

Keywords: internet use, adolescents, academic achievement, alcohol consumption, self-esteem, depression

Abstract – Icelandic

Internet notkun er að aukast í nútíma samfélagi og þá sérstaklega hjá unglingum og ungu fólki. Netnotkun unglinga hefur verið tengd við breytingar á velgengni í skóla, skapi, daglegum athöfnum og sambandi við fjölskyldu. Markmið rannsóknarinnar var að skoða betur netnotkun unglinga og hvernig sú notkun tengist velgengni í skóla, áfengisdrykkju, depurð og sjálfsvirðingu. Allt að 175 nemendur frá þremur mismunandi skólum tóku þátt, en skólarnir voru frá mismunandi stöðum landsins. T-próf, ANOVA, krosstöflur og fylgniþróf voru notuð til að gera samanburð á netnotkun unglinga eftir kyni þeirra, aldri og skóla. Niðurstöðurnar leiddu í ljós mismunandi netnotkun nemenda eftir kyni þeirra. Það var neikvæð fylgni á milli

netnotkunar unglínga og hversu vel þeir stóðu sig í skóla. Einnig var neikvæð fylgni á milli netnotkunar unglínga og sjálfsvirðingar, en jákvæð fylgni á milli netnotkunar og depurðar.

Lykilhugtök: netnotkun, unglíngar, námsárangur, áfengisnotkun, sjálfsvirðing, depurð

Adolescent's Internet Use: Academic Achievement and Well-Being

The use of internet is an increasingly important part of today's modern society. Worldwide internet consumption is constantly on the rise, with studies in 2011 showing that there were more than 2.4 billion internet users in the world (De Leo & Wulfert, 2013) the majority of which were adolescents and young people (Durkee et al., 2012). Research demonstrates that adolescents who used the internet excessively could show impairment and change in academic performance, mood, daily routines and relations with family members (Young & Rogers, 1998). Therefore, it was evident that both behavioural problems and psychological problems have shown to correlate with excessive internet use (Ko et al., 2008). However, after all the research that has been done on the subject, researchers don't all agree on how the internet affects various behaviour and psychological well-being.

Chen and Fu (2009) showed that internet could be both harmful and helpful to adolescents' academic achievement. That is, if internet was used to search for information it could of be beneficial to academic achievement. However, if the internet was used for either socialising or online gaming it could have a negative effect on adolescents' academic achievement (Chen & Fu, 2009). Although the internet could be somewhat beneficial to students' academic achievement, the disadvantages seemed to outweigh the benefits (Englander, Terregrossa, & Wang, 2010). There was a connection between how much time was spent on the internet and the grades students got. The more time students spent online, the worse the impact was on their academic performance (Englander et al., 2010).

Extensive analysis by Ko and colleagues (2008) showed that there was an association between alcohol abuse and internet addiction in adolescents. The study revealed that the majority of those addicted to the internet were male, with higher levels of parent-adolescent conflict, more deviant friends, and alcohol abusing friends and relatives. Furthermore, according to De Leo and Wulfert (2013) problematic internet use was correlated significantly

with several other problematic behaviour, including tobacco use, illicit drug use and unprotected sex. It did, however, not correlate with alcohol use and gambling behaviour according to that research (De Leo & Wulfert, 2013). Therefore, as researchers do not agree on the topic, it is not yet clear whether or not internet use correlates with alcohol use.

According to Yen and colleagues (2012), adolescents with poor relationships with their mother or father were more prone to internet addiction than those who were on good terms with their parents. This suggested that there was a connection between internet use and family relationships. Research by De Leo and Wulfert (2013) showed that excessive internet use had a strong correlation with psychological behaviour problems such as reported family conflicts, social anxiety and depression.

Study by Ko and colleagues (2008) suggested that an adolescents' original identity and anticipation of a hopeless future, became disguised in the anonymity of life online. It allowed them to control how they were perceived by others, which they might not had been able to control as easily in real life. For example, success in an online game could boost self-esteem, increasing the levels of importance and achievement that one feels. Thus, the support acquired through means online compensated for the lack of support that an adolescent had in real life (Ko et al., 2008). Opposing this, Heo and colleagues (2014) suggested that excessive internet use could have an impact on adolescents psychological well-being such as decreasing self confidence. Furthermore, according to Griffiths and Parke (2002) those who used the internet excessively were more likely to feel lonely and tended to suffer from boredom, self-consciousness and social anxiety. This shows that there were two aspects to internet use, whether it was harmful or helpful to adolescent's well-being and self-esteem.

Furthermore, individuals with mental health problems who sought to communicate with others solely through online conversations, were more prone to anxiety and depression (Sueki, Yonemoto, Takeshima, & Inagaki, 2014). Although internet use is increasing among

today's youth, it is apparent that male and female adolescents are using the internet somewhat differently. Whether there is an actual significant difference between the genders when it comes to psychiatric symptoms and internet addiction is still unknown (Yen, Ko, Yen, Wu, & Yang, 2007).

However, according to Fisoun and colleagues (2012) there was a significant difference in internet activity between genders. Supporting this, results from a study by Durkee and colleagues (2012) showed that not only did online activity vary between genders but certain activities highly correlated with the genders' internet use. That is, male students used the internet more for playing online games and watching videos, while female students used it more for social networking, watching videos and using chat-rooms. Furthermore, a study conducted by Weiser (2001) revealed that even though people were spending the same amount of time on the internet, those who used it for online gaming and/or socialising were more at risk of developing problematic internet use. Apposing to these results, Shaw and Gant (2002) showed in their study that chatting on the internet had beneficial effects on individuals.

Although it seemed that internet use could have an effect on adolescents lives, whether it's a positive or negative effect, Griffiths and Parke (2002) implied that it doesn't necessarily mean that individuals started behaving differently as a result of the internet's impact on their lives. It could also be that the individuals, who felt in a certain way, for example felt down, were more likely to seek the online life, due to the internet having solely an emotional effect on them. Supporting this, Durkee and colleagues (2012) reported that female adolescents may use the internet as a coping strategy, thus seeking out the internet when feeling down. This indicates that internet activity is not always the cause for change in behaviour and well-being of adolescents, as it can be the other way around.

To conclude, earlier research has shown that internet use had been connected to some psychological impairment and behavioural problems (Sueki et al., 2014). These included

academic achievement and well-being of adolescents, such as depression and self-esteem.

However, the association between internet use and academic achievement and well-being of adolescents is yet to be studied in Iceland. Therefore, there is a need for a study to examine Icelandic adolescents internet use in order to be able to see if earlier findings fit Icelandic adolescents and can therefore be generalised to them. The aim of this study is to examine the connection between internet use and various variables such as academic performance, alcohol use, family relations, self-esteem and depression in adolescents. In particular two hypotheses will be examined

1. Internet use has a negative association with academic achievement
2. There is an association between internet use and students well-being, including alcohol consumption, depression and self-esteem

Method

Participants

Participants were 175 students at three different high schools in Iceland. Seventy two students participated from Flensburg, 66 from Fjölbrautaskóli Suðurnesja (FSS) and 37 from Fjölbrautaskóli Norðurlands vestra (FNV). A convenience sample was used although it had to be made sure that the schools were from different parts of the country. The principals or the directors of academia, depending on the school, selected groups of students who would participate in the survey. Table 1 shows that participants were both female and male students from two age groups; 18 years old and younger and over the age of 18. Of the 175 students in all three schools, 92 (52.6%) of them were female and 83 (47.4%) were male.

Research Design and Measures

Cross-sectional study utilising an online survey for two schools and a printed paper survey at one school was used to collect the data. Numerous variables were used in the study, the independent variables were; time spent on the internet, gender, age, school and whether

the students had access to the internet in their bedroom or not. The dependent variables included academic achievement, family relations, alcohol use, self-esteem and depression.

Internet use and its connection with other variables were examined by conducting a self administered survey which included ten questions. The questionnaire can be found in Appendix A. The first questions asked for gender, age and whether the students had access to the internet in their bedroom at home. The next question examined the time spent daily online. The fifth question aimed to find out what activity students use the most online and for that question students rank the items after what fits them most. The students were then asked to state whether their online activities were supervised by a guardian. The next question was about school where questions regarding academic achievement and the well-being of the students at school were asked. The question included seven factors where students rated how well each statement fitted them. Following that, the students answered a question which included the topic of depression and psychological well-being of the students where nine factors were asked. These questions in question eight are from the Derogatis scale (Derogatis & Cleary, 1977), however, only 9 questions out of 22 were used. The next question was from the Rosenberg scale (Rosenberg, 1965) where self-esteem was examined and the students rated them for each of the 9 questions after how well the options applied to themselves. The scale originally contains 10 questions, however, by mistake one question got left out when the questionnaire was created and, therefore, the survey only included 9 questions. The last question included 4 questions regarding the topic of family relations and alcohol consumption where the students rated how well each statement applied to themselves.

Procedure

The first step was to inform the Data Protection Authority about the research and several details in order to get the research approved. Once permission by the Data Protection Authority was given, the process began. The second step, before the research began, was to

contact schools and introduce the research proposal in hope to get them involved in the project. The third step was to create the questionnaire survey, both the online survey as well as a copy for printing. The next step was to contact the schools which had agreed to participate and set up a schedule, as well as timing, to conduct the survey. A letter of consent (see appendix B) was sent to all parents of participating students under the age of 18. For each school a different schedule had to be made to adjust the survey to be as convenient as possible for each school. An online survey was conducted for two of the schools, for one of the schools the students received the survey by email on the 19th of November 2014 and were asked to complete it, whereas the other school provided i-pads on the 4th of November 2014 where the academic dean asked the students to answer the survey in class. The third school answered the survey on paper on the 6th of November 2014, which necessitated the survey to be printed and brought to the school. The academic dean walked around the chosen classrooms asking the students to fill out the survey. All students were given the option of not participating and were told they could withdraw their participation at any given time. Also, students were asked not to give any information that could reveal their identity such as their name or social security number. The reason for that was so that the students' answers could not be able to be traced back to them.

Table 1

School, Gender and Age of Participating Students

	Male	Female	18 years old and younger	Older than 18 years old	Total students from each school
Flensburg	42	30	28	34	72
FSS	27	39	29	27	66
FNV	14	23	14	23	37
Total	83	92	81	94	175

Data Analysis

The online survey program Survey Monkey was used to conduct the study. From there all the data was entered into the statistical program SPSS. Frequency tables were calculated for every question in order to see if everything had been entered correctly and to see if the data was looking as it should.

Cross-tables were calculated to identify what the students were using the internet for and to view the difference in use between the gender and age of the students, as well which school they go to. A factor analysis was used for self-esteem questions and depression questions in order to see if the nine variables for each question had one or more common underlying factors which can explain them all. Internal reliability was calculated using Cronbach's Alpha. For both depression (Cronbach's $\alpha = .90$) and self-esteem (Cronbach's $\alpha = .90$) the reliability of each factor was very high. Only one underlying factor was revealed to explain all of the variables for each topic, depression on one hand and self-esteem on the other, which was, therefore, used in the results as one variable each. A t-test was used to see if there was a difference in the average use of the internet between the genders. A t-test was also used to see if the average use of the internet was different between those students who had access to the internet in their room and for those who did not. An analysis of variance (ANOVA) was used to see if there was a difference between the average internet use depending on both the age of students and which school they attended. A correlational analysis was done in order to see the connection between the average time spent online and academic achievement, well-being at school, alcohol consumption and family relations. Correlation was also used to see the connection between the average time spent online on one hand and depression and self-esteem on the other.

Results

Out of the 175 students who participated in the study only 17 students used the internet for 1-2 hours per day while 57 students used the internet for more than 5 hours daily (not shown in a figure). Figure 1 shows that a significant number of students spent on average more than 5 hours daily on the internet. Up to 27.7% of male students used the internet on average for more than 5 hours while 37% of female students used it for more than 5 hours. Only 10,8% of male students spent on average 1-2 hours on the internet daily whereas only 8.7% of female students spent the same amount of time on the internet.

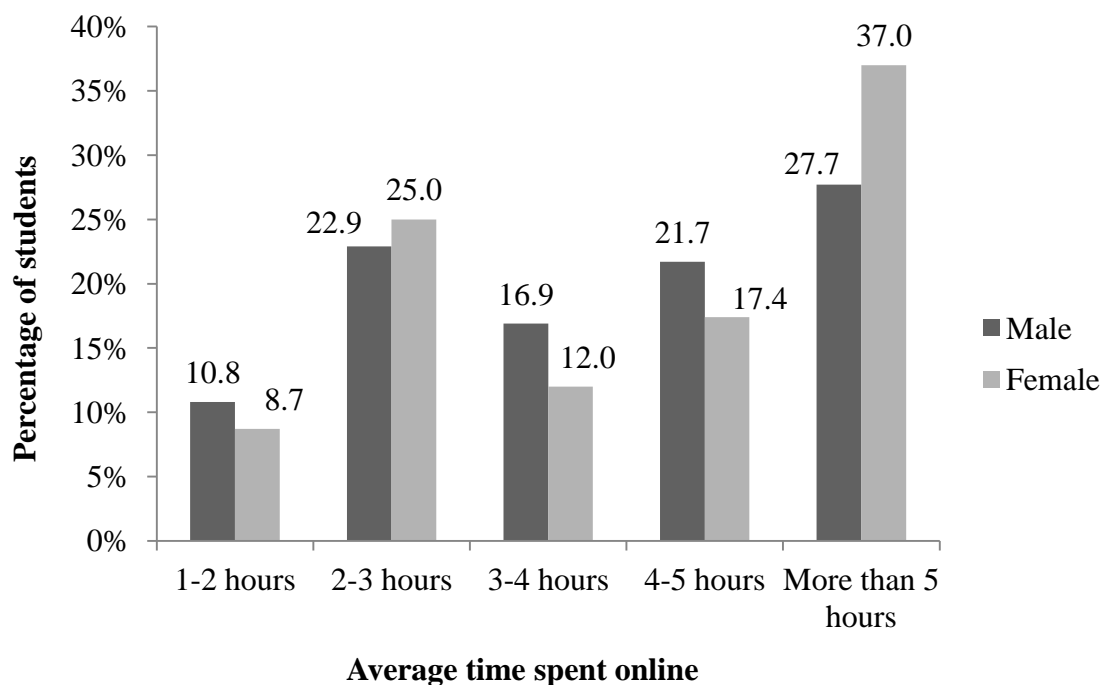


Figure 1. Time spent online daily by adolescents depending on gender

Female students were using the internet on average for 4.4 hours per day ($SD = 1.8$) while male students were using it for 4.1 hours on average daily ($SD = 1.8$). This indicates that female students spent on average more time on the internet than male students did, however, the difference was not significant, $t(173) = -.942$, $p = .315$.

Those adolescents who had access to the internet in their bedroom were using the internet for 4.3 hours ($SD = 1.8$) on average a day while those who did not have access to the

internet in their bedroom were using the internet for 3.3 hours daily ($SD = 0.8$). The difference in internet use was significant, $t(172) = 1.2, p = .015$, therefore there was a difference in average time spent online depending on whether students had access to the internet in their bedroom or not.

Figure 2 shows that the average time spent online by students at Flensburg increased with age. That is, the older students were using the internet significantly more than the younger students. For FSS, the average time spent online was almost the same between the age groups of the students. However, average time spent online by students at FNV decreased significantly between the age groups. That indicated that students who were older than 18 years old were spending less time online than those students who were 18 years old or younger. This is a significant interaction between school and age on internet use, $F(2, 163) = 11.2, p < .001$.

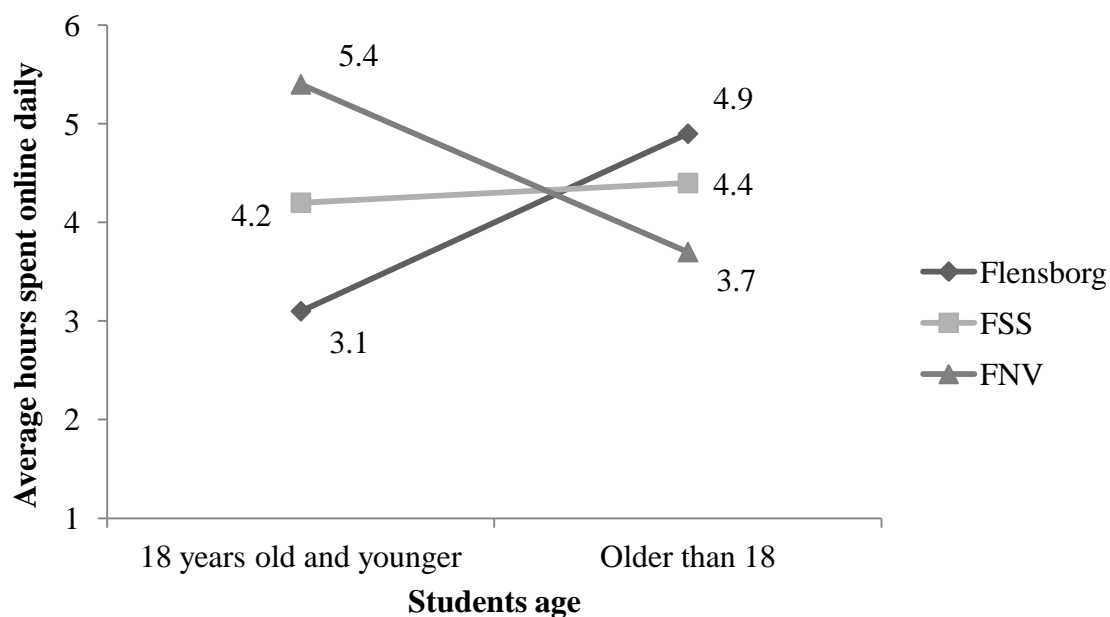


Figure 2. Interaction between students' age and which school they go to on average time spent online.

When looking at between-subjects effect it showed that no independent variable had significant main effects ($p > .05$). This indicated that neither the students' school, gender nor

age had an effect on how much time on average students spent online when each variable was acting alone.

Figure 3 shows that the average time which male students spent online daily does not vary between the age groups. That is, students at all ages were spending 4.1 hours daily online on average. However, females average time spent online increased with age. This indicated that students who were older than 18 spent on average more time online than those who were younger. There was a significant interaction between students age and gender, $F(1, 163) = 5.0, p = .03$, which indicated that both students' age and gender, apart from which school they go to, can affect how much time adolescents spent online.

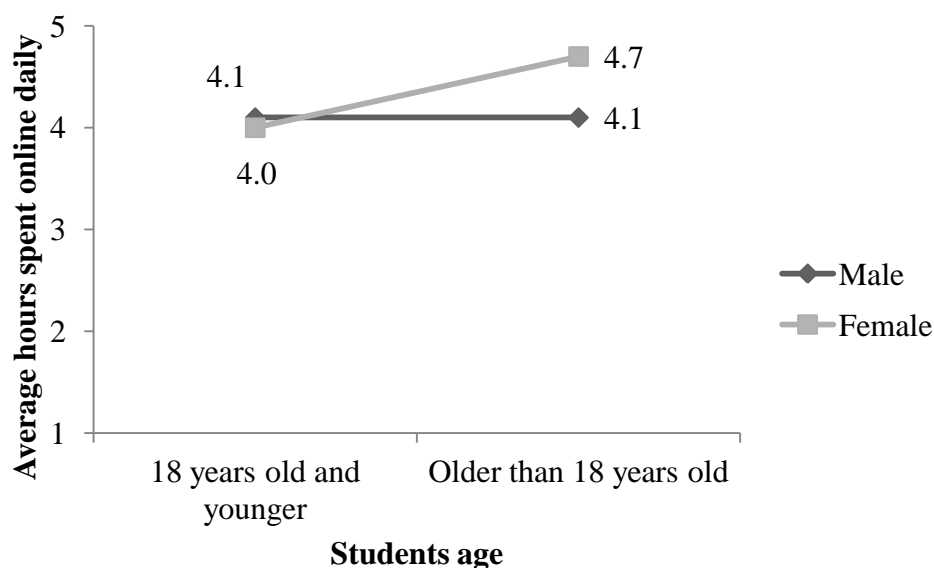


Figure 3. Interaction between students' gender and age on average time spent online

A Levene's test indicated that there is a significant difference ($p < .05$) between the variance of the dependent variable across the groups. Therefore, the assumption of equal variance between the groups has not been met.

Table 2 shows the correlation which average time spent online had with students' academic achievement, how they feel at school, their relationship with their family members, alcohol consumption, depression and self-esteem. There was a significant negative correlation

between average time spent online and how well students did at school ($p = .003$), although the correlation was not very high ($r = -.228$). The correlation can be interpreted in two ways; the more time students spent online daily, the worse they felt they did at school, or the better students felt like they did at school the less time they spent online daily.

Table 2

Correlation Between Academic Achievement, Well-being at School, Family Relations, Alcohol Use, Depression and Self-Esteem with Average Time Spent Online Daily

	<i>r</i>	<i>p</i>
I do well in school compared to others	-.228	.003
Last semester my grade was above average in Icelandic	-.149	.055
Last semester my grade was above average in math	-.160	.039
Last semester my grade was above average in English	-.047	.545
I feel good at school	-.136	.079
I have many friends at school	-.063	.415
I always attend all my classes	-.323	<.001
I have consumed alcohol at least once in my life	.162	.036
I have consumed alcohol in the last two months	.176	.022
I have a good relationship with my parents	-.044	.573
I have a good relationship with my sibelings	-.034	.664
Depression	.262	.001
Self-esteem	-.230	.003

As table 2 shows, there was also a significant negative correlation ($r = -.160$, $p = .039$) between students having had an above average grade in math for their last semester and the average time they spent online daily. Although the correlation was low the results indicated

that the more time students spent online daily the worse they did in math. Also, there was a low but a significant negative correlation ($r = -.323, p < .001$) between students always attending their classes at school and the average time they spent online daily. This indicated that the more time students spent online the less likely they were to attend all their classes. There was a low but a significant positive correlation of the average time students spent online per day with both having consumed alcohol at any point in life ($r = .162, p = .036$) and having consumed alcohol in the last two months ($r = .176, p = .022$). This indicated that the more time students spent online daily the more likely they were to consume alcohol.

There was a highly significant positive correlation between students average time spent online daily and depression ($r = .262, p = .001$). The correlation was not strong; however, the results indicate that the more time students spent online the more depressed they felt. Also, there was a highly significant negative correlation between self-esteem and average time spent online ($r = -.230, p = .003$), although the correlation was not very strong. This indicated that the lower self-esteem students had the more time they spent online daily.

Table 3 shows that 38.3% of male students were using mostly social media online while 69.6% of female students were using it. Although social media was used online more than other activities by both genders, female students were using it significantly more. About 32% of female students were using the internet mostly for schoolwork while only 16% of male students used it for school work. Male students were, however, using the internet more for downloading as 18.2% of them and only 6.7% of female students used downloading online. Also, while 13.8% of male students used the internet to read the news, extremely low percentage of 1.1% female students used the internet to read the news.

Table 4 shows that 13.9 % of students at Flensburg were using the internet mostly to blog, while only 6.5% of students from FNV and 3.4% of students from FSS used blogging.

Table 3

Activities Used Online

	Men	Women
Social media	38.3% ^{a)}	69.6% ^{a)}
For school	16.0% ^{b)}	31.9% ^{b)}
Downloading	18.2% ^{c)}	6.7% ^{c)}
Reading the news	13.8% ^{a)}	1.1% ^{a)}
Playing video games	13.5% ^{a)}	6.9% ^{a)}
Blogging	7.5% ^{c)}	8.3% ^{c)}
Emailing	5.0% ^{b)}	2.2% ^{b)}

Note. Significance using the Chi-square test a) $p < .001$. b) $p < .01$. c) $p < .05$.

Table 4

Internet Use by Age and School

	Reading the news	For school	Blogging	Social media	Emailing	Playing games	Down- loading
18 ≥	7.7	13.9	5.7	51.9	5.1	13.5 ^{a)}	11.7
18 <	6.6	11.8	9.9	57.6	2.2	6.9 ^{a)}	12.2
Flensburg	5.6	12.5	13.1 ^{a)}	43.1	1.4	13.4	13.0
FSS	6.6	12.5	3.4 ^{a)}	70.3	4.8	10.2	11.3
FNV	10.8	13.9	6.5 ^{a)}	51.4	5.4	2.9	11.1

Note. Significance using the Chi-square test a) $p < .05$

Table 4 shows that, up to 13.5% of students 18 years old and younger used the internet mostly to play games online, while only 6.9% of students over the age of 18 played games

online the most. Students were mostly using social media online. However, the association between age and social media on one hand, and school and social media on the other, were not significant ($p > .05$).

Discussion

The aim of the study was to examine adolescents' internet use and the association it had with their academic achievement and well being. The focus was on adolescents' academic achievement, their relationship with family, alcohol consumption, self-esteem and depression. The first hypothesis was that internet use has a negative relation with academic achievement. The results show that there was a negative correlation between average time spent online and how well students felt they did at school compared with others. It also showed a negative correlation between how well students did in math and average time spent online.

These results were consistent with earlier study by Englander and his colleagues (2010), stating that the more time students spent online the worse they did in their academic achievement. However, Chen and Fu (2009) showed in their study that if the internet is used for information searching, then it could be beneficial to academic achievement, but when used for either socialising or online gaming it could have a negative effect on academic achievement. This indicates a cause and effect relationship, showing that internet use can have an effect on academic achievement depending on how adolescents use the internet. The current study examined only the correlation between average time spent online and academic achievement, regardless of what the students were using the internet for. Although, the participating students in the current study all used social media the most online, which could, explain the negative association between academic achievement and internet use. It would be informational to examine the relation between most used activity online and the association it might have with academic achievement in Icelandic adolescents.

The second hypothesis was that there is an association between internet use and students well-being, including alcohol consumption, self-esteem and depression. The results showed a positive correlation between average time spent online daily by adolescents and the consumption of alcohol. That indicated that the more time adolescents spent online the more likely they were to consume alcohol. These results were consistent with an earlier study by Ko and colleagues (2008) as their results showed an association between alcohol consumption and active online use by adolescents.

The results also showed that there was a positive correlation between depression and average time spent online. This indicated that the more time adolescents spent online daily the more depressed they felt. This is consistent with research by De Leo and Wulfert (2013) as their results showed a correlation between excessive internet use and depression. Although, not many participating students in the current study rated themselves as depressed, but those who did were mostly female students. It could therefore be beneficial to examine the interaction between gender and internet use and how that might affect depression.

Furthermore, the results showed that there was a association between internet use and self-esteem, as there was a negative correlation between average time spent online and adolescents' self-esteem. This indicated that self-esteem and internet use can affect each other, thus the more time students spent online the lower their self-esteem was. This is consistent with the study by Heo and his colleagues (2014) who showed that internet use could have an impact on adolescents' psychological well-being such as self-esteem.

Therefore, the results support the hypotheses that internet use is associated with adolescents' well-being, including alcohol consumption, self-esteem and depression.

It is clear that adolescents' internet use has a connection with academic achievement and well-being, but the cause and effect has not been examined to an extent. Many researchers have studied the topic of internet use and how it may affect adolescents' well-being, but so far

no cause and effect has been established. The reason for this being important is that, although internet use has a connection with academic achievement it does not indicate solely that internet affects students' academic achievement, as it could also be the other way around. That is, those students who have low academic achievement spend more time on the internet. A study by Griffiths and Parke (2002) discussed the two way relation and how it still needed to be examined. They implied that it's not necessarily that internet was causing change in adolescents' behaviour and well-being, as it could also be that if an adolescent was feeling in a specific way it may have lead them to spending more time on the internet. However, as academic achievement and well-being of adolescents are important factors, it is very important to study the cause and effect relations that internet has with them. Further examination of a third variable is needed in order to see if anything else could be affecting the connection internet use has with other variables.

Other results in the study which are worthy to mention are for example the difference in internet use depending on students' gender, age and their school. There was a difference in internet use between the genders. The results showed that female students were using social media nearly twice as much as male students did. However, out of all online activities, male students were using social media online more than other activities even though female students were using it more. Male students were using online gaming nearly twice as much as female students were, although it was not the most used by male students.

These results are consistent with research by Durkee and colleagues (2012) who found that there was a difference in online activities between genders. They found that females were using social media more and that males were using online gaming more. The current study supports that female students are using the internet mostly to socialise, however, male students are using the internet for social media, school work, downloading and reading the news more than they use online gaming.

Also, the results showed that female students were using the internet a lot more for school activities than male students were, while male students were using the internet significantly more for reading the news online than female students did. This indicates that students were using the internet quite differently depending on gender for various activities. However, reading the news can be done in many different ways, not only online. Therefore, the difference between the genders using the internet to read the news could be explained if female students were rather reading the news in the paper, or watching the news on television. What was not done in this report but could be beneficial to do, would be to examine the difference in academic achievement between genders, and see whether their use of the internet for school work and reading the news could have an effect on their achievement.

The results also showed that students at Fjölbrautaskóli Norðurlands vestra (FNV) used the internet significantly less for online gaming than students at the other two schools. Also, students from FNV used the internet significantly more for reading the news online than those from the other two schools. This could not be explained by the students' age as there was not a significant difference in either online gaming or reading the news between the age groups. However, it could be that the difference was simply because adolescents are different depending on where in the country they were brought up.

There were a few limitations to the research which are worthy to mention. Firstly, as a cross-sectional study was used, it was not possible to imply cause and effect. In order to do such examination, a longitudinal research design would be necessary. Also, all of the participants in the study were students but the results could have been different if a wider range of adolescents had been used. Although, if other adolescents than students were to participate, academic achievement would not apply to everybody. It would, however, be beneficial to examine the difference in internet use between those adolescents who attend school and those who do not. Furthermore, the students' age was not very clear as many of the

participants were over the age of 18 years old but it was not known how much older they were. By having more options for the students' age in the survey the results could have been more accurate. Also, although the study exceeded a fairly good sample size, a larger sample would be preferred for this study. The same goes for the number of schools, as the more schools that would be participating the better the sample would represent Icelandic students. Another limitation to the study was that the Levenes test for the ANOVA calculation was significant and, therefore, data transformation is recommended in order to obtain better results. However, in this case there was not enough time to do such a change.

The strengths of the study were that the study was done using Icelandic participating students and, therefore, were able to generalise earlier studies to Icelandic adolescents. Also, the various and wide range of questions in the survey is seen as a strength. These questions gave a lot of options to examine different things and to be flexible in what to use for the research.

For future research, a larger sample is suggested as well as more participating schools. It is suggested that a wider range in age are given in the survey in order to be more accurate in the results where age can have an effect. Also, it is recommended that a further study is done on both cause and effect relation with internet use and alcohol consumption, self-esteem and depression, using a longitudinal study design.

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Appendix A

The Questionnaire

Eftirfarandi spurningakönnun er partur af BS verkefni hjá Eir Arnbjarnardóttur sálfræðinema við Háskólann í Reykjavík. Markmið rannsóknarinnar er að skoða netnotkun unglunga og þá þætti sem netnotkun tengist. Vinsamlegast svarið eftirfarandi spurningum eftir bestu getu og sem heiðarlegast svo að niðurstöður rannsóknarinnar verði sem bestar. Aðeins er hægt að velja einn svarmöguleika í hverri spurningu nema ef að annað er tekið fram. Ef að það eru einhverjar spurningar sem þér líður ekki vel með að svara að þá þér heimilt að sleppa þeim. Einnig getur þú hætt þátttöku þinni hvenær sem er á meðan á könnuninni stendur.

Með fyrirfram þökk fyrir þátttöku þína.

*** 1. Ert þú kona eða karl?**

- ☐ Kona
- ☐ Karl

*** 2. Hver er aldur þinn?**

- ☐ Yngri en 16 ára
- ☐ 16 ára
- ☐ 17 ára
- ☐ 18 ára
- ☐ Eldri en 18 ára

3. Ert þú með aðgengi að internetinu inn í herberginu þínu, hvort sem það er í tölvu, ípad, síma eða öðru slíku?

- ☐ Ég er með aðgengi að internetinu í herberginu mínu
- ☐ Ég er ekki með aðgengi að internetinu í herberginu mínu

4. Hversu oft að meðaltali notar þú internetið daglega?

- ☐ Ég nota ekki internetið
- ☐ 1-2 klukkutíma á dag

- ☐ 2-3 klukku tíma á dag
- ☐ 3-4 klukku tíma á dag
- ☐ 4-5 klukku tíma á dag
- ☐ Meira en 5 klukku tímar á dag

5. Í hvað notar þú internetið hvað mest? Vinsamlegast númeraðu svörin eftir því sem best á við til þess sem minnst á við (1= það sem þú notar hvað mest og 7= það sem þú notar minnst).

- ☐ Lesa fréttamiðla
- ☐ Fyrir skólann
- ☐ Blogga
- ☐ Samskiptamiðlar (t.d. facebook, twitter og fl. slíkt)
- ☐ Notkun tölvupósts
- ☐ Spila tölvuleiki
- ☐ Hlaða niður sjónvarpsefni eða tónlist

6. Fylgjast foreldrar eða aðrir forráðamenn með internet notkun þinni eða fylgjast þau ekki með?

- ☐ Það er fylgst með netnotkun minni
- ☐ Það er ekki fylgst með netnotkun minni
- ☐ Á ekki við

7. Vinsamlegast merktu við hversu vel eða illa eftirfarandi staðhæfingar eiga við um þig.

Á mjög vel við Á frekar vel við Hvorki né Á frekar illa við Á mjög illa við

Ég stend mig vel í námi í samanburði við aðra

☐
☐
☐
☐
☐

	Á mjög vel við	Á frekar vel við	Hvorki né	Á frekar illa við	Á mjög illa við
Á síðustu önn var ég yfir meðaleinkunn í íslensku	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Á síðustu önn var ég yfir meðaleinkunn í stærðfræði	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Á síðustu önn var ég yfir meðaleinkunn í ensku	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mér líður vel í skólanum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ég á marga vini í skólanum	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ég mæti alltaf í kennslustundir	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Hversu oft varstu vör/ var við eftirfarandi vanlíðan eða óþægindi síðastliðna 30 daga?

	Nær aldrei	Sjaldan	Stundum	Oft
Þú varst leiðu/ur eða hafðir lítinn áhuga á að gera hlutina	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Þú hafðir litla matarlist	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Þér fannst þú einmanna	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Þú grést auðveldlega eða langaði til að gráta	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Þú áttir erfitt með að sofna eða halda þér sofandi	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Nær aldrei	Sjaldan	Stundum	Oft
Þú varst niðurdergin/n eða dapur/ döpur	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Þú varst ekki spennt/ur fyrir að gera nokkurn hlut	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Þér fannst þú vera hægfara eða hafa lítinn mátt	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Þér fannst framtíðin vonlaus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. Vinsamlegast merktu við hversu vel eða illa eftirfarandi staðhæfingar eiga við um þig.

	Á mjög vel við	Á frekar vel við	Hvorki né	Á frekar illa við	Á mjög illa við
Mér finnst ég vera að minnsta kosti jafn mikils virði og aðrir	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mér finnst ég hafa marga góða eiginleika	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Þegar allt kemur til alls finns mér ég vera misshæppnaður/ -heppnuð	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ég get gert hlutina jafn vel og flestir aðrir	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mér finnst ekki vera margt sem ég get verið stolt/ur af	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ég hef jákvæða afstöðu til sjálfs/ sjálfrar mín	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Þegar allt kemur til alls er ég ánægð/ur með sjálfa/n mig	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Á mjög vel við	Á frekar vel við	Hvorki né	Á frekar illa við	Á mjög illa við
Ég vildi óska að ég bæri meiri virðinu fyrir sjálfri/ sjálfum mér	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>
Stundum finnst mér ég einskis virði	<input type="radio"/> Stundum finnst mér ég einskis virði Á mjög vel við	<input type="radio"/> Stundum finnst mér ég einskis virði Á frekar vel við	<input type="radio"/> Stundum finnst mér ég einskis virði Hvorki né	<input type="radio"/> Stundum finnst mér ég einskis virði Á frekar illa við	<input type="radio"/> Stundum finnst mér ég einskis virði Á mjög illa við

10. Vinsamlegast merktu við hversu vel eða illa eftirfarandi staðhæfingar eiga við um þig.

	Á mjög vel við	Á frekar vel við	Hvorki né	Á frekar illa við	Á mjög illa við
Ég hef neytt áfengis einhvern tímann á ævinni	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ég hef neytt áfengis síðastliðnu 2 mánuði	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ég á í góðu sambandi við foreldra mína	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ég á í góðu sambandi við systkini mín	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Apendix B

Letter to parents

Kæra foreldri,

Barn þitt hefur lent í úrtaki til að svara spurningakönnun sem lögð verður fyrir í kennslustund þriðjudaginn þann 4. Nóvember. Spurningakönnunin er partur af BS verkefni hjá Eir Arnbjarnardóttur sálfræðinema við Háskólann í Reykjavík þar sem skoðuð eru tengsl netnotkunar unglunga við hina ýmsu þætti. Spurningakönnunin er stutt, eða tekur um 5-10 mínútur að svara. Nafnleyndar verður gætt svo ekki sé hægt að rekja svör aftur til nemenda.

Mikilvægt er að fá sem flesta þátttakendur svo að niðurstöður rannsóknarinnar verði sem bestar. Því bið ég þig kæra foreldri um að veita samþykki þitt fyrir þátttöku barns þíns í spurningakönnuninni. Vinsamlegast svaraðu þessum pósti eins fljótt og auðið er til að tilkynna hvort þú veitir þitt samþykki eður ei.

Með fyrirfram þökk og kveðju,