



Influencing Factors of Delayed Alcohol Consumption Among Adolescent in Secondary School

Valgerður Steingrímisdóttir

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Author: Valgerður Steingrímisdóttir

ID number: 270787-2829

Department of Psychology

School of Business

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Abstract

Much progress has been made in the delaying of alcohol consumption among adolescent in the United States and Iceland. The progress in Iceland can be traced to use of the *Icelandic model* that focuses on the social environment of the adolescent. It has received attention especially for how rapidly alcohol consumption among adolescents has changed following use of the model. However despite this change the increase in consumption from the last grade in compulsory schools up to secondary school is strong. The goal of the present study was to examine factors that might delay onset of alcohol consumption among adolescent in secondary schools. Data from ISCRA was used from a sample of 2000 students' age 15-20 years old. The hypothesis was that certain factors lead to the adolescent not starting to drink alcohol; high monitoring, low alcohol consumption of friends, low alcohol consumption of parents and participation in sports. The results showed that all of the factors were a predictor for delayed onset of drinking except for the drinking habits of the father. Also there was a difference between predictability of the factors for the younger students compared to the older ones.

Keywords: drinking, adolescent, protective factors, secondary school

Töluverður árangur hefur náðst bæði á Íslandi og í Bandaríkjunum í því að seinka neyslu áfengis á meðal unglinga. Hugarfarsbreyting hefur átt sér stað á Íslandi sem má rekja til notkunar á *Íslenska módelinu* sem leggur áherslu á félagslegt umhverfi unglingsins. Það hefur vakið athygli hversu hratt áfengisneysla meðal ungs fólks hefur minnkað í kjölfar notkunar á módelinu. Þrátt fyrir þessar framfarir sést ennþá mikil aukning í drykkju þegar unglingar færast frá efsta bekk grunnskóla upp í menntaskóla. Markmið þessarar rannsóknar var að rannsaka hvaða þættir það eru sem að hafa áhrif á að unglingar byrja ekki að neyta áfengis í framhaldsskóla. Í rannsókninni voru fyrirliggjandi gögn fengin frá Rannsóknnum og greiningu. Úrtakið voru 2000 nemendur frá 15-20 ára. Tilgátur rannsóknarinnar voru að eftirfarandi þættir hefðu áhrif á að ungt fólk byrjaði ekki að neita áfengis, mikið eftirlit, lág neysla áfengis meðal vina, lág neysla áfengis hjá foreldrum og þátttaka í íþróttum. Niðurstöðurnar sýndu að allir þættirnir höfðu áhrif á að seinnka áfengisneyslu nema drykkja föður. Einnig var munur á hversu mikil áhrif hver þáttur hafði í að seinka áfengisneyslu fyrir yngri nemendur í samanburði við þá eldri.

Lykilorð: áfengisneysla, ungt fólk, verndandi þættir, framhaldsskóli

Influencing Factors of Delayed Alcohol Consumption Among Adolescent in Secondary School

Progress in delayed alcohol consumption among adolescent has been measured in both the United states and Iceland (Johnston, 2010; Sigfúsdóttir, Thorlindsson, Kristjánsson, Roe, & Allegrante, 2009) In the United States it has been declining since 1980, although there was some increase in the early ninety's, however those numbers quickly fell back down and in 2010 levels of consumption had never been as low (Johnston, 2010). Despite the decrease alcohol is still one of the most used drug by the teenagers and findings in the United States in 2010 showed that up to 70% had consumed alcohol before leaving high school (Johnston, 2010). Alcohol consumption among adolescents can have bad consequences, studies have shown that those who start drinking at an early age are at more of a risk to have alcoholic problems later in life (Hingson, Heeren & Winter, 2006, Guo, Collins, Hill, & Hawkins, 2000). The study that Hingson et al. (2006) conducted came to the conclusion that each year that an adolescent holds off on starting alcohol consumption from 14-21 years of age made a difference. Those who started later where at lesser risk for alcohol related problems during their lifetime and the risk was very low after 21 years of age. The results are quite convincing because of the sample size, a survey was conducted with 43 thousand people over 18 years old. The National institute on alcohol abuse and alcoholism helped to verify if a person had problem with alcohol and compared it to the onset of drinking (Hingson et al. 2006). Another study that linked early onset of drinking to future drinking problems assessed information about alcohol consumption once a year for eleven years, those results emphasized even more that onset of drinking influences future problematic drinking behavior (Guo et

al. 2000). Those previous studies underline the importance of trying to delay onset of alcohol consumption among adolescents.

Declining of alcohol use among adolescent can also be seen in Iceland where drinking has reduced from around 1997 and it has been measured lower every year up to the latest reports in 2013 (Rannsóknir og greining, 2013; Sigfúsdóttir et al., 2009). According to research this decrease among Icelandic adolescent is largely due to founding of a project at the Icelandic Ministry of Education, Science and Culture where a few social scientist developed an evidence based approach to try to understand social factors that influence substance use amongst the young (Sigfúsdóttir et al., 2009). This method is called the *Icelandic model* and it emphasizes on nearest social environment of adolescents such as family, friends, school and sports and leisure time activities (Sigfúsdóttir et al., 2009). However, despite this decrease in alcohol consumption there has always been a measured increase when adolescents transfer from last grade in compulsory school up to secondary school (Kristjánsson, Sigfússon, Sigfúsdóttir, & Pálsdóttir, 2011).

Like the Icelandic model implies social factors like opinion of family and friends on alcohol consumption has a big influence on whether or not teenagers start to drink (Mrug & McCay, 2012). If parents disapprove of the teenagers drinking they are less likely to start. This is in correlation with studies that have come to the conclusion that rules regarding alcohol use are very important and serve as a good preventer on the onset of alcohol consumption (Mares, Lichtwarck-Aschoff, Burk, van der Vorst & Engels, 2012; Zwaluw et al., 2008). If parents did not show much interest of how or if their teenager consumed alcohol, it could lead to more heavy drinking (Zwaluw et al., 2008). Parents' monitoring through rules has been showed to be an important factor in delaying alcohol consumption for teenagers (Koning, van

den Eijnden, Engels, Verdurmen, & Vollebergh, 2011). If the teenager has clear rules to abide to, it can delay the onset of drinking. It helps to have discipline and rules not only in regard to alcohol. Parents should be aware of how their child spends his times and try to prevent unsupervised parties if they want to delay the onset of drinking (Ryan, Jorm, & Lubman, 2010). Researches in Iceland have shown in addition to monitoring, that social factors like time spent with parents, support from parents and positive relationship between parents and the teenager serve as a prevention for substance use (Thorlindsson, Bjarnason, & Sigfusdottir, 2007).

Alcohol consumption of parents has also been correlated with drinking of their teenagers (Ryan, Jorm og Lubman, 2010; Van Der Vorst et al., 2013) Studies have shown that drinking of parents effect their children's onset of drinking and also effects the drinking behavior although drinking of the mother was measured to have slightly more effects especially on drinking habits of their daughters (White, Johnson, & Buyske, 2000). It has been shown that children are more likely to start drinking the more their parents drink or at least the more the child perceive that their parents drink (Van Der Vorst et al., 2013). This perception of the parents alcohol use might affect the onset of alcohol use for the teenager way before it occurs. However this influence might be indirect since parents are less likely to have alcohol specific rules regarding alcohol use if they drink much so it seems they try to match their alcohol related rules to their own consumption. Also their ability to have discipline and monitor their children might diminish while they are drinking (van der Vorst, Engels, Meeus, & Deković, 2006).

Another large influence in an adolescents life are their friends and peers (Sigfusdóttir et al., 2009). Studies have shown that friends are one of the biggest factors in alcohol consumption among teenagers (Beal, Ausiello, & Perrin, 2001).

Beal et al. found that friends have more affect on the teenagers drinking than their parents. According to a twin study, friends affect each others decisions on whether to start drinking or not (Cruz, Emery, & Turkheimer, 2012). So the more friends the teenager has that drink, the greater chances there are that they start drinking (Thorlindsson & Bernburg, 2006). However, in that context the question arises if teenagers who start drinking simply were more drawn towards being friends with those who already drink and not the other way around. Approval of peers is important and as teenagers get older, the opinion of their peers start to weigh more than of their parents, at the same time increasingly more adolescents start to accept alcohol consumption (Mrug & McCay, 2012). Peer pressure is well known among adolescents where there is pressure to act a certain way often to gain acceptance or popularity (Balsa, Homer, French, & Norton, 2011). Studies have also found that in later adolescents it is often the norm to drink (Shortt, Hutchinson, Chapman, & Toumbourou, 2007). As increasingly more and more friends of the adolescent start to drink the peer pressure becomes more intense. However, the atmosphere or culture that a group has set can also lead to the decreased probability of drinking. If it is considered more appropriate not to drink for the members of a group then that in all likelihood becomes their culture (Beal et al., 2001). Increase in alcohol consumption as adolescents become older might also correlate to the legal age, and in Iceland it is when adolescents become 18 years old (Alpingi, 2014).

Sports participation seems to work as a protective factor for drinking (Pálsdóttir, Sigfúsdóttir, Kristjánsson, Guðmundsdóttir, & Sigfússon, 2011). Studies have shown that the more time a teenager spends on a sports activity the less likely he is to start drinking (Thorlindsson & Bernburg, 2006). Also an important factor is that friends and peers that have started to consume alcohol seem to have lesser effects on

those who engage in sports and their influence becomes weaker the more they train (Bu, Watten, Foxcroft, Ingebrigtsen, & Relling, 2002). One study used consultation about exercise to examine what effects it had on drinking it showed that while exercise increased following the intervention, it also leads to less alcohol consumption (Werch et al., 2003). An even bigger difference was measured if the consultation included information about exercise, alcohol and importance in avoiding drinking. Although participation in sports has occasionally been found to lead to higher levels of drinking it is not clear why this difference appears but one theory is that very intense exercise effects higher level of drinking (McCaul, Baker, & Yandley, 2004). As mentioned above the norm of the sports clubs can differ and if the norm is to drink it might lead to an increase of alcohol consumption among adolescent in that sports club (Balsa et al., 2011).

The goal of the present study was to examine factors that might delay the onset of alcohol consumption among adolescent in secondary schools. Previous studies show that there are a number of factors that influence onset of drinking and therefor four factors will be examined in the present study. The hypothesis was that the following factors lead to delayed alcohol consumption among adolescents, high monitoring, low alcohol consumption of friends, low alcohol consumption of parents and participation in sports.

Method

Participants

Icelandic Centre for Social Research and Analysis (ICSRA) distributed a questionnaire in all secondary schools in Iceland in 2010 (Pálsdóttir et al., 2011). Participants in the study were all the students that arrived to school the day the

questionnaire was administered. Data for this study is from a sample of 2000 students of which 930 were male and 1062 were female they were all from 15-20 years of age. Valid answers that year were 11.388 from the population of those 5837 were girls and 5439 were boys and 112 participants did not specify their gender. According to that the response rate for the questionnaire was 70,5% in the year 2010 (Pálsdóttir et al., 2011). At first the participants were examined as a whole and then divided into two age groups those who were 15-17 years old and those who were 18-20 years old. The main reason why the participants will be divided into the two groups is because in Iceland young people reach legal age when they become 18 years old which might lead to different conclusions.

Measures

The measuring device is a thorough questionnaire that has been developed through the years at first by researchers at the Icelandic Ministry of Education, Science and Culture (Pálsdóttir et al., 2011). In 1999 an independent research facility, Icelandic Centre for Social Research and Analysis (ICSRA), was founded and they took over the project and have been administering the questionnaire since then. ICSRA has been building a data bank of information assessed from Icelandic youth with the aim to better family and adolescence welfare (Rannsóknir og greining, n.d). To increase validity scales are often used in the questionnaire and the most frequently used is the Likert scale (Pálsdóttir et al., 2011). The 2010 questionnaire was 36 pages long and contained 110 questions. However for the present study only part of the questions were used. In context with previous studies on what can effect alcohol consumption among adolescent the following questions were chosen as the five independent variables:

1. *Monitoring* (six questions were computed together regarding monitoring which were *my parents have certain rules for what I can do outside the home, my parents have rules for when I should come home at night, my parents are aware of who I spend my evenings with, my parents are aware of where I am in the evening, my parents know my friends, my parents know parents of my friends*; the option question *does not apply* was applied as missing value) the question had four values and the highest value was *applies very well to me*. Internal consistency $\alpha = .75$ for *monitoring* was acceptable.

2. *Alcohol consumption of friends* (How many of your friends drink alcohol?) the values of this question were rotated so that the highest value was none of my friends drink alcohol.

3. *Alcohol consumption of father* (have you seen your father drunk?) the values of this question were also rotated so the highest value was no never.

4. *Alcohol consumption of mother* (have you seen your mother drunk?) the values of this question were also rotated so the highest value was no never.

5. *Sport participation* (How often do you train or compete with a sports club?) the values were on the scale from almost never to almost every day that was the highest value.

The question used as a dependent variable was: *Alcohol consumption* (How often have you been drunk over your lifetime?) the values were computed into never been drunk and been drunk one time or more often. Then those two values were rotated so that the internal value for never been drunk was one and the internal value for been drunk one time or more often was zero. When the first model had been assessed age was added to the dependent variable. *Age* (Which year are you born?)

the values were on the scale from the year 1986-1996. All of the participants in the present study were at the age from 15-20 years old. This variable was divided to those who were 15-17 years old and those who were from 18-20 years old and separated models assessed for each age group.

Procedure

It was a cross sectional study administered by the Icelandic Centre for Social Research and Analysis (ICSRA) they distributed the questionnaires to all secondary schools in Iceland (Pálsdóttir et al., 2011). In the school the teacher was in charge of administering the questionnaire according to certain instructions that appeared at the beginning of the questionnaire that were as follows. The students were asked to answer all questions with precision and great emphasis was placed on the fact that it was anonymous. The questionnaire was to be answered individually and if the students had any questions they could ask the teacher. If they had questions they could just close their questionnaire and the teacher would bring another one that had not been filled out to ensure anonymity. Every questionnaire came with an empty unmarked envelope and the students were told to place the questionnaire there and close it after they finished so the answers could not be traced back to them. It was emphasized to the students that they should not mark their questionnaire in any way, not by name and not by social security number (Pálsdóttir et al., 2011). The students did not receive a credit or get paid in any way for their participation.

Data analysis

In the current study a logistic regression was used for analysis and three models were tested. Before running the models Cronbach's alpha for the variable *monitoring* was assessed to test reliability. Also the dependent variable drinking over a lifetime was divided in two groups those who had never consumed alcohol and

those who had consumed alcohol one time or more often To test significance for each model as a whole an omnibus test was assessed then Cox and Snell's R square and Nagelkerke's adjusted value were used to assess predictability. The first model included all of the participants from 15-20 years old and the five independent variables (see in measures) were run against the dependent variable to see how much each variable predicted in preventing onset of drinking. The second model also used all of the independent variables however only participants from 15-18 years of age were included in the dependent variable. The third model like the previous ones also used all of the independent variables and the dependent variables were only participants that were from 18-20 years old. Then model two and three were compared to evaluate if there was any difference between predictors before and after 18 years old in preventing onset of drinking.

Results

Out of 1948 participants that answered the question whether they had consumed alcohol 559 had never been drunk or 28.0% and 1389 had been drunk once or more often which was 69.5% of the whole (see table 1).

Table 1

Frequency and Percent of Participants Divided by if They Have Ever Been Drunk or Not

	Frequency	Percent
Never	559	28.0
One time or more often	1389	69.5
Total	1948	97.4

The omnibus test showed that the model as a whole had some predictive capacity in the equation since it is statistically significant ($p < .001$). The model

explained 2.7% (according to Cox and Snell's R square) to 3.8% (according to Nagelkerke's adjusted value) of the variance of the dependent variable, drinking. The *b* coefficient for the predictor *monitoring, alcohol consumption of friends, alcohol consumption of mother* and *sports participation* are significantly different from zero so we can assume that the those predictors are making significant contribution to prediction of the outcome (see table 2).

Table 2

The Beta Values, Significance Value, Odds Ratio and Confidence Interval For All Five Predictors and the Constant

Model 1	B	<i>p</i>	95% CI for Odds Ratio		
			<i>Lower</i>	<i>Odds</i>	<i>Upper</i>
Monitoring	-.107	.002	1.025	1.073	1.123
Alcohol consumption of friends	-1.273	<.001	2.819	3.446	4.213
Alcohol consumption of father	.100	.265	.759	.905	1.079
Alcohol consumption of mother	-.449	<.001	1.243	1.567	1.974
Sport participation	-.177	<.001	1.098	1.193	1.297
Constant	-6.930	<.001			

However the *b* coefficient for the predictor *alcohol consumption of father* was not significant so we can assume that it is not making a significant contribution to the outcome. The value of odds ratio was above 1 for all the predictors that were significant. The value for the predictor *alcohol consumption of friends* increased by $e^{1.273} = 3.45$ in odds so we can say that the odds of the adolescent not drinking are 3.45 times higher for those who have few friends that drink, which was the most increase out of the four predictors. Second most increase in odds was the predictor *alcohol consumption of mother* that increased by $e^{-.449} = 1.57$ so we can say that the odds of

the adolescent not drinking are 1.57 times higher for those who have mothers that do not drink or drink little. The predictor *sports participation* increased by $e^{-.177} = 1.19$ which means that the odds of the adolescent not drinking are 1.19 times higher for those who train often in a sports club and the last predictor *monitoring* increased by $e^{.107} = 1.07$ in odds so the odds of the adolescent not drinking are 1.07 times higher for those who have much monitoring from their parents.

Before the next two models were run the participants were divided into those who were from 15-17 years of age and those who were 18-20 years old. For participants in the younger age group 441 or 40.2% had never consumed alcohol. However, that number had lowered considerably for the older age group and only 118 or 13.1% that had never consumed alcohol (see table 3). For those who had consumed alcohol one time or more often the rate was 629 or 57.3% for the younger age group but than again it had risen to 760 or 84.2% for the older age group.

Table 3

Frequency and Percent of Participants That Have Ever Been Drunk or Not Divided in Two Age Groups, 15-17 Years Old and 18-20 Years Old

15-17 years old	Frequency	Percent
Never	441	40.2
One time or more often	629	57.3
Total	1070	97.5
18-20 years old	Frequency	Percent
Never	118	13.1
One time or more often	760	84.2
Total	878	97.2

The separate models for the age groups showed that the omnibus for both models had some predictive capacity ($p < .001$). However model number two that only included participants from 15-17 years of age explained 3.3% (according to Cox and

Snell's R square) to 4.5% (according to Nagelkerke's adjusted value) of the variance of the dependent variable, drinking. The numbers had dropped for model number three that only included participants from 18-20 years old and explained 0.7% (according to Cox and Snell's R square) to 1.4% (according to Nagelkerke's adjusted value) of the variance of the dependent variable. So it seems that the predicting factors have less effect on alcohol consumption as the participants get older.

Table 4

The beta Values, Significance Value, Odds Ratio and Confidence Interval for All Five Predictors and the Constant for Participants at the Age From 15-17 Years Old

Model 2	B	p	95% CI for Odds Ratio		
			Lower	Odds	Upper
Monitoring	.072	.029	1.007	1.075	1.147
Alcohol consumption of friends	1.305	<.001	2.834	3.686	4.794
Alcohol consumption of father	.002	.985	.795	1.002	1.263
Alcohol consumption of mother	.354	.022	1.052	1.425	1.930
Sport participation	.302	.015	1.060	1.353	1.727
Constant	-6.926	<.001			

As in the previous model all of the predictors except *drinking of father* are making a significant contribution to the outcome for the younger age group (see table 4).

However the third model showed that the predictor *monitoring* had also become non significant alongside *drinking of father* and therefore not making a contribution to the model for the older age group (see table 5).

Table 5

The Beta Values, Significance Value, Odds Ratio and Confidence Interval for All Five Predictors and the Constant for Participants at the Age From 18-20 Years Old

Model 3	B	p	95% CI for Odds Ratio		
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			<i>Lower</i>	<i>Odds</i>	<i>Upper</i>
Monitoring	.021	.567	.950	1.021	1.099
Alcohol consumption of friends	.882	<.001	1.714	2.417	3.408
Alcohol consumption of father	-.189	.175	.630	.828	1.088
Alcohol consumption of mother	.448	.014	1.097	1.565	2.234
Sport participation	.380	.016	1.072	1.462	1.995
Constant	-5.619	<.001			

Comparison of the two age groups showed that there was some difference in what effected delayed alcohol consumption among the younger students and the older students (see figure 1). Most difference was seen in predictability of alcohol consumption among friends where the effects become lower for the older students implicating that friends have less effect on drinking as secondary school students get older. Then monitoring goes from decreasing odds of alcohol consumption of those under from 15-17 years old to not predicting any change in odds for those who were 18-20 years old and therefore monitoring does not seem to effect delay in alcohol consumption for that group. For the older age groups two predictors showed increased odds in delaying alcohol consumption compared to the younger students the predictor drinking of mother and participating in sports.

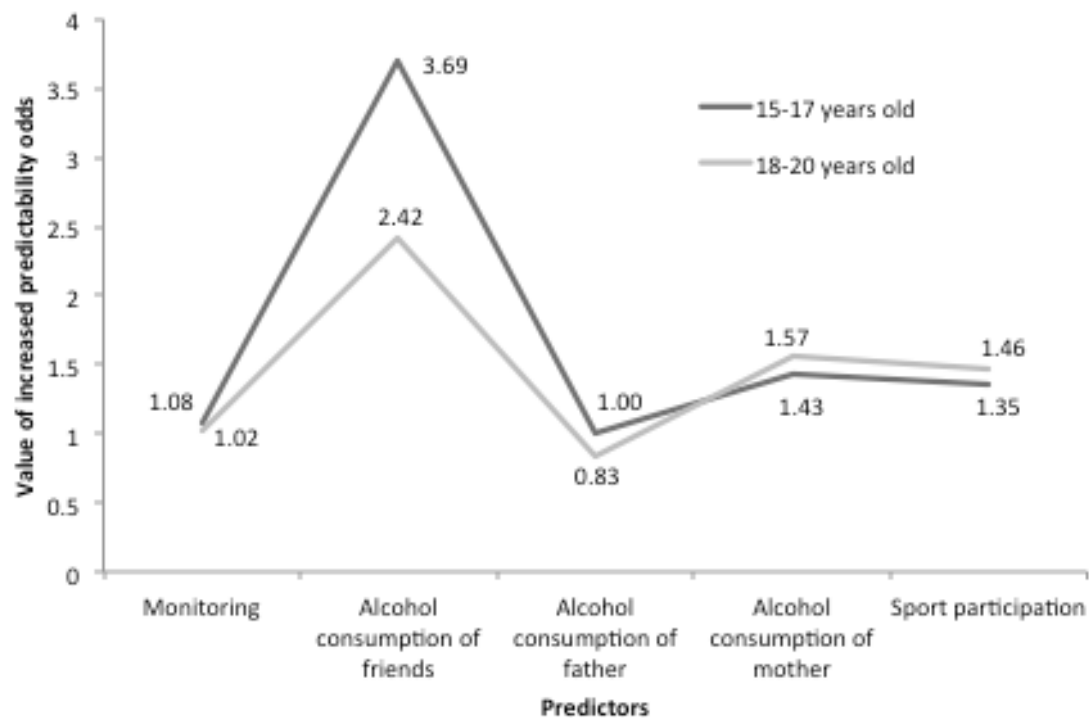


Figure 1. Increase in value of predictability odds for all five predictors in never having consumed alcohol divided between the two age groups, those who were 15-17 years of age and those who were 18-20 years of age.

The main conclusion were that the factors high monitoring, low alcohol consumption of friends, low alcohol consumption of mother and participation in sports can predict delay in alcohol consumption among adolescent student. However drinking of father did not. Also the results found that age can affect how much which factor predicts in delaying alcohol consumption.

Discussion

The original hypothesis was that high monitoring, low alcohol consumption of friends, low alcohol consumption of parents and participation in sports delayed alcohol consumption those hypothesis were supported for the most part. The predictor parents drinking was divided into two; drinking of father and drinking of mother and the hypothesis was that low alcohol consumption of parents, fathers drinking habits included, would lower odds of drinking for adolescent.

However only drinking of mother supported that hypothesis. The other three hypothesis regarding low drinking of friends, high monitoring and high sport participation were all supported and lead to delayed alcohol consumption when all participants were examined.

The fact that alcohol consumption of friends was measured the highest predictor examined was in line with previous study where friends measured to have higher influence than parents on alcohol consumption (Beal et al. 2001). Also influence of peers becomes stronger when adolescents move up to secondary school (Pálsdóttir et al., 2011). Effects of predicting less alcohol consumption did though decrease for the older age group which might be because it was an exception if the adolescent had few or no friends that consumed alcohol at that age. The effects that were detected of friends alcohol consumption on delayed onset of drinking were in correlation with previous findings such as the study with Cruz et. al (2001) that showed that the more friends a teenager has that drinks the more likely he is to start. Although as previously mentioned those teenagers that drink might just be more drawn to others that also drink.

Frequency of how often a mother was drunk perceived by the adolescent was the second highest predictor for the current study and as mentioned above drinking of father was not measured with the same effects. Previous studies on the subject seem to focus more on examining both parents as one and show that parents drinking does effect drinking of their children and there for be in line with measures of only the mothers drinking in the present study (Ryan et al., 2010; Van Der Vorst et al., 2013). However that inconsistency in effects between mother and father did appear in one previous study although the difference was not as much as in the present study, it concluded that fathers drinking did have effects only slightly lower

than of the mother (White et al., 2000). It might be debatable that maybe more of the participants in the study live with only their mother and therefore have more effects on their children. A question regarding living situation of the participants was included in the questionnaire although those information were not available for the present study but it would have been interesting to examine if that influenced the results. Another thing that might explain why the mothers influence is only measured to have effect is that the present study emphasized on those who have never consumed alcohol, so it might be that a mothers drinking just has more effects in delaying onset of alcohol consumption. So these results should be taken with notice because although frequency of fathers drinking did not measure to have effects in delaying onset of drinking it might still be a factor in effects on consumption.

Effects of sport participation in the present study is consistent with most studies on the subject that it serves as a protective factor for alcohol consumption (Bu et al., 2002). Although a few studies are in contrast with the findings such as the study by McCaul (2004) sport activities do most often seem to serve as a protective factor for drinking. There is a question why it has an effect in delaying alcohol consumption. Might there just be less time for those who are involved in sports to start drinking. Although according to Thorlindsson et al. (2006) friends and peers that have started to consume alcohol seem to have less affects on those who engage in sports. So less time for drinking might be one of the reason for delayed consumption for those who engage in sports but other factors like less effects from peer pressure might also seem to be gained from sport participation (Thorlindsson & Bernburg, 2006).

When all of the participants or just those who were 15-17 years old were included in present study the measure monitoring showed predictability in delaying alcohol consumption. That is in correspondence with former studies where monitoring

did lead to less drinking among adolescent (Koning et al., 2011; Ryan et al., 2010). However monitoring was the factor that was measured to have the lowest effects out of the four factors for never having consumed alcohol among the participants and for the older age group it did not predict alcohol consumption. That might be explained by findings of the research of Mrug and McCay (2012) that showed that opinion of peers start to weight more than of their parents as they get older. The variable monitoring consisted of question such as rules and if the parent knew where the teenager spent his evenings. So those results underline the importance of the parent laying down rules for their children and take part in their lives by knowing where and with whom they spend their time. Although these effects seem to become less after the adolescent becomes 18 years old. Which is in correspondence with the fact that legal age is reached at 18 years old and parents do not have as much control in the adolescents life.

The present study was not without limitations such as the main group that was being focused on, those who had never consumed alcohol, were only 559 compared to 1389 compared to those who had consumed alcohol. However when the participants were divided into the two age groups, the ratio between those who had consumed alcohol and those who had not was more even for the age group 15-17 years old. Another thing was the question regarding alcohol consumption could be skewed because some of the participants might feel uncomfortable saying that they had consumed alcohol if their parents were to find out even though the questionnaire is anonymous. In addition, examining interaction effects of age in relation with the variables could have helped to understand better predictors of alcohol consumption. Nonetheless the study is an addition to further understanding of factors that effect alcohol consumption for students in secondary schools. Strengths of this study were

how big the sample size was and the questionnaire was distributed to all of the population.

In conclusion it seems clear that there are factors that can delay alcohol consumption and based on the present study friends have the most effects. For future studies it would be interesting to further research the same topic in a longitudinal study and include adolescents that are not in school. Also add other factors to research such as other leisure activities than sports and study the role of self-esteem on onset of drinking.

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Appendix

1. „Hvaða ár ert þú fædd(ur)?” (Question 2 in the questionnaire)

☐ 1996 ☐ 1990☐ 1995 ☐ 1989☐ 1994 ☐ 1988☐ 1993 ☐ 1987☐ 1992 ☐ 1986☐ 1991 ☐ annað, árið 19 _____

2. „Hversu vel eiga eftirfarandi fullyrðingar við um þig?” (Question 29 in the questionnaire)

Svarmöguleikar: Á mjög illa við um mig, á frekar illa við um mig, á frekar vel við um mig, á mjög vel við um mig, spurning á ekki við

- a) Foreldrar mínir setja ákveðnar reglur um hvað ég megí gera utan heimilis
- b) Foreldrar mínir setja ákveðnar reglur um hvenær ég á að vera komin(n) heim á kvöldin
- c) Foreldrar mínir fylgjast með því með hverjum ég er á kvöldin
- d) Foreldrar mínir fylgjast með því hvar ég er á kvöldin
- e) Foreldrar mínir þekkja vini/vinkonur mína(r)
- f) Foreldrar mínir þekkja foreldra vina/vinkvenna minna

3. „Hversu margir af vinum þínur heldur þú að geri eftirfarandi?” (Question 38 in the questionnaire)

Svarmöguleikar: Engir, fáir, nokkrir, flestir, allir

- b) Drekkja áfengi (bjór, léttvín, eða sterkt áfengi)

4. „Hve oft hefur þú orðið drukkin(n)? (Question 63 in the questionnaire)

Svarmöguleikar: Aldrei, 1-2 sinnum, 3-5 sinnum, 6-9 sinnum, 10-19 sinnum, 20-39 sinnum, 40 sinnum eða oftar

a) Um ævina

5. „Hefur þú séð foreldra þína ölvaða? (Question 73 in the questionnaire)

Svarmöguleikar: Nei, aldrei; já, en mjög sjaldan; já, stundum; já, oft; já, mjög oft

a) Föður

b) Móður

6. „Spurningar um íþróttir og líkamsrækt.” (Question 102 in the questionnaire)

Svarmöguleikar: Nær aldrei, 1 sinni í viku, 2 sinni í viku, 3 sinni í viku, 4-6 sinni í viku, svo til á hverjum degi

c) Hve oft stundar þú íþróttir (æfir eða keppir) með íþróttafélagi?