



Report on youth exposure to alcohol commercials on television in Europe:

Volume of youth exposure in Denmark

Results of monitoring televised alcohol commercials in Denmark in 2010

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Summary

I) Background

The past few years, the evidence base has grown stronger that exposure to not only content, but especially large *volumes* of alcohol advertising has an (undesirable) impact on the drinking behaviour of youngsters. These effects of alcohol advertising have been found on the *long term* (longitudinal studies; see Anderson et al., 2009 and Smith & Foxcroft, 2009 for reviews) as well as on the *short term* (experimental studies, see e.g. Engels et al., 2009; Koordeman et al., 2011a; 2011b; 2011c).

This report has been written for the “Alcohol Marketing Monitoring Project in Europe” (AMMIE). The AMMIE project was started in 2009 as alcohol marketing was not yet monitored systematically and independent from commercial interest in most of the European Member States although the topic is an important one in the EU Alcohol Strategy. Within the AMMIE project, NGOs from five EU countries (Bulgaria, Denmark, Germany, Italy and the Netherlands) have monitored alcohol marketing following a method developed by the Dutch institute for alcohol policy. The results of this project will give insight in the overall presence of alcohol marketing in the five countries and describe the content and the amount of alcohol advertising, with special attention to the opinion and exposure of young people. Furthermore, the project will describe the functioning of the alcohol marketing regulation systems; this will lead to recommendations to improve the regulatory system in order to protect young people against the harmful influence of alcohol advertising.

The present report focuses on the exposure of underage youth to alcohol advertising on television in Denmark in 2010.

At the moment, Denmark has one regulation that restricts the volume of alcohol advertising: a self-regulatory or voluntary Advertising Code for Alcoholic Beverages that states that alcohol advertising is not allowed to reach an audience consisting of more than 30 % minors (below age 18). The restriction was introduced November 2010.

II) Method

Via Nielsen Media data on alcohol commercials were bought (. The data concerned the Top 3 TV channels watched most by children aged 13 – 17 and that were allowed to broadcast alcohol advertisements. Data covered the months May and October 2010. Based on this selection several analyses were run, e.g. on the characteristics of the data, the exposure of certain age groups, the adherence to the 30% threshold from the self-regulatory Code for Alcoholic Beverages and finally the possible effects of the implementation of a stricter (self-regulatory) percentage threshold or the implementation of a watershed.

The analyses performed by all AMMIE countries followed a specially developed protocol and all analyses and results were double checked by the Dutch Institute for Alcohol Policy and the Johns Hopkins Bloomberg School of Public Health in the United States. Below, the findings of these analyses are summarized.

III) Results

Characteristics

A total of 2.318 alcohol commercials were broadcasted in May and October 2010 on the Top 3 TV channels most watched by 13-17 year olds. Most advertising occurred in May (N = 1.353). The favorite day in May for alcohol advertising appears to be Tuesday. In October the advertising was spread out on every day of the week. Of the advertising in the registered time slot (between 21.00-2.00h) the largest amounts were advertised before 24.00h. The majority (42,4%) of Danish alcohol commercials are for spirits, followed by beer (28,2%). Less advertising was found for sweet beverages (20,6%) and wine (8,8%). A total of 12 different producers of alcoholic beverages were active in May and October. Together they advertised for 20 different brands. Most commercials were broadcasted by Diageo Denmark (N = 788; 33,9% of the total number of ads registered).

Exposure to alcohol advertising

Taken together, the data on the exposure to alcohol advertising on television on the Top 3 channels in May and October 2010 reveals that 91% of all advertising was seen by adults (18+), whereas minors (3-17) saw 6,5% of all advertising. Of all alcohol advertising impressions seen by minors, 32% was seen by the youngest age group (3-12) and 68% was seen by the 'older' minors (13-17). On average, most alcohol ads were seen by adults of 34 years and older (on average 34 alcohol commercials per person), followed by young adults (18-33) who saw on average 33 alcohol ads per person. A child aged 3-12 saw on average 13 alcohol commercials, while the 'at risk' group of 13-17 (just starting to drink), saw on average 22 alcohol commercials per youngster.

The average number of 22 ads seen by youngsters aged 13-17 is just in between the average 33 ads seen by the young adults (aged 18-33) than to the average of 13 ads seen by the youngest children (aged 3-12).

There was little evidence for youth overexposure in general. The GRP ratios of 0,65 resp. 0,65 indicate that 13-17 year olds are not relatively more exposed to alcohol advertising, per capita, compared to adults (18+) resp. young adults (18-33). Still, in almost one third of the 2.318 alcohol commercials youth aged 13-17 turned out to be relatively overexposed compared with adults (29% overexposure compared with adults (18+) and 24% overexposure compared with young adults (18-33)).

There were no evident indications that specific types of beverages were overexposing youth. The GRP ratios for beer, wine, sweet beverages and spirits were below 1, except for spirits 13-17/18+ GRP ratio (1,03). That is, compared with adults, youth are not in general disproportionately exposed to advertising for a certain type of beverage (e.g. sweet alcoholic beverages).

Finally, on the brand level, four out of 18 brands was found to overexpose youth (13-17) relative to adults (18+). The GRP ratio of 7,93 found for Corona beer indicates that youth were seeing eight times more advertising for the beer brand than adults, on a per capita basis.

Self-regulatory 30% threshold

The alcohol advertisers included a so called “30% threshold” in their voluntary codes in order to prevent too much minors from being reached by alcohol advertising. In the Danish 2010 data from May and October 348 violations of this rule were encountered.

Several issues regarding the 30% threshold deserve to be mentioned. First, the 30% standard has been based on the U.S. population, which consists of more minors than the European populations and is therefore not applicable in Europe. Second, the 30% standard still allows large absolute numbers of minors to be reached, while the Code is not being violated. In other words, low percentages, *not* violating the threshold can be much more harmful than (very) high percentages which *are* violating the 30% threshold (but in fact reach low absolute numbers of minors). Third, the 30% standard is not proportional to the ‘at risk’ youth population (aged 13-17) who are starting to drink, are more sensitive to advertising and see more ads.

A ‘proportional’ standard has been recommended by several health organizations, scientists and state attorneys general in the U.S. (see e.g. CAMY, 2005; Jernigan & Ross, 2010; National Research Council and Institute of Medicine, 2004; FTC, 2006). The 30% standard regarding ‘all minors’ allows the alcohol advertisers to relatively overexpose the 13-17 year olds, compared with the 3-12 year olds.

Therefore, a new, more proportional standard of 8% is proposed for Denmark. This is based on the Danish ‘at risk’ population of 13-17 year olds which comprises 7,7% of the total population (CBS, 2010). This new standard is similar to the 15% proportional standard that is being advocated for in the U.S. - which is based on the size of the 12-20 age group on the total U.S. population.

Time bans

In Europe, rather than in the U.S., legal time restrictions on alcohol advertising are possible. A majority of 21 out of 27 EU Member States have time and/or product bans for alcohol advertising on television. Denmark is one of the six not having a time ban. Since it is unclear what might happen with the pattern of broadcasting after a watershed comes into force, it is difficult to do firm ‘predictions’ on the exact effect of a time ban (advertising shifts might occur *after* the time ban). However, the data suggest that by implementing a Danish time ban from 06.00h to at least 23.00h would lead to a relatively large drop in the number of ads seen by youth. If no shift in advertising occurs after 23.00h, the average number of ads seen by the at risk minors aged 13-17 would decrease with 12 – in the selected time period (the total number would drop from roughly 22 to 10). It is questionable whether it would be possible for the advertisers to make up this loss of exposure after 23.00h.

Of course a total ban on alcohol advertising on television would reduce the exposure to zero, being the best protector against youth exposure.

IV) Recommendations

The above mentioned results of the Danish data lead to several recommendations in order to better protect minors against the harmful effects of alcohol advertising. The recommendations are summarized below:

- **Lower the 30% threshold to a proportional standard of 8%.** Since the 30% threshold is based on the composition of the U.S. population rather than the European population, this standard should be lowered to a more 'proportional standard' for the European (or more specifically Dutch) population. Since minors aged 13-17 are at risk for (the initiation of) drinking, are more aware of alcohol advertising and are relatively more exposed to alcohol advertising compared with minors aged 6-11, this new proportional standard should be based on this group (CAMY, 2005; Jernigan & Ross, 2010; National Research Council and Institute of Medicine, 2004; FTC, 2006). For Denmark a proportional standard of 8% rather than 30% is recommended. Assuming that no changes in advertising patterns occur, a proportional standard of 8% would reduce the amount of exposure of 13-17 year olds by roughly 55% (a drop from 22 to 10 ads seen on average). This adjustment of the standard could be implemented in Self-regulation Code.
- **Implement statutory time ban.** Based on the present data, an effective policy measure would be to implement a watershed of 6.00-23.00h. If this shift in advertising occurs, the average number of ads seen by the at risk minors aged 13-17 would decrease from 22 to 6. This represents a drop of approximately 74% in the number of ads seen by 13-17 year olds - assuming that no shifts in advertising occur *after* 23.00h. An advantage of a time ban over a proportional standard is that it is easier to adhere to by the advertisers, because it is clear from what time onwards it is allowed to advertise and between which time frames this is not allowed. It is much harder to estimate which programs (and therefore commercials) will reach an audience consisting of more than 8% minors aged 13-17. Furthermore, a time ban is also easier and less expensive to monitor for third, independent parties.
- **Total ban on alcohol advertising.** Obviously the most protective measure would be to implement an EU wide, total ban on alcohol advertising. This way issues with regard to cross-border advertising (is allowed, despite national bans) and the occurrence of sponsorship of and product placement in television programs can also be restricted more effectively. Given the undesirable impact of alcohol advertising on the drinking behavior on youth, the knowledge that alcohol is a carcinogenic and addictive substance (technically it is a hard drug) and the harm it causes to society, a total ban on advertising for this product will be entirely justified. A total ban can be implemented stepwise, starting with a ban on television and gradually extending the ban to other media as well. Similar stages have been adopted for the ban on tobacco advertising, which led to a total ban in the European Union that was implemented in July, 2005. The WHO European Alcohol Action Plan for 2012-2020 (Draft version, 26 April 2011) mentions a total ban on alcohol advertising as the final of four

progressive steps to limit the impact of alcohol marketing in order to contribute to a reduction in drinking behavior of youngsters.

1. Introduction

The effects of alcohol advertising and marketing on drinking behaviour of young people has been more and more extensively studied over the past few years. The evidence base has grown stronger that especially exposure to large *volumes* of alcohol advertising has an undesirable impact on the drinking behaviour of youngsters. These effects of alcohol advertising on drinking behaviour have been found on the *long term* (longitudinal studies) as well as on the *short term* (experimental studies). Both types of research (findings) will be discussed below, followed by the Dutch regulations with regard to the volume of alcohol advertising. The chapter will conclude with the main questions that we will try to answer in this report.

1.1 Effects of alcohol advertising

1.1.1 Effects of alcohol advertising on the long term

An increasing amount of scientific studies is being conducted on the impact of exposure to alcohol marketing on youth drinking behaviour. Recent longitudinal studies found convincing evidence of a causal relationship between the exposure to alcohol marketing practices and the drinking behaviour of young people (Anderson et al., 2009; Smith & Foxcroft, 2009).

Anderson et al. (2009) reviewed thirteen longitudinal studies, mostly conducted in New Zealand, Australia and the United States, in which a total of over 38.000 youngsters aged 10-21 were followed over time. The studies estimated the exposure to advertising and promotion in various ways, including estimates of the volume exposure of media and advertising, ownership of branded merchandise, recall and receptivity, and expenditures on advertisements. Twelve of the thirteen studies found an impact of exposure to alcohol marketing practices on subsequent alcohol use, including initiation of drinking and heavier drinking amongst existing drinkers. The thirteenth study found an effect on the intention to drink (Pasch et al., 2007). The strength of the impact differed between the studies, but the review showed that there is conclusive evidence that exposure to alcohol marketing is associated with the initiation of alcohol use and with increased drinking among already drinkers.

To illustrate some of the findings of the longitudinal studies, below some examples are provided:

- 12-year olds who are highly exposed to overall alcohol advertising (75th percentile) are 50% more likely to start drinking a year later compared to 12 year olds who are lightly exposed to alcohol advertising (25th percentile). (Longitudinal study, Collins et al., 2007).
- Youngsters who watch 60% more alcohol advertisements on television than average are 44% more likely to have ever used beer, 34% more likely to have ever used wine/hard liquor and 26% more likely to have ever used 3 or more drinks during 1 occasion (longitudinal study, Stacy et al., 2004).

- Exposure to 'in-store beer displays' such as refrigerators and beer displays predicts the age of onset of drinking in non-drinking 13 year olds (longitudinal study, Ellickson et al., 2005).
- Every additional alcohol advertisement seen by youngsters increases the alcohol consumption with 1% (longitudinal study, Snyder et al., 2006).
- Youngsters who are highly exposed to alcohol commercials will drink more alcohol when they are in their twenties. However, the alcohol consumption stabilizes for youngsters who have been lightly exposed to alcohol commercials (longitudinal study, Snyder et al., 2006).
- Possession of a 'promotional item' such as caps, t-shirts or posters of an alcohol producer is a strong predictor of both drinking intention as well as alcohol consumption of 12-year olds (longitudinal study, Collins et al., 2007).
- Non-drinking 12 year olds who possess a promotional item of an alcohol producer or would like to have one, have a 77% higher chance of drinking one year later compared to children who are not sensitive to alcohol marketing (do not possess a promotional item and do not have a favorite alcohol brand) (longitudinal study Henriksen et al., 2008).
- Controlling for a broad range of confounding variables, it was shown that both the possession of a promotional item as well as an attitudinal susceptibility towards alcohol, predict the age of onset of drinking amongst 10-14 year olds. Also binge drinking could be predicted by these two variables. As such, alcohol branded merchandise ownership becomes a causal factor in the initiation of (binge) drinking (longitudinal study, McClure et al., 2009).

1.1.2 Effects of alcohol advertising on the short term

Besides the above mentioned longitudinal studies that consistently find effects of exposure to alcohol marketing on drinking behaviour on the longer term, several experimental (lab) studies have been conducted that show the effect of alcohol advertising on drinking behaviour on the *short term*. In these studies, conducted at the Radboud University of Nijmegen in The Netherlands, several direct effects of exposure to alcohol cues in movies and alcohol commercials were found on the drinking behaviour of adolescents. Typically, in these kinds of studies adolescents in their early twenties are invited to the lab in pairs to watch a movie. They have free access to a fridge with beer, wine and sodas. The participants watch a movie interrupted by commercial breaks and do not know that their alcohol use and 'sipping behaviour' are being registered as main dependent variables.

The findings of these type of studies indicate that seeing alcohol cues on the screen (either in movies or in commercials) directly influences the actual drinking behaviour (Engels et al., 2009). It is hypothesized that this has to do with the more or less unconscious process of imitation of what is seen on the screen: if the main character in a movie is portrayed drinking alcohol, the participant unconsciously 'imitates' this behaviour and takes a sip as well (Koordeman et al., 2011c). This behaviour might very well be influenced by so called 'mirror neurons' in the brain. The effects seem to be stronger in men – who usually drink more in the first place (Koordeman et al., 2011a; 2011c) and in heavier drinkers (Koordeman et al., 2011b).

Some examples of short term effects of exposure to alcohol (advertising) on drinking behaviour, found in experimental studies:

- Young men who watch a movie in which a lot of alcohol is displayed ('American Pie 2'), interrupted by commercial breaks with alcohol advertising drink twice as much alcohol during this period compared to men who see a more 'neutral' movie ('40 days and 40 nights') interrupted by neutral commercial breaks (Engels et al., 2009). This sipping behaviour seems to occur relatively 'unconsciously' (an imitation effect).
- Young men who watch the original 'alcohol' version of the movie 'What happens in Vegas', drink almost twice as much alcohol as men who watch a 'censored' version of the same movie, in which the alcohol slots had been removed (Koordeman et al., 2011a). For women, no significant effect was found. Subsequent analysis on the 'sipping behaviour' revealed that exposure to actors who were sipping in the movie, had an immediate impact on the drinking behaviour of the (male) viewers, through the mechanism of imitation (Koordeman et al., 2011c).
- Regular alcohol users (> 7 glasses per week) drink 2,5 times more alcohol in the cinema after having seen several alcohol commercials preceding the movie ('Watchmen') compared with regular alcohol users who saw several neutral commercials (Koordeman et al., 2011b). This effect was not found for the participants with a relatively low alcohol use (< 7 glasses per week).

1.1.3 Wide support

Taken together, both longitudinal studies (long term effects) as well as experimental studies (short term effects) indicate that exposure to the *amount/volume* of alcohol advertising and marketing influences youth drinking behaviour. This conclusion is supported by various scientists in this field such as associate professor David Jernigan (2008) and Professor Peter Anderson (2009). It has also been confirmed by a review of Smith and Foxcroft (2009) and by the Science Group of the Alcohol and Health Forum of the European Commission (2009).

1.1.4 The AMMIE project

The AMMIE project (Alcohol Marketing Monitoring in Europe) started in 2009. Although alcohol marketing is an important topic within the EU Alcohol Strategy (Commission of the European Communities, 2006), it was not yet monitored systematically and independent from commercial interests in most of the European Member States. Within the AMMIE project, NGOs from five EU countries (Bulgaria, Denmark, Germany, Italy and the Netherlands) monitored alcohol advertising practices and marketing activities in 2010. During the project a systematic monitoring 'tool' was developed following a method that has been used by the Dutch Institute for Alcohol Policy (STAP) for several years. Furthermore, the AMMIE project aims to investigate the effectiveness of the alcohol marketing regulation systems.

The results of the AMMIE project give insight into the overall presence of alcohol marketing in the five countries and describe the content and the amount of alcohol advertising. Special attention is given to the opinion of young people about the attractiveness of alcohol advertising practices and the amount of exposure to alcohol advertising. Each participating country delivered four country reports which concerned the following topics:

- Complaints filed on alcohol advertising and the opinion of young people versus the Advertising Code Committee on these advertising practices ([“Complaints on alcohol marketing: report on complaints and the complaint system of alcohol marketing”](#));
- The volume of alcohol advertising on television and exposure of minors ([“Report on youth exposure to alcohol commercials on television in Europe”](#));
- Sport sponsorship by alcohol producers ([“Alcohol related sports sponsorship: report on sport sponsorship by alcohol producers](#)) and
- Trends and innovations with regard to alcohol marketing ([“Trends in alcohol advertising: report on trends and innovations in alcohol marketing”](#)).

- In addition, a European report was written on the topic of Complaints ([“To appeal or not to appeal: testing self regulation of alcohol advertising”](#)) in which the data of the five countries on these topics were combined.

- A final report was written to summarize the conclusions and recommendations evolving from the AMMIE project. Commercial promotion of drinking in Europe ([“Key findings of independent monitoring of alcohol marketing in five European countries”](#)).

The results of comprehensive monitoring will allow the European Commission and the Member States of the European Union to improve the existing regulation of alcohol marketing in order to better protect young people against its proven harmful influence.

1.2 Danish regulations of alcohol advertising

1.2.1 Statutory regulation

In Denmark there are one non-statutory regulation (the self-regulation) and two statutory regulations which all restrict the content of alcohol marketing (the Marketing Law and the Radio and TV Law). In this AMMIE context the self-regulation is the most relevant regulation, and the regulation primarily applied to alcohol advertisement. It is in fact a requirement for the Committee to take up a case, that it can be defined as alcohol marketing. This report will also include the Marketing law, since we every now and again complaints are filed here, that is mostly complaints like about Youth Travel Agencies which are not directly alcohol marketing, since no alcohol brand is promoted, but nevertheless promotes alcohol via pub crawls and the like. The Radio and TV law applies only - as the name indicates – to marketing in the television or on the radio. Alcohol advertisement in the radio was not included in the AMMIE project, but television certainly was. Nevertheless the decision was made to

direct the complaints primarily to the self-regulation code for three reasons. Firstly this is our standard procedure to make complaints here. Secondly by doing this the result will be more consistent. Thirdly the process of the Radio and TV Board, when treating complaints is very lengthy.

1.2.3 Self-regulation Code and volume

The code was changed in the November 2010 on the occasion of the 10 years anniversary of the Alcohol Marketing Committee. In the following the changes will be revealed. The changes are called a revision by the Alcohol Marketing Committee, which also states that: *“The Committees’ previous practise is going to be codified and that the code in this way is brought in accordance with the European code on self-regulation issued by the Commission“*

By changing the code a volume restriction came into action. Under the section ‘Children and youth’ it is stated: “Marketing must in addition never take place in media where more than 30% of the audience are or with reasonably are assessed to be children and young people.” – a 30% threshold. But the term ‘children and youth’ is not defined and it’s not clear who has the burden of proof.

1.2.4 Content versus volume

Although the *content* of an ad influences the degree of attractiveness for youngsters (e.g. the use of humor, animals and celebrities has been judged as attractive, while purchase intentions decrease after seeing ads that mainly focus on product characteristics; Chen et al., 2005), the *volume or amount* of alcohol advertising that reaches minors is of an even bigger importance in influencing drinking behaviour (Anderson et al., 2009).

The ELSA project already revealed in 2007 that volume restrictions on alcohol advertising are mostly embedded in (national) statutory regulations, while content restrictions are mostly found in non-statutory regulations or self regulatory codes, that are created by the alcohol advertisers themselves (see ELSA, ‘Report on Regulation’).

1.3 This report

Because of the importance of the volume (amount) of alcohol advertising, the present AMMIE report focuses on this topic. In another AMMIE report ([“To appeal or not to appeal: testing self regulation of alcohol advertising”](#)) issues with regard to the content of alcohol advertising are discussed.

Since the majority of the alcohol marketing expenditures on ‘traditional’ media (e.g. radio, TV, print, outdoor and cinema) are still on the medium television, the data for the present report concern alcohol commercials broadcasted on television.

With the data, we will try to give an answer to the following questions:

1. What are the characteristics of the advertisements broadcasted in May and October 2010?

2. How many exposures to alcohol advertising occurred in May and October 2010?
3. How much exposure do different age groups have to alcohol advertisements?
4. Which brands are generating the greatest youth (over)exposure?
5. Can the presently term “30% threshold” protect large numbers of minors from being exposed to alcohol advertising?
6. What would an alternative, more ‘proportional’ and protective threshold look like?
7. What could be the possible effect of different time bans on television with respect to the exposure of minors?

2. Method

For the five European countries participating in the AMMIE project, similar television data were bought via The Nielsen Company (in The Netherlands). This report will only focus on the Danish data, but the method used is similar for all countries.

2.1 Data

The data that were bought comprised the following elements:

- Data from the Top 3 TV channels watched most by children aged 13 - 17 that were allowed to broadcast alcohol advertisements;
- Several possible time slots in the months May and October 2010;
- The variables delivered per alcohol commercial were: date, weekday, channel, time of broadcasting of the spot, duration of the spot, the TV program, name advertiser and product/brand;
- With regard to the reach of certain audience groups, data on the following age groups were provided: the total number of viewers that was reached in Denmark this is 3 years and older; 3+), the number of children aged 3 -17 watching (3 -17), the number of children aged 3 -12 watching (3-12), the number of people between the age of 13 - 17 watching (13 – 17), the number of people the age of 18 and older (18+), the number of people between the age of 18 - 33 (18-33) and the number of people of 34 and older watching (34+).

Some notes to the Danish data:

- In Denmark television viewing behaviour is registered from as early as the age of 3 years. In the other AMMIE countries this age is 4 years (Italy, Bulgaria and Germany) and 6 years (The Netherland).
- In 2010 2318 alcohol commercials were being broadcasted in Denmark on a total of 3 TV channels (according to registration Nielsen) and on at least 13 out of 19 (according to the registration of SKO). The selection of Top 3 channels watched most by 13-17 year olds will therefore always give a large *underestimation* on the total number of exposures to alcohol advertising that took place. It is important to keep this restriction in the data in mind.

TV Universe versus census data

In the report we will sometimes refer to the so called 'TV population' or 'TV universe'. This implies the total number of possible viewers (aged 3 years and older) since they are in the possession of a television. The TV universe has been used in most analyses as the 'reference group' since the data are based on television viewing behaviour. Denmark received one estimation of the TV universe from Nielsen (May 2010). The size of the TV universe is usually somewhat smaller than the number abstracted from the 'Statistics Denmark', July 2010.

In Table 1 the size of both the TV universe as well as the census data have been provided, including the distribution over all relevant age groups

Table 1. Size and distribution of the TV population and the Danish population

Age Group	TV Population (N)*	Percentage	Danish population (N) (Statistics DK)**	Percentage
3+	5.340.000	100,0%	5.348.490	100,0%
3-17	1.081.000	20,2%	1.017.963	19,0%
3-12	669.000	12,5%	662.660	12,4%
13-17	412.000	7,7%	355.303	6,6%
18+	4.259.000	79,8%	4.330.527	81,0%
18-33	991.000	18,6%	1.050.313	19,6%
34+	3.268.000	61,2%	3.280.214	61,3%

*Source: Nielsen Media.

** Data retrieved from 'Statistikbanken', July 2010, Statistics Denmark

2.2 AMMIE Volume Protocol

While analyzing and working with the data all AMMIE partners followed a specially developed Volume Protocol, written by the Dutch Institute for Alcohol Policy (STAP) (Van den Broeck & Van den Wildenberg, 2011). STAP provided the main variables for all partners e.g. ID number per alcohol commercial, absolute number of viewers reached by an ad, Gross Rating Points or GRPs (which give insight into the number of viewers reached within a certain age group), % Program (which gives insight into the distribution of the age of the viewers of a certain program) and the TV universe. The final few variables were created for all relevant age groups mentioned above. Data for 3+, 3-17, 3-12, 13-17, 18+, 18-33 and 34+ were provided by Nielsen. The country coordinators filled out the remaining variables that were needed for the calculations on the characteristics. An examples is the variable 'product category' in which it was defined whether a certain ad was advertising for e.g. beer, wine, sweet mix drinks, spirits or alcohol free beverages. The majority of the analyses were performed in Excel 2007; some additional analyses took place in SPSS 17.0.

In developing the protocol STAP was advised by associate professor David Jernigan and Craig Ross from the Johns Hopkins Bloomberg School of Public Health who have been working with similar data in the past and can be called experts in this field (see e.g. Jernigan & Ross, 2010).

All data sets and calculations as well as the numbers presented in the final reports were checked by STAP and the Johns Hopkins Bloomberg School of Public Health in order to exclude the risk at errors or typos.

For further details on the methods the reader is referred to the AMMIE Volume protocol (Van den Broeck & Van den Wildenberg, 2011).

3.Results

In this chapter the results of the data analyses will be described. In order to do this, the chapter is divided into four parts that cover the following topics:

- *Characteristics of the data.* What does the alcohol advertising in May and October 2010 look like with respect to the number of ads per hour of the week and per day? What is the distribution by beverage type, producer and brand?
- *Exposure to alcohol advertising.* Are there differences in exposure to alcohol commercials with respect to specific age groups, the type of beverage and certain brands?
- *Thresholds with respect to the reach of minors.* We will test the 30%-threshold originating from the Danish self regulatory code which states that alcohol advertising is not allowed when the audience consists of more than 30% minors. Have any violations of this rule been found?
- *Effect of a watershed.* Finally we will try to get more insight into the possible effects of a (legal) time restriction on alcohol advertising on television. How might a time ban affect the per capita exposure of minors?

3.1 Characteristics of the data

As mentioned in the methods section, the data that were bought comprised the Top 3 channels most often watched by 13-17 year olds in Denmark. In May as well as October 2010 this turned out to be the channels TV2, TV3 and MTV. In May a total of 1.353 alcohol commercials were broadcasted on these three channels. The total number in October was somewhat lower; 965.

3.1.1 Number of ads per day of the week

When we take a closer look at the data it becomes clear that Tuesday is the most popular day of the week in may and Thursday the most unpopular. In October the commercials was spread out on every weekday. (See Figure 1).

**Distribution of alcohol commercials on TV, per day of the week
(3 channels, May & Oct 2010)**

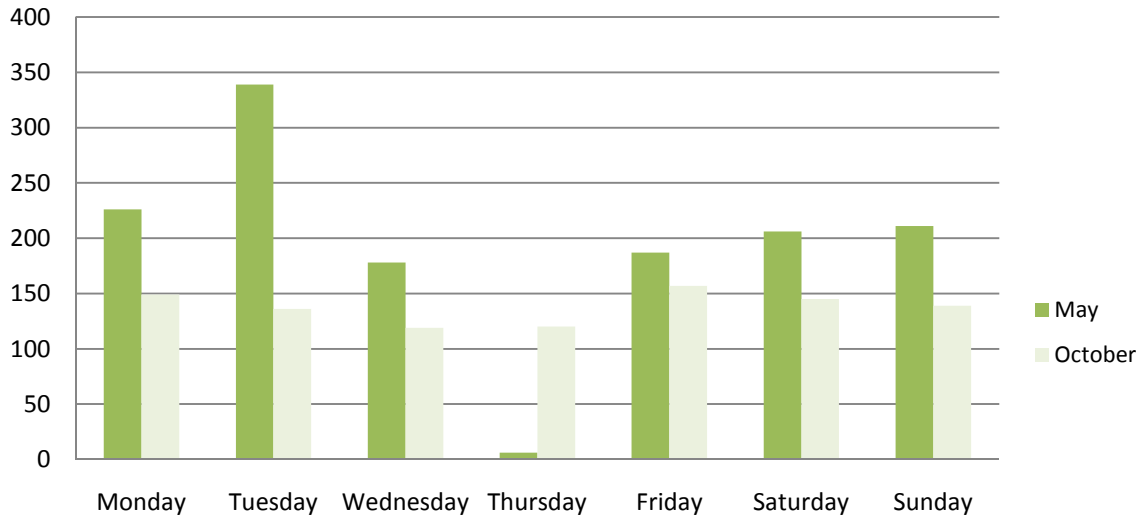


Figure 1 . Note. The number of ads in these two months is based on the Top 3 TV channels most often watched by 13-17 year olds. Therefore, the total number of ads in these months is in fact higher than depicted here. Source: Nielsen Media and SKO 2010.

3.1.2 Number of ads per hour of the day

The occurrence of alcohol commercials is often found to peak within certain hours of the day.

**Distribution of alcohol advertisements per hour of the day in May and Oct
2010
(3 TV channels)**

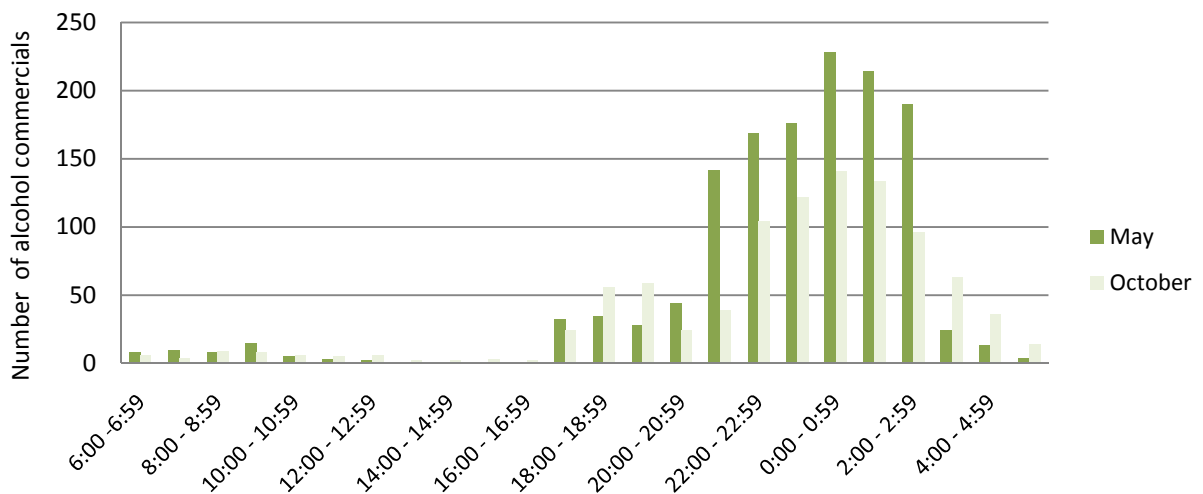


Figure 2 . Note. The number of ads in these two months is based on the Top 3 TV channels most often watched by 13-17 year olds. Therefore, the total number of ads in these months is in fact higher than depicted here. Source: Nielsen Media 2010.

In May 52,9% of the advertising took place between 21.00-00.00. In October a smaller amount of all advertising (42%) took place in these three hours. Even in the middle of the night commercials were being broadcasted. In the hour 2:00-2:59 in May it was 14% and 9,9% in October.

After 1.00 only small amounts of alcohol commercials were broadcasted in both May and October. After 2.00 none alcohol advertisements were registered in these months on the three popular channels.

3.1.3 Number of alcohol ads per product category

The first beverage type for which is advertised substantially is spirits: 42,4% of all ads were for products e.g. rum and vodka. The second beverage for which is advertised substantially is beer: 28,2% and third sweet alcoholic beverages like Cider: 20,6%. Little advertising on television takes place for Wine: 8,8%. Compared with October May is the most popular month for alcohol advertising with beer, Cider and spirits as dominant. In October spirits was in the absolute lead (see Table 2).

Table 2. Number of ads per product category

Product category	May		October		Total May + Oct	
	N	Percentage	N	Percentage	N	Percentage
Beer*	491	36,3%	164	17,0%	655	28,3%
Wine	42	3,1%	163	16,9%	205	8,8%
(Sweet) beverages**	360	26,6%	117	12,1%	477	20,6%
Spirits	460	34,0%	521	54,0%	981	42,3%
Total	1.353	100%	965	100%	2318	100,0%

*In this survey no alcohol free beer was being advertised. **This category comprises: Vermouth, Cider, Alcopops and/or other (sweet) alcoholic beverages < 15%. *Note.* The number of ads in these two months is based on the Top 3 TV channels most often watched by 13-17 year olds. Therefore, the total number of ads in these months is in fact higher than depicted here. Source: Nielsen Media 2010.

3.1.4 Number of ads per alcohol producer and brand

A total of 12 different producers of alcoholic beverages were active in May and October. Together they advertised for 20 different brands. With respect to type of alcoholic brand for which it is being advertised, it becomes clear that in May Tempt Cider (with the alcohol content like beer) 21,4% in number of advertisements, Smirnoff Vodka 16,6% and Corona Beer with 10% was in top three and in October it was Captain Morgan Rum 42,5% and Somersby Cider in second with 12,1% in number of advertisements (see table 3).

Most commercials were broadcasted by Diageo Denmark (N = 788), for two different brands, namely Captain Morgan Rum and Smirnoff Vodka. The commercials for Diageo Denmark covers 33,9% of the total number of commercials. The second largest producer was Royal Unibrew with 342 commercials in total, for the brands Heineken Beer, Royal Beer and Tempt Cider.

Table 3. Number of ads per producer and brand in May and October 2010.

Producer	Total May & Oct		Brand	May		October	
	N	Percentage		N	Percentage	N	Percentage
Allied Domecq Spirits and Wine	48	2,1%	Ballantine whisky.	48	3,6%	0	0%
C%C Int. LTD	14	0,6%	Tullamore Dew Whisky	0	0%	14	1,5%
Carlsberg	300	13,0%	Pilsner	29	2,1%	84	8,7%
			Somersby Cider	70	5,2%	117	12,1%
Corona	201	8,7%	Corona Extra	201	14,9%	0	0%
Cotes Du Rhone	26	1,1%	Cotes Du Rhone	0	0%	26	2,7%
De Danske Spritfabrikker	131	5,7%	Gammel Dansk	52	3,8%	79	8,2%
Diageo Denmark	788	33,9%	Captain Morgan	135	10,0%	410	42,5%
			Smirnoff Vodka	225	16,6%	18	1,9%
Føtex	137	6,0%	Hvidvin	0	0,0%	36	3,7%
			Rødvin	42	3,1%	59	6,1%
Lidl	7	0,3%	Royal Beer	7	0,5%	0	0%
Royal Unibrew	342	14,6%	Heineken Beer	42	3,1%	0	0%
			Royal Beer	0	0%	10	1,0%
Tuborg	282	12,2%	Tempt Cider	290	21,4%	0	0%
			Classic Beer	119	8,8%	50	5,2%
			Grøn Tuborg	3	0,2%	18	1,9%
			Tuborg Lime Cut	90	6,7%	0	0%
			Tuborg Beer	0	0%	2	0,1%
Østjysk Vinforsyning	42	1,8%	Østjysk Vinforsyning	0	0%	42	4,4%
Total	2318	100%		1353	100%	965	100%

Note. The number of ads in these two months is based on the Top 3 TV channels most often watched by 13-17 year olds. Therefore, the total number of ads in these months is in fact higher than depicted here.

Source: Nielsen Media.

3.1.5 Summary characteristics

To sum up, a total of 2.318 alcohol commercials were broadcasted in May and October 2010 on the Top 3 TV channels most watched by 13-17 year olds. Most advertising occurred in May (N = 1.353). The favorite day for alcohol advertising in May appears to be Tuesday. In October commercials were spread out on every weekday. Advertising took actually place on every hour of the day, but primarily between 21.00-3.00h, with 36% being advertised between 21.00-24.00h and 46,7% between 00.00-3.00h. The most frequent (42,4%) of Danish alcohol commercials are for spirits, followed by beer (28,2%) and 20,6% for sweet beverages (Cider). Little advertising was found for wine (8,8%). A total of 11 different producers of alcoholic beverages were active in May and October. Together they advertised for 20 different brands. Most commercials were broadcasted by Diageo Denmark (N = 788; 33,9% of the total number of ads registered). Second came Royal Unibrew, primarily advertising Cider, (N = 342; 14,6%). Carlsberg came third (N = 300; 13%).

Now we have a better view of what the data look like, we will look more into depth at the *exposure* that these alcohol commercials generated.

3.2 Exposure to alcohol advertising

In this section we will look more into detail in the amount of exposure to alcohol advertising, e.g. by different age groups. In order to do this, Gross Rating Points (GRPs) will be used. GRPs are a standard to measure per capita exposure to advertising. GRPs are calculated by dividing the number of exposures to an ad within a certain age group by the total number of possible viewers (television universe) within this same age group.

Gross Rating Points (GRPs) tell us two things:

- The percentage of people in a specific age group that was reached by an ad
- The average number of alcohol ads a person in an age group was exposed to

$$\text{GRPs} = \text{Impressions (no. of exposures)}_d / \text{Population}_d \times 100$$

(d = a specific demographic age group)

Before discussing GRPs and percentage thresholds regarding the exposure of minors, the total amount of exposure to alcohol advertising in May and October 2010 will be discussed.

3.2.1 How much exposure to alcohol advertising occurred in May and Oct 2010?

In Table 4 the total numbers of exposures (impressions) to alcohol advertising are displayed (second column). In total, almost 157 million times someone from the Danish (TV) population aged 3 years or older (3+) was reached by the 2.318 alcohol ads that were aired. It is also shown how these exposures are distributed over the different age groups in Denmark (third column).

Advertising impressions for minors

Minors (3-17) saw 9% of all alcohol commercials (see Table 4). The total number of times a minor was exposed to an alcohol commercial in these months was over 14 million. In other words, 14 million times a minor saw an alcohol ad on television in May and October 2010 (this number is an underestimation because only data of three channels were bought). This number does not mean that 10 million minors were exposed. One person can be exposed several times, while others have not been reached at all. But one can conclude that 10 million times 'a minor saw a commercial'.

Of the 9% of all alcohol advertising impressions that was seen by minors (aged 3-17), 29% were seen by the youngest age group of 3-12 (2,6% / 9,0%, Table 4). The remaining 71% of the impressions reaching minors were seen by the 'older' age group of 13-17.

3.2.2 Differences in exposure per age group

The absolute numbers discussed above are impressive, but do not tell us anything about the 'average number' of alcohol commercials someone from a specific age group was exposed to in May and October. In order to calculate this, GRPs are introduced. GRPs take the size of the different age groups into account, which allows us to say something about the *average* exposure per group.

Average exposure: GRPs

The *total* number of GRPs per age group (Table 4, column 5) are calculated by dividing the total number of exposures (column 2) by the size of the TV population of that particular age group, times 100 (column 4). In order to get to the *average* number of alcohol commercials a person in a specific age group was exposed to (final column), the total number of GRPs is divided by 100 (assuming a 100% reach; Jernigan & Ross 2010).

Table 4. Average exposure per person per age group

Age group	Absolute number of exposures per age group (May & Oct)	Distribution alcohol advertisements	TV population	GRPs*	Average number of exposures per person in the age group (GRP/100)**
3+	157.195.578	100,0%	5.340.000	2.943,74	29,4
3-17	14.176.355	9,0%	1.081.000	1.311,41	13,1
3-12	4.069.781	2,6%	669.000	608,34	6,1
13-17	9.018.418	5,7%	412.000	2.188,90	21,9
18+	142.976.058	91,0%	4.259.000	3.357,00	33,6
18-33	33.141.708	21,1%	991.000	3.344,30	33,4
34+	109.934.350	69,9%	3.268.000	3.360,90	33,6

Note. The number of ads in these two months is based on the Top 3 TV channels most often watched by 13-17 year olds. Therefore, the total number of ads in these months is in fact higher than depicted here.

*GRPs = Gross Rating Points; a standard to measure per capita exposure to advertising. GRPs are the number of exposures within a certain age group divided by the number of possible viewers (television universe) within this same age group * 100.

**Using the simplifying assumption that 100% of the age group was reached with alcohol advertising.

Source: Nielsen Media.

From Table 4 it becomes clear that the subgroups aged 18 and older (18+), aged 18-33 and 34+ saw on average equal number of the advertisements in the months May and October 2010 (~33 exposures). On the three selected channels an adult of 18+ saw on average 33,6 alcohol commercials, aged 18-33 saw 33,4 and 34+ saw 33,6 commercials (final column).

When we look at the underage viewers, the group of 3-17 was reached on average by 13,1 alcohol commercials per person. However, when looking at the difference between the 'younger' minors (3-12) and the 'older' minors (13-17), it becomes clear that the older minors saw much more alcohol ads than the younger ones. The children aged 3-12 saw on average 6,1 alcohol commercials, while the 'at risk' group of 13-17 (just starting to drink), saw on average 21,9 alcohol commercials. This number of 22 ads is just in between the number of ads seen by the young adults (18-33, who saw 33,4 ads) and the number of ads seen by the youngest children (3-12, who saw 6,1 ads).

It should be noted that these average numbers of alcohol commercials that were seen by someone belonging to a certain age group are **underestimations** for two reasons:

- We only analyzed data from the Top 3 TV channels in May and October 2010 most often watched by minors aged 13-17. In 2010 alcohol advertising was being broadcasted on at least 13 out of 19 channels in Denmark.
- We use the simplifying assumption that the reach of alcohol advertising within the selected period was 100%. This is a rather conservative approach, since in practice the reach is never 100% but somewhat lower. In the U.S. e.g. it comes down to approximately 91%. N.B. Using a 100% reach instead of a lower, and more realistic, reach this leads to an *underestimation* of the average number of exposures (e.g. assuming a reach of 90%, minors aged 1-17 would not have been reached by an average of 21,9 commercials, but 24,3).

Youth overexposure: GRP ratios

It is also interesting to compare youth exposure to alcohol advertising relative to the exposure of (young) adults. In these analyses we focus on the 'at risk' group of 13-17 year olds, who are just starting to drink alcohol and are therefore more vulnerable to the effects of alcohol advertising. Jernigan and Ross (2010) also emphasize the importance of paying particular attention to this group of minors, since they are at risk for underage drinking and are exposed to the majority of the alcohol advertising reaching minors (67% in the US and 68% in Denmark, see § 3.2.1 above).

In order to calculate a GRP ratio of possible 'youth overexposure', we divide the total number of GRPs of the 'at risk' group (13-17), by the total number of GRPs of the comparison group (e.g. young adults (18-34) or the entire adult population (18+)). If the ratio equals 1, both minors and (young) adults are exposed to an equal amount of advertising. If the ratio is larger than 1, this means that youth are relatively overexposed to alcohol advertising compared to (young) adults. In Table 5 is shown that both GRP ratios are lower than 1. This is an indication that the 13-17 year olds are not seeing more alcohol advertising per capita compared to adults. Apparently, 13-17 year olds receive 65% of the exposure of adults (18+) and also 65% of the exposure of young adults (18-34).

Table 5. Comparing the exposure of different age groups to alcohol advertisements in May and October

Groups compared	GRP ratio*	Youth overexposure
13-17 / 18+	0,65	29%
13-17 / 18-33	0,65	24%

*GRP ratio = Gross Rating Points ratio: the total number of GRPs for age group 12-17 divided by the total number of GRPs for the age group 18+ resp. 18-34. A GRP ratio > 1 is an indication that youth are being exposed to more advertising per capita than (young) adults. Source: Nielsen Media.

In almost one third of the 2.318 alcohol commercials youth aged 13-17 turned out to be relatively overexposed compared with adults (that is, more minors were reached in relation to the size of the own age group, compared with adults in relation to the size of this age group). In 29% of all commercials being broadcasted relatively more 13-17 year olds were reached compared with adults (18+). This percentage of overexposure was slightly lower when the youngsters were compared with young adults aged 18-33: 24% of the commercials exposed relatively more 13-17 year olds (see Table 5).

3.2.3 Differences in exposure for different types of alcohol

Instead of looking 'globally' at possible youth overexposure by alcohol advertising, we can also investigate whether or not certain types of beverages are reaching relatively more youth compared with adults. From Table 6 we can conclude that this is not the case for the Dutch data. The GRP ratios for neither beer, wine, sweet alcoholic beverages nor spirits are above 1. This is an indication that youth aged 13-17 are not in particular exposed to commercials for a certain type of alcoholic beverage. This is also not the case for the category 'sweet alcoholic beverages', which comprises e.g. vermouth, cider and alcopops.

Table 6. Exposure per product category

Category	GRPs			GRP ratio		Overexposure	
	Age 13-17	Age 18+	Age 18-33	13-17/18+	13-17 / 18-33	13-17 / 18+	13-17 / 18-34
	Beer	894,1	1.566,3	1.381,3	0,57	0,65	24,9%
Wine	227,3	479,6	404,7	0,47	0,56	0,0%	50,0%
(Sweet) beverages**	730,4	984,7	1.101,1	0,74	0,66	32,6%	33,1%
Spirits	337,1	326,4	457,1	1,03	0,74	29,5%	31,1%
Total	2.188,9	3.357,0	3.344,2	0,65	0,65	29,0%	24%

Note. The number of ads in these two months is based on the Top 3 TV channels most often watched by 13-17 year olds (between 21.00-2.00h). Therefore, the total number of ads in these months is in fact higher than depicted here. *This category comprises: Vermouth, Cider, Alcopops and/or other (sweet) alcoholic beverages < 15%. GRPs = Gross Rating Points; a standard to measure per capita exposure to advertising. GRPs are the number of exposures within a certain age group divided by the number of possible viewers (television universe) within this same age group *100. Source: Nielsen Media and SKO, 2010.

The highest GRP ratio was found for spirits (1,03).

For the other three product categories one can see that roughly in a quarter to one third of the cases 12-17 year olds were relatively overexposed compared with older viewers (a higher percentage of minors -within the age group of minors- saw the commercial, compared with adults -within the age group adults).

3.2.4 Differences in exposure for different brands

Besides looking at product category, it is also interesting to look at youth overexposure at the brand level. Are there certain brands that exposure relatively more minors than adults? In Table 7 all 20 brands are provided together with the total number of GRPs per age group and the GRP ratios indicating overexposure (ratio > 1) or not (ratio < 1).

Table 7. Exposure per brand

Brand	GRPs			GRP ratio	
	Age 13-17	Age 18+	Age 18-33	13-17 / 18+	13-17 / 18-33
Ballantine Whisky	6,0	0,9	3,7	6,62	1,64
Captain Morgan Rom	110,8	46,3	95,3	2,39	1,16
Carlsberg Pilsner	206,2	377,4	314,3	0,55	0,66
Corona Øl	56,9	7,2	18,8	7,93	3,03

Cotes Du Rhone	37,6	70,4	59,8	0,53	0,63
Smirnoff Vodka	86,7	32,2	69,8	2,69	1,24
Gammel Dansk Bitter	130,5	241,6	276,9	0,54	0,47
Grøn Tuborg	75,5	131,6	109,1	0,57	0,69
Heineken Øl	45,7	85,0	97,7	0,54	0,47
Hvidvin	62,7	120,4	121,1	0,52	0,52
Rødvin	103,2	198,9	189,3	0,52	0,55
Royal Øl	23,8	28,6	38,4	0,83	0,62
Somersby Cider	385,8	622,2	627,7	0,62	0,61
Tempt Cider	344,6	362,5	473,5	0,95	0,73
Tuborg Classic	289,2	670,2	495,0	0,43	0,58
Tuborg lime Cut	196,8	266,2	307,9	0,74	0,64
Tullamore Dew	3,1	5,4	11,4	0,57	0,27
Østjysk Vinforsyning	23,8	90,0	34,5	0,26	0,69
Total	2.188,9	3.357,0	3.344,3	0,65	0,65

Note. The number of ads in these two months is based on the Top 3 TV channels most often watched by 13-17 year olds (between 21.00-2.00h). Therefore, the total number of ads in these months is in fact higher than depicted here.

GRPs = Gross Rating Points; a standard to measure per capita exposure to advertising. GRPs are the number of exposures within a certain age group divided by the number of possible viewers (television universe) within this same age group *100. Numbers printed in red indicate youth over exposure (GRP ratio > 1).

Source: Nielsen Media and SKO, 2010.

As becomes clear from the data, all brands except for four shows a GRP ratio smaller than 1, indicating that relatively more (young) adults were exposed to the ads than underage youth (12-17). Four brands reached disproportionately more youth compared to adults (18+ and 18-33)): Ballantine Whisky (by Allied Domecq), Captain Morgan Rom and Smirnoff Vodka (by Diageo Denmark) and Corona Øl (beer). As can be seen in the table, the total number of GRPs for Corona Øl amongst the age group 13-17 was 56,9. The number of GRPs for adults (18+) for the same brand was 7,2. The GRP ratio of 7,93 indicate that youth were seeing eight times more advertising for Corona Øl than adults on a per capita basis.

Brands with a relatively low GRP ratio ('over exposing' adults compared with youth) are e.g. Gammel Dansk Bitter (ratio = 0,39), Redwine (ratio = 0,52) and Heineken Øl (ratio = 0,54). Brands with appeal to young women Somersby Cider (0,62) and Tempt Cider (0,95).

3.2.5 Summary exposure data

Taken together, the data on the exposure to alcohol advertising on television in May and October 2010 reveals that 91,0% of all advertising was seen by adults (18+), whereas minors (3-17) saw 9%% of all advertising. Of the 9%% of all alcohol advertising impressions that were seen by minors, 29% were seen by the youngest age group (3-12) and 71% was seen by the 'older' minors (13-17). On average, most alcohol ads were seen by adults of 34 years and older (on average 33,6 alcohol commercials), equal to young adults (18-33) who saw on average 33,4 and adults (18+) who saw on average 33,6 alcohol ads. The children aged 3-12 saw on average 6,1 alcohol commercials, while the 'at risk' group of 13-17 (just starting to drink), saw on average 21,9 alcohol commercials. This number of ads is just in between to the number of ads seen by the young adults (18-33) and the number of ads seen by the youngest children (3-12).

There was little evidence for youth overexposure in general. The same GRP ratios of 0,65 indicate that 13-17 year olds are not relatively more exposed to alcohol advertising compared to adults (18+) resp. young adults (18-34). There were little indications that specific types of beverages were overexposing youth. The GRP ratios for beer, wine, sweet beverages were below 1 but 1,03 for spirits. Finally, on the brand level, four out of 18 brands was found to overexpose youth (13-17) relative to adults (18+). The GRP ratio for Ballantine Whisky (6,62), Corona ØI (7,93), Captain Morgan Rom (2,39) and Smirnoff Vodka (2,69). The GRP ratio of 7,93 found for Corona ØI indicates that youth were seeing almost 8 times more advertising for the beer brand than adults, on a per capita basis.

3.3 Thresholds in exposure to alcohol advertising

Giving the fact that the so-called "30% threshold" from the Self-regulation Code for Alcoholic Beverages came into force just after October 2010 and therefore not in force when making this survey, we will be analyzing the data is to investigate the "30% threshold". In the voluntary code it's not stated who the burden of proof regarding the reach of advertising messages falls on, (see text box below).

Self-regulation Code and volume

The code was changed in the autumn 2010 on the occasion of the 10 years anniversary of the Alcohol Marketing Committee. In the following the changes will be revealed. The changes are called a revision by the Alcohol Marketing Committee, which also states that: *"The Committees' previous practise is going to be codified and that the code in this way is brought in accordance with the European code on self-regulation issued by the Commission"*

By changing the code a volume restriction came into action. Under the section 'Children and youth' it is stated: "Marketing must in addition never take place in media where more than 30% of the audience are or with resonably are assesed to be children and young people." – a 30% threshold.

But the term 'children and youth' is not defined.

In most European countries alcohol advertisers maintain a threshold of 30% (EFRD 2009) This threshold originates from the US, where it has been based on the proportion of minors relative to the

total population. However, in the US, one is underage until the age of 21, rather than 18 as is the case in Europe. Therefore, the proportional standard of 30% that might be applicable to the US (and even this can be called into question, see CAMY, 2005; Jernigan & Ross, 2010), will be by far too high for European countries, simply because our proportion of minors on the total size of the population is much smaller.

3.3.1 Testing the 30% threshold

With respect to the present data, the 30% threshold implies that alcohol commercials broadcasted on TV should not reach a viewers audience consisting of more than 30% minors. In order to examine the adherence to the 30% threshold, it was calculated what the percentage of minor viewers (aged 3-17) was, on the total number of viewers of the particular program (and alcohol commercial that was broadcasted along this program).

In Denmark 348 violations of the 30% threshold were found in the data of May and October. In other words, 348 times an alcohol commercial reached an audience consisting of more than 30% minors aged 3-17¹. On the total of 2.318 alcohol commercials the number of violations represents 15%.

Table 8

Brand	Program	% of viewers aged 3-17	N aged 3-17
Royal Beer	Example 1 – Prime time entertainment program	53,9%	21.583
Somersby	Example 2 -Late night youth program	52,5%	9.984
Tuborg Classic	Example 3- Late night movie	52,8%	9.984
Somersby	Example 4- Late night comedy show	35,5%	12.990
Captain Morgan Rom	Example 5- Late night comedy show	35,2%	5.311

¹ The television data only provide information on the minors aged 6-17 years old, but the 25% threshold is based on “all minors” (0-17). Since the group of 0-5 year olds is missing, the total number of violations will in fact be higher than depicted here.

3.3.2 Percentages versus Absolute numbers

In Denmark the 30%-threshold came into force autumn 2010 and the examples in table 8 and 9 were not violating the national regulation, but although represents the 30%-threshold problem.

In Table 9, some examples of this particular 'problem' are presented.

Table 9. Comparing percentages with absolute numbers

Brand	Program	Day and date	Time	% of viewers aged 3-17	N aged 3-17	GRP 3-17
Tuborg lime Cut	Weekend Vejret	Fri 28-05	21:11h	14,8%	100.700	15,1
Grøn Tuborg	Vild med dans	Fri 22-10	21:20h	7,0%	79.924	11,9
Grøn Tuborg	Bingo Banko	Sat 23-10	21:06h	17,1%	112.749	16,9
Corona	Jersey Shore	Mon 31-05	22:50h	63,0%	4.369	0,7
Corona	Slips	Sun 23-05	22:53h	62,3%	4.734	0,7
Tempt Cider	The Osbournes	Tue 27-05	21:08h	55,4%	2.347	0,4

These are six examples of violations of the 30% threshold that occurred in May and Oct 2010. The total number of violations encountered was 348 (*Note*: Since the data only comprises the Top 3 TV channels most often watched by 13-17 year olds, the total number of violations in these months will probably be higher). Source: Nielsen Media and SKO, 2010.

Percentages in red are violations of the 30%-threshold, percentages in green indicate no violation. Absolute numbers printed in red indicate relatively large amounts of Danish minors reached by the specific alcohol commercial.

The table gives insight into three different issues regarding the 30% threshold:

- Large percentage (> 30%) & low absolute numbers.** From the examples in the last three rows (Table 9), it becomes clear that the seemingly very large violations of the 30% threshold (63%, resp. 62,3% and 55,4%) in fact have –in absolute numbers- not reached many Danish minors at all. At the time of the largest violation of 63% over 4.000 youngsters were being exposed to alcohol advertising for the beer Corona. Apparently, only 7.000 people were watching this program in total, of which a large majority was underage. The small reach is represented as well by low GRPs of the ads of 0,7 and 0,4. This means that only 0,7% resp. 0,4% of *all* minors from the 'TV universe' aged 3-17 in Denmark was watching at the time of broadcast.
- Low percentage (< 30%) and large absolute numbers.** The first three rows (Table 9) make clear that alcohol advertising that does *not* violate the 30% threshold can be most harmful of all. The three rows show alcohol commercials for Tuborg Lime Cut and Grøn Tuborg. The ads were broadcasted along popular programs: "The Weekend Weather forecast", Vild med dans and and a Bingo program. All times, the 30% threshold was not violated (percentages of minors of 14,8% resp. 7,0% and 17,1%). However, when we take a closer look at the absolute numbers, it becomes clear that the Tuborg Lime Cut commercial reached over 100.000 minors. This is 14,8% of all minors aged 3-17 in the Danish television universe (GRP = 15,1). The Grøn Tuborg commercial reached over 112.000 minors. In other words even if the Code being into force and not being violated, many youngsters are allowed to be reached.

In other words, low percentages, *not* violating the threshold can be much more harmful than (very) high percentages which *are* violating the 30% threshold. This has everything to do with the absolute number of minors -compared to adults- that are watching. As long as there are more adults watching

relative to minors, the 30% threshold will not be reached. This way, the 30% rule allows large absolute numbers of minors to be reached by alcohol commercials without the Code is being violated.

3.3.3 A more 'proportional' threshold

As mentioned above, there are several drawbacks to a 30% threshold in relation to the exposure of minors. The percentage has been based on the U.S. population, which consists of more minors than the European populations. Therefore, it will be more protective to adjust the current threshold to a lower standard that corresponds better with the composition of the 'European' (e.g. Danish) population. To which proportional standard should the 30% threshold be adjusted?

Proportional standard: all minors?

According to CAMY (the Center on Alcohol Marketing and Youth) in the U.S. a standard of 30% would provide adequate protection from overexposure in the U.S. if alcohol advertising impressions were evenly distributed among the 2-20 population (because 2- to 20-year olds make up slightly less than 30% of the US population, see CAMY, 2005). However, 12-20 year olds receive more than two thirds of all advertising impressions among 2-20 year olds. Therefore, it makes much more sense, to adjust the standard to the group of minors that is relatively 'overexposed' and runs more risk at underage drinking (CAMY, 2005). The Danish data showed a similar distribution: 13-17 year olds receive about two thirds of all alcohol advertising reaching minors. Therefore, it is very plausible to apply the same way of reasoning for the Danish situation.

Proportional standard: select the 'at risk' youth population

When we select a proportional standard based on the relatively 'higher risk group' of minors, this would be 12-20 in the U.S. and 12-17 in Europe. Children under the age of 12 generally do not drink alcohol, have a low level of awareness of alcohol advertising, and are not being overexposed to alcohol advertising (CAMY, 2005). Protecting the older group of minors will automatically protect the younger viewers as well.

For these reasons the National Research Council and Institute of Medicine in the U.S. have recommended moving towards a 15% threshold in the U.S. (instead of 30%), based on the size of the 12-20 population (National Research Council and Institute of Medicine, 2004). In addition, 20 state attorneys general requested the Federal Trade Commission to discuss this new proportional standard of 15% with the industry (FTC, 2006).

According to data the 'at risk' group aged 13-17 year old comprises approximately 7,7% of the total population (CBS Database). Following the recommendations made by Jernigan and Ross (2010), the National Research Council and Institute of Medicine (2004) and the plea by 20 state attorneys general discussed above, ***the recommendation for the Danish situation would be moving towards a new and more 'proportional' standard of 8% (instead of 30%).***

New, proportional standard for the Netherlands

- US: proportional standard of 15% (instead of 30%) based on proportion of 12-20 year olds is recommended by the National Research Council and Institute of Medicine (2004), 20 state attorneys general (2006) and scientists e.g. Jernigan and Ross (2010).
- Denmark: proportional standard of 8% (instead of 30%) based on proportion of 13-17 year olds on the total Danish population.

Possible effect of a proportional standard of 8%

In case a proportional standard of 8% would have been implemented in The Denmark the total number of GRPs for 13-17 year olds would have roughly decreased from 2.189 (see Table 4) to 1.018, *ceteris paribus*. This estimation implies that a youngster between the age of 13-17 would be exposed on average to 10 alcohol commercials (in two months, on 3 TV channels, between 21.00-2.00h) rather than 22. This represents a drop of approximately 55% in the number of ads seen (assuming that no shifts in advertising occur). Also 3-12 year olds will automatically be exposed to less alcohol advertising and be better protected.

Note. Important to note is that these numbers will only hold if *no shifts* in advertising occur (*ceteris paribus*). In case the alcohol advertisers will e.g. start broadcasting a higher number of alcohol commercials, the 'gain' in GRPs might be less than mentioned above.

Only effect proportional standard of 8%:

Table 10. The possible effect of an 8% proportional standard (including a compensation for lost adult GRPs).

	13-17 GRPs	18+ GRPs	GRP ratio 13-17/18+
Total current GRPs	2.189	3.357	0,65
GRPs left after 8% prop. standard	1.011	2.775	0,36
Change in GRPs	-1.178	-582	
Change in adult exposure needed to nullify time ban		582	
Effect on youth GRPs (times ratio)	212		
GRPs left	1.223	3.357	
Net change in GRPs	-966	0	
Percentual change in GRPs	-44,1%	0%	

Note. GRPs = Gross Rating Points; a standard to measure per capita exposure to advertising. The number of GRPs is based on data from the Top 3 TV channels most often watched by 13-17 year olds, in two months of 2010. Therefore, the total number of GRPs in these months is in fact higher than depicted here. Source: Nielsen Media, 2010.

3.3.4 Summary thresholds

To summarize, the alcohol advertisers included a so called “30% threshold” in their voluntary codes in order to prevent too much minors from being reached by alcohol advertising. In the Danish 2010 data from May and October 348 violations of this rule were encountered (Note: the 30% threshold was not yet into action in May and October 2010). Several issues regarding the 30% threshold deserve to be mentioned. First, the percentage has been based on the U.S. population, which consists of more minors than the European populations. Second, the 30% standard still allows large absolute numbers of minors to be reached, while the Code is not being violated. In other words, low percentages, *not* violating the threshold can be much more harmful than (very) high percentages which *are* violating the 30% threshold (but in fact reach low absolute numbers of minors). Third, the 30% standard is not proportional to the ‘at risk’ youth population (aged 13-17) who are starting to drink, are more sensitive to advertising and see more ads. A ‘proportional’ standard has been recommended by several health organizations, scientists and state attorneys general in the U.S.. The 30% standard regarding ‘all minors’ allows the alcohol advertisers to relatively overexpose the 13-17 year olds, compared with the 3-12 year olds.

Therefore, a new, more proportional standard of 8% is proposed for Denmark. This is based on the Danish ‘at risk’ population of 13-17 year olds which comprises 7,7% of the total population (Statistics Denmark, 2010). This new standard is similar to the 15% proportional standard that is being advocated for in the U.S. - which is based on the size of the 12-20 age groups on the total U.S. population.

3.4 Possible effects of a time ban on exposure to alcohol advertising

Due to the ‘prohibition on infringing on the freedom of speech’ as regulated by the First Amendment to the U.S. Constitution, it is difficult in the United States to regulate the volume of alcohol advertising by law. Therefore, in the U.S. a lot of attention is being paid to achieving reductions in youth exposure to alcohol advertising by ‘voluntarily’ lowering the industry standard from 30% to a more proportional standard of 15% (as discussed above). This has thus far not been achieved yet (the U.S. standard used to be a fairly meaningless 50% and was lowered in 2003 to a more proportional 30%, see CAMY, 2005).

However, in Europe other legislation prevails, which makes it possible to legally restrict alcohol advertising. An overview of time bans on television, made by the Dutch Institute for Alcohol Policy (STAP, 2009), reveals that a large majority of EU countries has implemented a legal watershed on alcohol advertising. A total of 21 out of 27 EU Member States has a partial or complete ban on alcohol advertising on television (e.g. time and/or product bans). Only six countries have no alcohol marketing restrictions on TV at all: Cyprus, Czech Republic, Denmark, Germany, Greece and Luxembourg.

See Appendix 3 for an overview of television time bans in all EU-27 Member States.

3.4.1 Gain in GRPs within a time restriction

With the present data we can also try to estimate what the 'gain' in GRPs would be if a certain time ban would come into force. That is, it was estimated for age groups 3+ and 13-17 what the 'gain' in GRPs would be if a certain time ban would come into effect. Denmark has no time ban into action and is not being discussed. If Denmark got a time ban like The Netherlands, which now has a time ban from 6.00-21.00h the minors aged 13-17 would have received 715 less GRPs (-37%) *within* this time restriction. That is, they would be exposed on average to 7 alcohol commercials less. If this time ban would be extended to e.g. 23.00h the minors aged 13-17 would have received 1.617 less GRPs (-74%), *within* this time restriction. That is, they would be exposed on average to 16 alcohol commercials less. The total number would drop from roughly 22 to 6. This represents a drop of approximately 74% in the number of ads seen (assuming that no shifts in advertising occur).

Note. Obviously, it is unclear what will happen to the number of GRPs *after* the time ban. The given protective effect of these time bans can only occur if no substitution effects arise after the implementation. When shifts in the broadcasting time of alcohol advertisements occur after a ban is implemented (e.g. all advertising from before the time ban shifts to after the time ban) the calculated profits in terms of youth exposure, of course will not be applicable. Therefore, we can only do rough estimations on the possible effects that are gained *within* the watershed.

Shifts in advertising

It is highly likely that shifts in alcohol advertising will occur if a time ban is introduced in Denmark. As an example we can refer to the recent situation in The Netherlands. The watershed of 6.00-21.00 resulted in a shift of the broadcasting of alcohol commercials on television. All commercials that were usually broadcasted before 21.00 are now being broadcasted after 21.00h and even more (Nielsen Media, 2010; STAP, 2011). Compared with 2008, when the time ban was not in place yet, in 2010 the number of alcohol commercials after 21.00 has more than tripled. The data revealed that after 21.00h more youngsters are now being reached by more alcohol commercials than before the time ban came into force. Before 21.00h children do not see any alcohol commercials anymore (but sponsoring of programs is still allowed and made use of frequently).

3.4.3 Summary time bans

To summarize, in Europe, rather than in the U.S., legal time restrictions on alcohol advertising are possible. A majority of 21 out of 27 EU Member States has time or product bans for alcohol advertising on television. Since it is unclear what might happen with the pattern of broadcasting after a watershed comes into force, it is difficult to do firm 'predictions' on the exact effect of a time ban. However, the data above seem to suggest that implementing a Danish time ban from 06.00h to at least 23.00h would lead to a relatively large 'gain' of GRPs within the watershed. If no shift in advertising occurs, the average number of ads seen by the at risk minors aged 13-17 would decrease with roughly 16 (the

total number would drop from 22 to 6). It is questionable whether it would be possible for the advertisers to make up a loss of 1.617 GRPs (no time ban) after 23.00h.

3.5 Combination of proportional standard and time ban

Finally, it is interesting to calculate what the possible effect of a combination of both policies could be. In Table 11 (final columns) the effect of a proportional standard of 8% in combination with different time bans is shown (see Appendix 5 for the specific calculations). Again, also in this analysis the assumption was that the advertisers can and will at least nullify the effect of the policy (compensate the number of adult GRPs lost).

Not unexpectedly, the results reveal that combining the 8% proportional standard with a time ban is more protective than applying both measures separately. Extending the watershed from 21.00h till 01.00h in combination with a 8% standard would reduce youth exposure with 49.6%, while the per capita adult exposure remains the same (see Table 11).

Table 11 . Change in 13-17 GRPs after 3 different policies (proportional standard of 8%, time bans, and combination of standard and bans)

Current GRPs			Proportional standard 8%		Different time bans			Prop. standard + time bans	
Hour	13-17	18+	Change 13-17 GRPs	%	Time ban until	Change 13-17 GRPs	%	Change 13-17 GRPs	%
< 21	356	738			21h	160	7,3%	-970	-44,3%
21-22	265	421			22h	206	9,4%	-1.080	-49,3%
22-23	282	219			23h	-7	-0,3%	-1.084	-49,5%
23-24	131	145			24h	-73	-3,3%	-1.088	-49,7%
24-01	102	67			01h	-187	-8,5%	-1.086	-49,6%
01-02	53	35							
> 02	1.000	1.731							
Total	2.189	3.357	-966	-44,1%					

Note: GRPs = Gross Rating Points; a standard to measure per capita exposure to advertising. The number of GRPs is based on data from the Top 3 TV channels most often watched by 13-17 year olds, in two months of 2010. Therefore, the total number of GRPs in these months is in fact higher than depicted here. See Appendix 4 and 5 for the specifications of the effects of the final two policies (different time bans and the combination between an 8% proportional standard and different time bans). Source: Nielsen Media, 2010.

The reductions in exposure of 13-17 year olds (13-17 GRPs) as a result of the three different policies have been graphically represented in Figure 3.

% Reduction in exposure to alcohol advertising for 13-17 year olds (13-17 GRPs) with three different policies (after compensating the loss of adult GRPs)

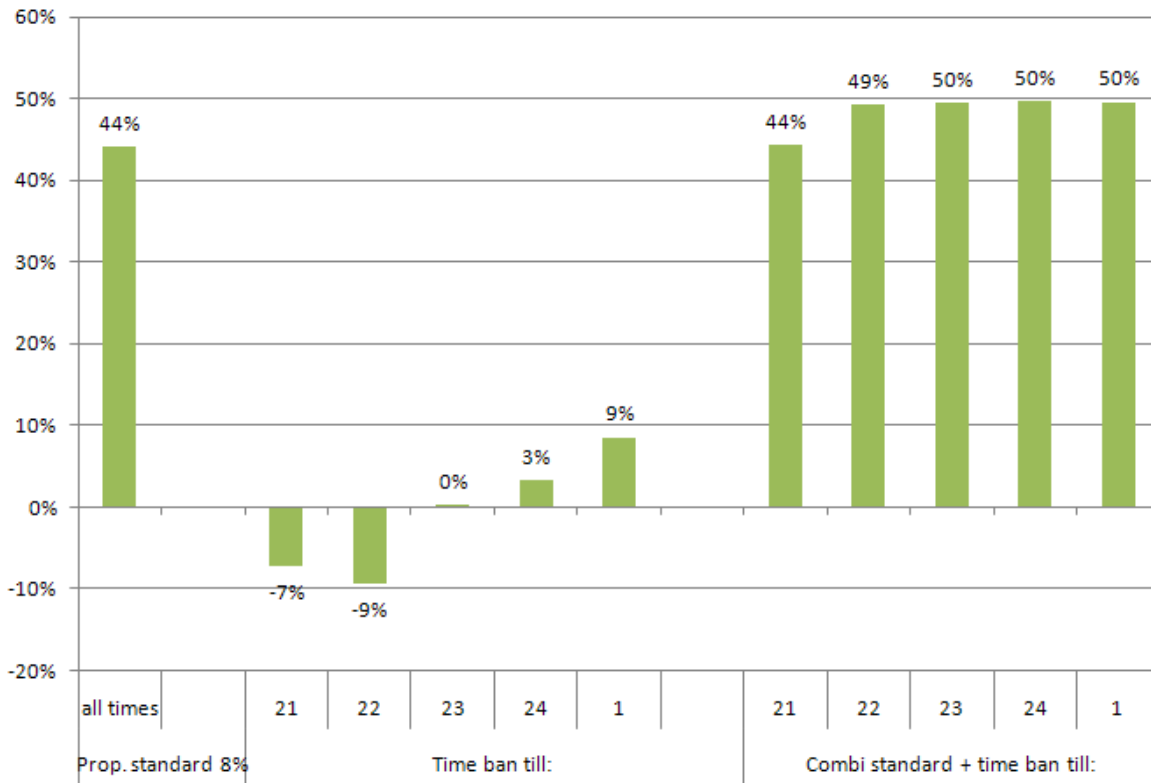


Figure 3. The percentage of reduction in exposure to alcohol advertising (13-17 GRPs) at three different policies: a) implementation of an 8% proportional standard, b) implementation of different time bans, and c) implementation of a combination of an 8% proportional standard and a time ban. In all outcomes an entire compensation for the total number of adult GRPs lost due to the policy has been taken into account. Source: Nielsen Media, 2010.

3.5.1 Summary combination policy

To summarize, combining an 8% proportional standard with a time ban generates the largest effects in preventing youth exposure. The combination of an 8% standard with a ban until 01.00 can almost cut youth exposure in half (from 2.189 youth GRPs to 1103 GRPs; -49.6%), while the number of generated adult GRPs remains the same as before the introduction of the combined policy.

4. Policy interventions in practice

In this report two possible policy interventions that restrict the volume of televised alcohol commercials have been described: a proportional standard and a watershed. The proportional standard restricts broadcasting alcohol commercials in television programs with a certain amount of minors watching compared to adults (e.g. 30%). A watershed is a time ban that restricts broadcasting of alcohol commercials within certain periods of time (e.g. between 6 am and 9 pm).

Possible theoretical effects of introducing or extending these regulations have been calculated. Practice has already shown (e.g. in the Netherlands) that it is highly unlikely that the advertisers do not change their advertising patterns in order to make up for the lost GRPs. Therefore, also the net effect which results after the policy has been completely nullified (compensated for) has been calculated. In other words, the number of adult GRPs lost will be completely compensated by the advertisers by additional broadcasting of alcohol advertisements. The following assumptions have been described in this report:

Three important assumptions are associated when calculating the possible effects of a watershed:

1. The alcohol companies purchase additional ads in permitted timeslots and on programs with the proper audience composition with the same distribution as current advertising and
2. There is sufficient capacity to absorb the shifting advertising in late night programming and
3. If the alcohol industry increases advertising above and beyond the amount that is shifted to make up for lost reach, it purchases new programs with the same distribution as current programs.

Note: Unless a proportional standard accompanies any time ban, then assumptions #1 and #3 can be called unrealistic and alcohol companies can purchase ads on programs with very high youth audience composition in late night programming.

However, when evaluating these policy interventions, also more practical issues have to be taken into account.

Thresholds in exposure to alcohol advertising

In most European countries alcohol advertisers maintain a threshold of 30% (e.g. EFRD, 2009). Earlier in the report it has been argued that in order to protect young people in the age of 12-17 against exposure to alcohol commercials on television, a much lower proportional standard of 8% has to be implemented.

At this moment, all kinds of thresholds/proportional standards that are in place are implemented in self-regulation. Self-regulation has been proven insufficient in numerous countries such as: Australia (Jones & Donovan 2002, Jones et al 2008), the Netherlands (Van Dalen & Kuunders 2003); the United Kingdom (KPMG 2008, Hastings et al 2010); and the United States (Gomes & Simon, 2008) and Brasil (Pinsky & Vendrame 2010). There is a general conflict of interest when economic operators have to restrict their own marketing practices (De Bruijn et al 2010). Implementing a proportional standard in self-regulation is especially problematic since:

- * Monitoring should be done by bodies independent from economic operators;
- * When volume data over a longer period of time is accessible, it is very expensive to purchase these;
- * Monitoring can only be done after possible youth exposure (“when harm is already done”);
- * A system with effective sanctions is generally lacking;
- * A legal back stop is missing;

To implement the proportional standard in legislation and to put effective sanctions in place might be difficult to implement and to enforce since the placement of alcohol commercials will be based on audience estimations.

A time ban on exposure to alcohol advertising

A watershed to restrict the placement of alcohol commercials within certain time periods seems to be easier to implement and to enforce into legislation. As Appendix 3 shows, most European countries make use of this intervention in order to protect young people against exposure to alcohol commercials on television. In other countries, such as France, Sweden and Norway, all televised alcohol commercials are banned.

In practice, however, we see that the alcohol producers change their advertising strategy when confronted with this volume restriction. It is highly likely that shifts in alcohol advertising will occur after the introduction of a watershed. In the calculations made in this report, it is assumed that the number of adult GRPs lost after the introduction of a time slot will be completely compensated by the advertisers by additional broadcasting. However, in practice we can see that this might be an underestimation of the total volume to which young people are being exposed after introducing a watershed.

As an example we can refer to the recent situation in The Netherlands. The watershed of 6.00-21.00 resulted in a shift of the broadcasting of alcohol commercials on television. All commercials that were usually broadcast before 21.00 are now being broadcast after 21.00h and even more (Nielsen Media, 2010; STAP, 2011a). Compared with 2008, when the time ban was not yet in place, in 2010 the number of alcohol commercials after 21.00 has more than tripled. The data revealed that after 21.00h more youngsters are now being reached by more alcohol commercials than before the time ban came into force. In other words, the net effect of the ban has been negative, especially for the 12-17 year olds who see significantly more alcohol ads now, in a shorter period of time. Before 21.00h children do

not see any alcohol commercials anymore, but sponsoring of programs is still allowed and made use of frequently.

Changing advertising behaviour

Considering marketing expenditures, alcohol advertising via television is still very important for the alcohol industry. Exposure to televised alcohol advertising will increase alcohol consumption among young people (Anderson et al 2009, Smith & Foxcroft 2009). In order to restrict youth exposure to televised alcohol marketing clear alcohol marketing regulations are necessary. Since self-regulation is insufficient to protect young people, legislation is necessary (Van den Broeck & De Bruijn 2010). However, since alcohol advertisers change their advertising behavior in order to reach as many people as possible, time slots are suggested to have only limited effects in restricting youth exposure. For this reason, an overall restriction of alcohol commercials and promotion is desired to protect young people against exposure to televised alcohol advertising.

5. Conclusions

Based on the data described above some conclusions can be drawn:

About the general characteristics:

- On the Top-3 most popular TV channels amongst Danish youngsters (TV2, TV3 and MTV) a total of 2.318 alcohol advertisements was broadcasted in May and October 2010, between 21.00-2.00h.
- The majority (42,4%) of Danish alcohol commercials are for spirits, followed by beer (28,2%) and Sweet beverages (20,6%) Less advertising was found for wine (8,8%).
- A total of 12 different producers of alcoholic beverages were active in May and October. Together they advertised for 20 different brands Most commercials were broadcasted by Diageo Denmark (N = 788; 33,9% of the total number of ads registered).

With respect to (over)exposure:

- Minors (3-17) saw 9% of all advertising, of which 29% was seen by the youngest age group (3-12) and 71% by the 'older' minors (13-17). That is, the 'at risk' group of 13-17 year olds is relatively overexposed to alcohol advertising within the group of minors.
- The total number of times a minor was exposed to an alcohol commercial in May and October 2010 on the three selected channels was over 14 million.
- Children aged 3-12 saw on average 6 alcohol commercials in the selected period, while the older minors (13-17) saw on average 22 alcohol commercials. The group of young adults aged 18-33 saw 33 ads, like the 34+ group saw on average 34 ads.
- The GRP ratios of 0,65 resp. 0,65 indicate that 13-17 year olds are not relatively more exposed to alcohol advertising, per capita, compared to adults (18+) resp. young adults (18-33). Still, in almost one third of the 2.318 alcohol commercials youth aged 13-17 turned out to be relatively overexposed compared with adults (29% overexposure compared with adults (18+) and 24% overexposure compared with young adults (18-33)).
- There were no evident indications that specific types of beverages generally reached more minors than adults. The GRP ratios for beer, wine, sweet beverages and spirits were below 1, except for spirits 13-17/18+ GRP ratio (1,03). That is, compared with adults, youth are not in general disproportionately exposed to advertising for a certain type of beverage (e.g. sweet alcoholic beverages).
- Finally, on the brand level, four out of 18 brands was found to overexpose youth (13-17) relative to adults (18+). The GRP ratio of 7,93 found for Corona beer indicates that youth were seeing eight times more advertising for the beer brand than adults, on a per capita basis.

With respect to the 30% threshold:

- The 30%-threshold was introduced in the Voluntary Code in the autumn 2010 and not into force when examining the ads in May and October 2010. If the 30%-threshold had been into force the data revealed that the self-regulatory 30%-threshold of the advertisers had not been adhered to well: 348 violations were found in which more than 30% of the viewers of an alcohol ad consisted of minors (aged 3-17).
- The present analyses confirmed previous observations (e.g. STAP 2008a; 2008b) that the 25% resp. 30% threshold does not prevent large numbers of minors from being reached by alcohol advertising either. The drawbacks of the 30% threshold arise from the following:
 - The percentage of 30% selected by the European advertisers has been based on the U.S. population, which consists of much more minors than the European populations;
 - The 30% standard concerns all minors (0-17), and is therefore not proportional to the 'at risk' youth population (aged 13-17) who are starting to drink, are more sensitive to advertising and receive more exposure.
 - The 30% standard regarding 'all minors' (aged 0-17) allows the alcohol advertisers to relatively overexpose the 'older' minors (13-17) compared with 'younger' minors (4-12 or even 0-11) without violating the 30% threshold for 'all minors'. The data show that of all alcohol advertising seen by minors, the youngest age group is reached by approximately one half.
 - Low percentages of minors being reached, not violating the 30%-threshold can be much more harmful than (very) high percentages which are violating the threshold. This has everything to do with the absolute number of minors -compared to adults- that are watching. As long as there are more adults watching relative to minors, the 30% threshold will not be reached. This way, the 30% rule allows large absolute numbers of minors to be reached by alcohol commercials without the Code is being violated.
- Based on the 'at risk' population a new proportional standard for Bulgaria has been calculated. According to the TV population data the 'at risk' population of 13-17 year olds comprises 7.7% of the total Danish TV population. A standard of 8% follows the same reasons as the 15% proportional standard that is being advocated for in the U.S. - which is based on the size of the 12-20 age group on the total U.S. population. However, a proportional standard is in practice always implemented in self-regulation which is problematic in terms of effectiveness.
- Based on the present data, a proportional standard of 8% would have reduced the number of ads seen on average by 13-17 year olds from 22 to 10 (This represents a drop of approximately 55% in the number of ads seen, assuming that no shifts in advertising occur). However, a proportional standard is in practice always implemented in self-regulation which is problematic in terms of effectiveness.

With respect to time bans:

- Legal time restrictions on alcohol advertising are current policy in Europe. A majority of 21 out of 27 EU Member States already has statutory time or product bans for alcohol advertising on television.
- It is uncertain what will happen exactly with the pattern of broadcasting after a watershed comes into force. The present data suggest that implementing a Danish time ban from 6.00h to e.g. 1.00h would lead to a relatively small decrease in youth GRPs within the watershed (9% in 13-17 GRPs), assuming the advertisers will make up for the loss in adult GRPs.

6.Recommendations

The data presented in the report lead to several recommendations:

- **The 25% or 30% threshold adopted in existing self-regulation codes is generally ineffective:**
 - Since the 25% or 30% threshold is based on the composition of the U.S. population rather than the European population, this standard should theoretically be lowered to a more 'proportional standard' for the European population. Since minors aged 12-17 are at risk for (the initiation of) drinking, are more aware of alcohol advertising and are relatively more exposed to alcohol advertising compared with minors aged 6-11, this new proportional standard should theoretically be based on this group (CAMY, 2005; Jernigan & Ross, 2010; National Research Council and Institute of Medicine, 2004; FTC, 2006). For Denmark a proportional standard of 8% rather than 30% makes more sense. Introducing an 8% proportional standard could theoretically lead to a reduction in youth exposure of approximately 44%, even if the number of adult GRPs lost by the policy is completely compensated for. However, practical implications (as described in chapter 4) make the effectiveness of a proportional standard questionable.
 - The existing threshold or an adjustment of the standard is to be implemented in self-regulation; Self-regulation has proven to be ineffective. There is a conflict of interest when economic operators have to restrict their own marketing practices (De Bruijn et al 2010). Implementing a proportional standard in self-regulation is especially problematic due to its difficulty of monitoring independently and its enforcement.
 - Another possibility might be to implement a proportional standard in national or European legislation instead of self-regulation. One way is to adjust the European Audiovisual Media Services Directive (AVMSD) to include a *volume* restriction (proportional standard) besides the currently existing article 15 which restricts only the *content* of alcohol advertising on television. Legal sanctions might, however, be difficult to when alcohol commercials are placed on the basis of audience estimations.
 - A possible drawback of a percentage threshold might be the adherence and enforcement of this tightened measure. It is unclear whether it is possible in practice to adhere to a standard of 8% (especially with new television programs of which it is unknown how many minors will be watching). Enforcement of this measure will be rather costly since expensive data need to be bought and analyzed.
- ***Extend the statutory time ban. Apply the statutory time ban to all kinds of alcohol and extend its time.*** An advantage of a time ban over a proportional standard is that it is easier to adhere to by the advertisers, because it is clear from what time onwards it is allowed to advertise and between which time frames this is not allowed. It is much harder to estimate which programs (and therefore commercials) will reach an audience consisting of more than

6% minors aged 13-17. Furthermore, a time ban is also easier and less expensive to monitor for third, independent parties. However, if alcohol producers compensate for the loss of adults GRPs by broadcasting more alcohol commercials later at night, extending the time ban could be counterproductive. Consequently a moral appeal on the alcohol producing sector has to be made to urge them not to increase the volume of alcohol advertising at hours outside the timeslot.

- **A third alternative might be to combine a proportional standard with a statutory time ban.** Calculations presented in the current report show that there are theoretical advantages of this combination of interventions. The data reveal that combining an 8% standard with a ban until 1h decrease youth exposure by 50%, while the number of generated adult GRPs remains the same as before the introduction of the combined policy. However, due to the important shortcomings of self-regulations regarding the difficulty of monitoring and enforcement, not much benefits are expected from adding proportional standards in self-regulation next to time ban implemented in legislation.
- **Total ban on alcohol advertising.** The current report has described the large amount of alcohol commercials to which young people are exposed on television in everyday life. Partial volume restrictions are thought to be insufficient to protect this youth exposure due to expected changes in advertising behavior of the alcohol industry after introducing a (extended) watershed. There is a need to restrict the industry's possibilities to reach young people by televised alcohol advertising and promotion. Obviously the most protective measure would be to implement an EU wide, total ban on alcohol advertising. This way issues with regard to the shifting of advertising, cross-border advertising (is allowed, despite national bans) and the occurrence of sponsorship of and product placement in television programs can also be restricted more effectively. Given the undesirable impact of alcohol advertising on the drinking behaviour of youth, the knowledge that alcohol is a carcinogenic (Baan et al., 2007) and addictive substance (technically it is a hard drug) and the harm it causes to society (Nutt et al., 2010), a total ban on advertising for this product will be entirely justified. A total ban can be implemented stepwise, starting with a ban on television² and gradually extending the ban to other media as well. Similar stages have been adopted for the ban on tobacco advertising, which led to a total ban in the European Union, that was implemented in July, 2005. The WHO European Alcohol Action Plan for 2012-2020 (Draft version, 26 April 2011) mentions a total ban on alcohol advertising as the final of four progressive steps to limit the impact of alcohol marketing in order to contribute to a reduction in drinking behaviour of youngsters.

² The total amount of commercials for alcohol on the total number of commercials broadcast in 2010 in the Netherlands was 1,3% (Nielsen Media, 2010). In other words, the lack of advertising expenditures might be relatively easily compensated for by advertisers for other types of products and brands.

- **Monitoring alcohol marketing.** The research discussed above emphasizes the importance of monitoring alcohol marketing activities of the alcohol industry. Otherwise, one would not obtain more detailed insight into the volume of alcohol advertisements and exposure of young people to these ads. In the Council Conclusions on Alcohol and Health of the Council of the European Union (2009) it is stated:

THE COUNCIL OF THE EUROPEAN UNION: INVITES THE MEMBER STATES TO:

“Ensure that, where in place, self-regulatory standards and codes are developed, implemented and monitored in collaboration with health-promoting entities” (p. 5).

Source: Council Conclusions on Alcohol and Health. 2980th Employment, Social policy, Health and Consumer affairs Council meeting. Brussels, 1 December 2009.

Also the WHO European Alcohol Action Plan for 2012-2020 (Draft version, 26 April 2011) states that: *“Monitoring of alcohol marketing practices is best done when it is the responsibility of an independent body or a government agency, and when it is performed systematically and routinely”* (p.16).

It is therefore recommended that Member States are given the opportunity to continue or start with the monitoring of alcohol advertising and marketing reaching youth in their countries.

7. References

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Appendices

Appendix 1: Overview of TV bans for alcoholic beverages in EU-27

Of 27 EU Member States:

- 21 countries have a partial or complete TV ban (time and/or product ban).
- 6 countries have no restrictions on TV at all: Cyprus, Denmark, Germany, Greece, Luxembourg and Czech Republic.

	Country	TV Ban (in statutory or non-statutory regulation)	TV ban?
1	Belgium	Flanders: No alcohol advertising on public service channels. Alcohol advertising is allowed on commercial channels. Wallonia: No alcohol advertising for spirits	YES, partly
2	Bulgaria	No indirect marketing of alcoholic beverages before 21.00 No alcohol advertising for spirits.	YES, partly (time and product)
3	Cyprus	No ban on alcohol advertising exists.	NO
4	Denmark	No ban on alcohol advertising exists.	NO
5	Germany	No ban on alcohol advertising exists.	NO
6	Estonia	No alcohol advertising for alcoholic beverages between 7.00-21.00. No (alcohol) advertising on public service channels.	YES, partly (time)
7	Finland	No alcohol ads for mild alcoholic beverages between 7.00-21.00. No alcohol advertising for spirits (> 22%).	YES, partly (time and product)
8	France	No alcohol advertising on TV at all (Loi EVIN).	YES, total
9	Greece	No ban on alcohol advertising exists.	NO
10	Ireland	No alcohol advertising for spirits and premixes (self-regulation)	YES, partly, (product ban in selfregulation)
11	Hungary	No alcohol advertising on public service channels. No alcohol advertising for spirits between 18.30- 21.30 (commercial channels).	YES, partly
12	Italy	No alcohol advertising for spirits between 16.00-19.00 (and for other alcoholic beverages it should be avoided between 16.00-19.00).	YES, partly (time ban on product)
13	Latvia	No alcohol advertising for spirits.	YES, partly (product)
14	Lithuania	No alcohol advertising between 6.00-23.00, except for live and uninterrupted international broadcasts or re-broadcasts of art, culture or sports events. Also names or trademarks may appear during broadcasts and re-broadcasts on an irregular or unexpected basis.	YES, partly (time)
15	Luxembourg	No ban on alcohol advertising exists.	NO
16	Malta	No alcohol advertising between 6.00-21.00.	YES, partly (time)
17	Netherlands	No alcohol advertising between 6.00-21.00. (The new Media law came into force on January 1 st 2009. After a transitional period of 1 year, on January 1 st 2010 it is certain that no more alcohol commercials will be seen between 6.00-21.00. Sponsoring between 6.00-21.00 is still allowed).	YES, partly (time)

18	Norway	Total ban on alcohol advertising, in all media.	YES, total
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	Country	TV Ban (in statutory or non-statutory regulation)	TV ban?
19	Austria	No alcohol advertising for spirits. No alcohol advertising for premixes before 19.25.	YES, partly (time and product)
20	Poland	No alcohol advertising for beer between 6.00- 20.00 (except during sporting games). No alcohol advertising for other alcoholic beverages.	YES, partly (time and product)
21	Portugal	No alcohol advertising between 7.00-22.30.	YES, partly (time)
22	Romania	No alcohol advertising for spirits between 6.00-22.00	YES, partly (time ban on product)
23	Slovenia	No alcohol advertising for spirits (< 15%). No alcohol advertising for other alcoholic beverages between 7.00- 21.30.	YES , partly (time and product)
24	Slovak Republic	No alcohol advertising for wine and spirits between 6.00-22.00.	YES, partly (time ban on product)
25	Spain	No alcohol advertising for spirits > 20%. No alcohol advertising for beer before 20.30 (self-regulation). (No time ban yet, but a ban from 6.00-22.00 has been suggested).	YES, partly (time and product)
26	Czech Republic	No ban on alcohol advertising exists.	NO
27	UK	No advertising at all allowed at public channels (therefore, also no alcohol advertising). No ban on alcohol advertising exists on other channels.	YES, partly
28	Sweden	No alcohol advertising for alcoholic beverages >2,25% alc. vol.	YES, total (ban > 2.25%)

Source: Dutch Institute for Alcohol Policy (STAP)
Date latest revision: April 2009

Note: Norway is not a member of the European Union, but has a total ban on alcohol advertising.