European Commission

# Study on the exposure of minors to alcohol advertising on linear and non-linear audio-visual media services and other online services, including a content analysis

Final Report

**FINAL REPORT**

A study prepared for the European Commission
DG Communications Networks, Content & Technology by:

ECORYS

NATIONAL INSTITUTE FOR HEALTH AND WELFARE

CentERdata
Instituut voor dataverzameling en onderzoek

GfK

*Digital Agenda for Europe*

**This study was carried out for the European Commission by**

**Consortium partners**

**Subcontractors**

**Internal identification**
Contract number: specific contract No 30-CE-0639369/00-87
SMART number: SMART2013/0080

## DISCLAIMER

By the European Commission, Directorate-General of Communications Networks, Content & Technology.

The information and views set out in this publication are those of the author(s) and do not necessarily reflect the official opinion of the Commission. The Commission does not guarantee the accuracy of the data included in this study. Neither the Commission nor any person acting on the Commission's behalf may be held responsible for the use which may be made of the information contained therein.

ISBN 978-92-79-52798-2
doi:10.2759/597114

© European Union, 2015. All rights reserved. Certain parts are licensed under conditions to the EU.

Reproduction is authorised provided the source is acknowledged.

## Table of Contents


1. Introduction 17
   1.1. Background 17
   1.2. Purpose of the study 18
   1.3. Reading guide 19
2. Approach and methodology 21
   2.1. Scope of the study 22
   2.2. Literature review 24
   2.3. Approach for Research Question 1 25
   2.4. Approach for Research Question 2 32
   2.5. Approach for Research Question 3 38
   2.6. Stakeholder review 44
3. Literature review 47
   3.1. Overview of studies on the exposure of minors to alcohol advertising on linear and non-linear audio-visual media services and other online services 47
   3.2. Overview of studies to support the development of the analysis grid 55
4. Exposure to alcohol advertising on linear audio-visual media services 59
   4.1. Summary of main findings 60
   4.2. Viewing patterns 62
   4.3. Exposure to alcohol advertising – WFA/Ebiquity data 72
   4.4. Exposure to alcohol advertising - 9 selected Member States (GfK/Dentsu Aegis data) 84
   4.5. Daily average alcohol impacts weighted by viewing ratings 101
   4.6. Main limitations of the approach and methodology 103
5. Exposure to alcohol advertising on non-linear audio-visual media services and other online services - perspective of the advertisers 105
   5.1. Summary of main findings 105
   5.2. Policies to restrict exposure to alcohol advertising on a selection of online services 107
   5.3. Perspective of the industry 110
   5.4. Online data capture 114
   5.5. Main limitations of the approach and methodology 117
6. Exposure to alcohol advertising on non-linear audio-visual media services and other online services - perspective of the viewers 119
   6.1. Summary of main findings 119
   6.2. Sample description 120
   6.3. Survey results 121
   6.4. Cross-tables and relationships 139
   6.5. Main limitations of the approach and methodology 144
7. Content analysis 147
   7.1. Analysis grid 147
   7.2. Summary of main findings 150
   7.3. Advertisements on linear AV media services 150
   7.4. Advertising on non-linear AV media services and other online services 167
   7.5. Results per beverage types 170
   7.6. Level of protection by the AVMSD 173
8. Conclusions and recommendations 177
   8.1. Research Question 1: How much alcohol advertising does an average minor watching linear audio-visual media services in the EU see? 177

8.2. Research Question 2: How much alcohol advertising does an average minor see on non-linear audio-visual media services and other online services in the EU? 179
8.3. Research Question 3: For audio-visual media services (both linear and non-linear) and other online services, what type of alcohol advertising does an average minor see in the EU? Are minors specifically targeted by alcohol advertising? In how far is alcohol advertising appealing to minors and how? In particular, in how far do the provisions of the AVMSD and their application afford the required level of protection? 181
8.4. Limitations and recommendations for further research 182

# List of abbreviations

| | |
|---|---|
| AT | Austria |
| AV | Audio-visual |
| AVMSD | Audio-visual Media Services Directive |
| BARB | British Audience Research Bureau |
| BE | Belgium |
| BG | Bulgaria |
| CAWI | Computer Assisted Web Interviewing |
| CZ | Czech Republic |
| DE | Germany |
| DGP | Digital Guiding Principles |
| DK | Denmark |
| EAHF | European Alcohol and Health Forum |
| EASA | European Advertising Standards Alliance |
| EC | European Commission |
| EE | Estonia |
| EL | Greece |
| ES | Spain |
| EU | European Union |
| FI | Finland |
| GRP | Gross Rating Points |
| GDP | Gross Domestic Product |
| HR | Croatia |
| HU | Hungary |
| IARD | International Alliance for Responsible Drinking |
| IE | Ireland |
| IT | Italy |
| IP | Internet Protocol |
| LPA | Legal Purchasing Age |
| LT | Lithuania |
| LV | Latvia |
| NL | The Netherlands |
| PBS | Public Broadcasting Service |
| PL | Poland |
| PT | Portugal |
| Rat | Rating |
| RMP | Responsible Marketing Pact |
| RO | Romania |
| SI | Slovenia |
| SK | Slovakia |
| SRO | Self-regulatory Organisation |
| TV | Television |
| TWFD | Television Without Frontiers Directive |
| UK | The United Kingdom |
| URL | Uniform Resource Locator |
| WFA | World Federation of Advertisers |

# Glossary

### Age-gating
Age-gating allows brands to restrict access to their content and/or profile specific online services in such a way that only people who are over the legal purchasing age can view that content or follow their profiles.

### Alcohol advertising
Commercial communications that are controlled by alcohol brand advertisers. This means that, by definition, user-generated content was not considered alcohol advertising for the purpose of this study.

### Alcopop
An alcopop is a (often sweet) flavoured alcoholic beverages with a low alcoholic content which may be premixed or composed from distilled alcohol with added ingredients such as fruit juices or other flavourings[1].

### Children channel
A television channel broadcasting programmes that are mainly targeted at children.

### Cookies
Cookies are small files designed to hold specific data to a particular client and website which allows the server to deliver a page tailored to that client[2].

### Forward advice notice
A Forward Advice Notice is a note clearly stating that content should not be forwarded to anyone to whom this content is not (legally) appropriate.

### General channel
A television channel broadcasting programmes that are not mainly targeted at children.

### GfK / Dentsu Aegis data
The GFK/Dentsu Aegis data consisted of:
- general viewing pattern data (by hourly timeslot); and
- spotlist data measuring advertising impacts.

Both the general viewing pattern data and the spotlists were collected for each of the nine selected Member States in this study and cover the full 24 hours during the full year 2013.

### Gross Rating Points (GRP)
GRP can be interpreted as the total number of times an advertising spot was seen in either absolute terms (GRP(000)) or as a percentage of the target group (GRP%). Hence, GRP measure the exposure to alcohol advertising, which is referred to as 'alcohol impacts' throughout this report.

[1] http://www.encyclo.nl/begrip/Alcopop.
[2] http://www.whatarecookies.com/.

### Hashtag
A hashtag is a word or phrase prefixed by a '#' and is used on social media sites. The combination of the word/phrase and the hash sign help to easily identify messages on a specific topic.

### (Alcohol) impact
Impact is a measure of how often a spot is viewed: it yields the absolute number of times a spot was seen over a given timeframe. This is also referred to as the number of impressions.

### Linear audio-visual media services[3]
Television broadcasting, that is, "an audio-visual media service provided by a media service provider for simultaneous viewing of programmes on the basis of a programme schedule".

### Minor
An individual below 18 years of age.

### Mid-roll
Mid-rolls are short advertisement clips, usually not longer than 60 seconds, which are shown during the viewing of a YouTube video.

### Non-linear audio-visual media services[4]
On-demand audio-visual media services, that is, "an audio-visual media service provided by a media service provider for the viewing of programmes at the moment chosen by the user and at his individual request on the basis of a catalogue of programmes selected by the media service provider."

### Online-participation
The encouragement that someone actively engages in a marketed and recommended associated website displayed in the advertisement.

### Other online service
Those online services that are currently not covered by the AVMSD, such as social media and websites.

### Pre-roll
Pre-rolls are advertisement clips, varying from 10 seconds to multiple minutes, which are shown at the start of viewing a YouTube video. If the pre-roll is longer than 60 second, users can skip the advertisement after a certain time.

---

[3] Definition as provided in the Directive 2010/13/EU of the European Parliament and the Council of 10 March 2010 on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the provision of audio-visual media services (Audio-visual Media Services Directive).

[4] Definition as provided in the Directive 2010/13/EU of the European Parliament and the Council of 10 March 2010 on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the provision of audio-visual media services (Audio-visual Media Services Directive).

### First, second and third recall

The results of the survey that was conducted as part of this study, include information on what we refer to as first, second and third recall:

*First recall* refers to the latest alcohol advertisement a minor recalled to have seen online and was able to describe.

*Second recall* refers the second advertisement a minor recalled to have seen online and was able to describe.

*Third recall* refers to the third advertisement a minor to recall to have seen online and was able to describe.

### Rating (rat)

The rating is a metric used in viewing data and can be interpreted as the audience in absolute terms (rat000) or as percentage of the target group (rat%) during a specific timeslot (in this study, per hourly timeslot).

### Rolling banner

Rolling banners are rectangle (300x60 pixels) advertisement banners on YouTube overlaying the video that appear for a certain amount of time.

### (Alcohol) spot

The insertion of an (alcohol) advertisement.

### Universe

Universe is defined as the number of people in a specific target group.

### WFA/Ebquity data

The WFA/Ebiquity dataset was compiled by the World Federation of Advertisers (WFA) and audited by Ebiquity. It contained information on global advertising impacts for 23 Member States for 2013.

# Executive summary

The first report on the application of the Audiovisual Media Services Directive (AVMSD)[5] was published on 4 May 2012. This report indicated that, with regard to alcohol advertising, further investigations were necessary to assess, amongst other things, the exposure of minors to commercial communications for alcoholic beverages. Against this background, the purpose of this study was to answer three research questions:

1. How much alcohol advertising does an average minor[6] watching linear audio-visual media services (i.e. television broadcasting) in the European Union (EU) see?
2. How much alcohol advertising does an average minor see on non-linear audio-visual media services (i.e. on-demand audio-visual media services) and other online services in the EU?
3. For audio-visual media services (both linear and non-linear) and other online services, what type of alcohol advertising does an average minor see in the EU? Are minors specifically targeted by alcohol advertising? In how far is alcohol advertising appealing to minors and how? In particular, in how far do the provisions of the AVMSD and their application afford the required level of protection?

These research questions, and therefore the study, go beyond the AVMSD. For example, this study covered online services *(Research Question 2)* that are not currently covered by the Directive (e.g. websites and social media). In addition, the content analysis (*Research Question 3)* not only assessed whether advertisements are specifically aimed at minors, but also looked more broadly at what was actually shown in the advertisement and if this, from a broader perspective, could be considered appealing to minors.

To answer these questions, we used a combination of research methods. All research activities have been conducted in the period from January to December 2015.

### Research Question 1: How much alcohol advertising does an average minor watching linear audio-visual media services in the EU see?

The analysis for Research Question 1 was based on two datasets[7]:

1. The GfK/Dentsu Aegis dataset, which consists of data on general viewing patterns and alcohol advertising impacts[8] for nine Member States (MS) selected for in-depth analysis in this study (Austria, Czech Republic, Finland, Germany, Italy, the Netherlands, Romania, Spain, United Kingdom) in 2013; and
2. the WFA/Ebiquity dataset, provided by the World Federation of Advertisers (WFA) and audited by Ebiquity, which consists of data on global advertising impacts, both for the total market and for the subset of alcohol brands, for 23 MS in 2013.

For both datasets we analysed the global breakdown of the number of insertions of alcohol advertisements (i.e. the number of alcohol spots) and how often these were

[5] Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. First Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the application of Directive 2010/13/EU "Audiovisual Media Service Directive" Audiovisual Media Services and Connected Devices: Past and Future Perspectives, /* COM/2012/0203 final */.

[6] For the purpose of this study, a minor is defined as an individual below the age of 18.

[7] For more information on these datasets, please see Chapter 2 of this report.

[8] Impact is a measure of how often an insertion of an (alcohol) advertisement is viewed: it yields the absolute number of times a spot was seen over a given timeframe.

viewed (i.e. the number of alcohol impacts) in 2013. Although there were a few differences between the two datasets in terms of the definition of age groups, the findings are consistent. In addition, the findings indicate that the nine selected MS for this study are a representative sample.

Based on the data in the WFA/Ebiquity dataset, we found that the percentage of alcohol impacts of total market impacts was on average 1.8% for minors and 2.2% for adults.

Moreover, the analysis of both the WFA/Ebiquity dataset and the GfK/Dentsu Aegis dataset revealed that, on average, approximately 7.3% of the total number of alcohol impacts seen in the EU on linear audio-visual (AV) media services in 2013 were seen by minors. For the nine selected MS this ranges from 5.0% to 9.0%. In absolute numbers this means that, on average, a minor in the EU saw 200 alcohol impacts in 2013, while an adult saw over 450 in the same period. Similar results were seen for each MS.

The findings with regard to the breakdown by sector revealed that in the vast majority of MS the sector 'beer' had the highest share of both the number of spots and the number of impacts seen.

The analysis of the viewing data for the nine MS revealed that the viewing patterns of adults and minors differed. In order to analyse if this difference in viewing habits may partly explain the difference in the level of exposure to alcohol advertising between minors and adults, we weighted the absolute daily average alcohol impacts by the average daily viewing rates per age group. We found that after applying this weighting, the difference between the exposure of minors and the exposure of adults to alcohol advertising on linear AV media services was reduced. We also applied a weighting based on the average viewing rates per age group for a subset of channels, namely those channels that include alcohol advertising. The results showed that applying this weighting further reduced the difference in exposure between minors and adults. In several of the nine selected MS, this weighted value was even higher for minors than for adults. Hence, the difference in the level of exposure to alcohol advertising between minors and adults may be partly explained by the differences in their viewing habits, both in terms of how often they watch television, and which channels they watch.

As part of the in-depth analysis, we looked at several detailed breakdowns of the alcohol spots and their impacts. One of these analyses was focused on the type of channel on which a spot was aired. We found that in all MS, the majority of both alcohol spots and alcohol impacts were seen on commercial channels, but that the average impact per spot appeared to be higher on public channels. Moreover, the results indicated that while in most MS the majority of spots were aired on generalist (i.e., not topic-specific) channels or on 'Entertainment, Series, Movies' channels, the majority of impacts were seen on generalist channels only. This may be explained by the relatively high viewing rates for these channels.

When looking at differences in terms of the occurrence of alcohol impacts throughout the day, we found that for the adults, the peak day part was between 21:00 and 23:59 in all MS. With the exception of one MS, this was also the peak day part for alcohol impacts among the 15-17 year olds. For the 4-14 year olds, the peak occurred between 17:00 and 20:59 in four MS and between 21:00 and 23:50 in five MS. Comparing these results with the peak day parts in terms of viewing patterns, we saw that for all age groups in

each of the nine MS, the peak day part in terms of alcohol impacts was either the same as for viewing patterns or one day part later.

With regard to hourly timeslots, we found that in each selected MS the alcohol impacts for all age groups followed a rather similar pattern and peaked in the evening. In four of the nine selected MS, the peak hourly timeslot in terms of alcohol impacts was the same across age groups.

Finally, the results showed that there is substantial variation across MS in terms of the weekday with the highest number of alcohol impacts seen. Moreover, within MS, differences between age groups were observed, but in the majority of MS all age groups saw on average the most alcohol impacts on the same weekday.

**Research Question 2: How much alcohol advertising does an average minor see on non-linear audio-visual media services and other online services in the EU?**

The exposure of minors to alcohol advertising on non-linear AV media services and other online services has been analysed from both the perspective of the advertisers and the perspective of the viewers.

***Perspective of the advertisers***

To include the perspective of the advertisers we conducted desk research and surveyed selected online services and industry members as well as trade organisations. We also collected online data captures for selected YouTube channels and websites. Initially, the plan was to include Facebook, Instagram and Twitter in the online data capture. We sought formal approval from these online services, but Facebook and Twitter informed us that they were unable to approve the creation of fake profiles as this breaches their terms and conditions.

The results indicated that from the perspective of the advertisers, the level of exposure of minors to alcohol advertising on non-linear AV media services and other online services is supposed to be limited, because of (1) the measures that online services have in place to help advertisers to advertise their products responsibly and in compliance with all applicable laws and regulations and thereby, to restrict, or even prevent the exposure of minors to alcohol advertising; (2) the choice of advertisers for online services that offer age-gating/age verification and/or for which there is availability of audience data demonstrating that at least 70% of the likely audience is above the Legal Purchasing Age; and (3) the numerous self-regulation initiatives that are in place at the company, sector, industry, and national level.

This view was partially confirmed by the results of the online data capture[9]: of the 1,319 screen captures for YouTube and the 950 screen captures for websites (each website capture containing visits to up to 5 URLs on that website), only four unique advertisements[10] for alcohol brands were found. Of these four, two were served in pre-rolls on YouTube and two on websites in the form of banners. One of the pre-rolls advertised a non-alcoholic drink and was only served on the profile of an adult. The other pre-roll was captured three times for a minor's profile and three times for an adult's profile (both male). The two banners were served on both minors' and adults'

[9] The online data capture was conducted for a period of two months (May and June 2015).

[10] The analysis of the online data captures focused on advertisements in the forms of pre-rolls, mid-rolls and (rolling) banners. Product placement in the YouTube videos was not analysed.

profiles, where one was captured twice on profiles for both minors and adults and the other was captured once on a minor's profile and four times on an adult's profile.

### *Perspective of the viewers*

To analyse the exposure from the perspective of viewers, we conducted a one-time survey amongst minors aged 4-17 in each of the nine selected MS (n=900 per MS). The results indicated that viewers perceived quite a substantial amount of exposure: although alcohol advertisements are the least recalled type of advertisement by minors aged 9-17[11] in the nine selected MS, 23.9% of these minors recalled having seen an alcohol advertisement online in the last month. The results also indicated that the recall, and thus the perceived awareness of alcohol advertising, increases both with age and online activity. The respondents aged 9-17 were additionally asked if they were able to describe an alcohol advertisement to which they were recently exposed and 23.6% of these minors answered 'yes'. In addition, on average, 80% of these respondents indicated that they recalled the brand of the advertisement. The results showed that both the memory for having seen alcohol advertising as well as active brand recall also increased with age and online activity. The finding that recall increases with age and the amount of exposures is consistent with literature on advertisement recall among minors in general.

### *Combining the results from the two perspectives*

The results from the two perspectives diverge and this may be the result of different factors, including:

- Over-estimation of self-reported exposure because of methodological limitations of the survey: First, the survey relies on self-reporting measures of exposure by asking recall questions, which induces the risk of recall-bias. Hence, where minors indicated that they recall having seen (alcohol) advertisements, it does not necessarily mean that the (alcohol) advertisement was actually provided. Second, no strict definition of advertisement was provided in the survey and therefore the reported exposure to alcohol advertising is subject to interpretation of what is perceived as 'alcohol advertising' by minors. For example, minors may have indicated that they recalled seeing an advertisement, whereas in reality, they saw user-generated content rather than commercial communications produced by advertisers.
- Over-estimation of exposure based on online data capture: in real life, people may use ad block software and/or nanny-tags in their browsers, and as a result not see any (alcohol) advertisement during their online activity.
- Under-estimation of exposure based on online data capture because of several caveats in the methodology: For example, cookies were generated during two months of online activity, whereas minors will typically have a richer browser history than the profiles that were generated for the purpose of this study. In addition, the data capture had a limited focus and only generated activity on a computer, whereas minors typically use different devices to go online. Also, there was no spill-over between profiles, whereas in reality minors may share a device with adults;
- Limited scope of the online data capture: as this part of the methodology was limited to a selection of YouTube channels and websites, it was difficult to draw conclusions with regard to the exposure on other popular online services, including Facebook, Instagram and Twitter.

[11] For ethical reasons, minors in the age group 4-8 were not asked questions on alcohol advertising, but rather on advertising in general and their online activity.

Because of the discrepancies in the results, it is difficult to draw overall conclusions with regard to the level of exposure of minors to alcohol advertising on non-linear AV media services and other online services. It can, however, be concluded that that self-reported exposure to alcohol advertising increases with age and online activity and that both the online services and the industry aim to ensure minimal exposure through the implementation of measures and self-regulation.

### Research Question 3: For audio-visual media services (both linear and non-linear) and other online services, what type of alcohol advertising does an average minor see in the EU? Are minors specifically targeted by alcohol advertising? In how far is alcohol advertising appealing to minors and how? In particular, in how far do the provisions of the AVMSD and their application afford the required level of protection?

The content analysis that has been conducted in order to answer Research Question 3 started with the development of an analysis grid, containing two types of assessment criteria: the first being elements directly derived from article 22 of the AVMSD, and the second being criteria, which have been developed on the basis of literature reviews, to assess whether advertisements, in a more general sense, can be considered to be appealing to minors. One of the difficulties in defining these criteria is that most of the elements of advertising have general appeal, that is, they are likely to stimulate reactions in wider audiences, not only in one target group. On the basis of previous research on minors' perceptions of alcohol advertising, it is possible to say that minors are likely to be appealed by, for instance, advertisements that utilise humour and music. However, these elements also attract adult viewers, and they are therefore widely used in advertising. This means that the content analysis, the grid and its subcategories are based on elements that - according to the existing research - are appealing to minors, but they are not necessarily specifically appealing to only minors. This being said, we included elements in the analysis grid that are relevant for minors in relation to alcohol.

After pilot testing and peer reviewing the analysis grid, we applied the grid to a sample of 123 alcohol advertisements, of which 90 aired on television (short film inserts and sponsorship messages shown in relation to television programmes) and 33 online (in the form of banners) in the nine selected MS in 2013.

It appeared that there is a wide variety of themes employed in the advertisements, the most typical ones being the association of alcohol with sociability and depicting drinking with humorous tone. The analysis revealed that 87% of the television advertisements and 63% of the online advertisements (banners) contained at least one element that can be considered to be appealing to minors. Despite the fact that the majority of the advertisements in the sample contained at least one element appealing to minors, this does not, as explained before, indicate that minors were specifically targeted.

Existing literature shows that for minors, the most important context of using alcohol is partying and celebration, but only 17% of the advertisements in the sample portrayed this context. Animal characters – most likely to attract minors – were shown in 4% of the advertisements.

Associations of social and sexual success, popularity, sociability and enjoyment with alcohol consumption are part of wider cultural representations of what drinking is about and these were also the most central themes in the advertisements. The advertisements

in the sample created a strong link between enjoyable social occasions, on the one hand, and alcohol, on the other, corresponding with general cultural representations of drinking with respect to adults and minors alike. Considering the role of sociability in the advertisements, and the high relevance of social relations and belonging to minors, it is plausible to say that alcohol advertising is likely to be appealing to under aged audiences.

In addition, we found that 25% of the full sample of advertisements (37% of the television advertisements and none of the online advertisements) reflect at least one of the criteria described in AVMSD, although this does not necessarily constitute an infringement in itself. The provisions in the Directive refer to causal links between the product and its effects, which are, for the most part, the kinds of simple storylines that are mostly avoided in advertisement contents. The advertisements rarely suggested positive outcomes caused by the products. Rather, they were focused on associations that are possible to create within a few seconds (for example by portraying drinking among young, trendy people) and without highlighting causality (being attractive and socially successful is caused by consuming the product).

The results of the content analysis are based on 123 linear and non-linear alcohol advertisements from nine EU MS. This is a small sample considering the total amount of advertisements appearing in all AV media services in the EU. In addition, the sample for non-linear and other online services was limited to online banners. As such, the results are not generalizable to all alcohol advertisements. However, the results are applicable for assessing the variety of themes and elements utilised by alcohol advertising and whether the marketing regulations and codes are clear enough to be followed.

### Recommendations for further research

In order to gain more insight into the exposure of minors to alcohol advertising and to overcome several of the identified caveats, we recommend further research to:

- include other forms of advertising in the scope of the study, such as product placement;
- analyse exposure over time through longitudinal studies. This could also be a way to analyse the effectiveness of newly introduced (self-) regulation;
- include viewing data for a larger sample of channels to allow for more detailed relative analyses, weighting average daily alcohol impacts by viewing ratings;
- search for other ways to monitor the exposure on online services; e.g. by recruiting minors in MS and asking for their permission to monitor their activity on online services;
- use focus groups or individual interviews rather than an online survey to study the perspective of viewers. This will help to overcome some of the limitations related to the method for measuring self-reported exposure. This is, however, a resource-demanding approach;
- include adults in the sample that is surveyed in order to facilitate a comparison between self-reported exposure by minors and adults;
- conduct a reception study involving minors in order to define the criteria for the content analysis in more detail. The analysis of minors' perceptions of ambiguous contents of advertisements would help to determine, for instance, what they see as representations of social and sexual success.

# 1. Introduction

This document contains the final report of the Study on the exposure of minors to alcohol advertising on linear and non-linear audio-visual media services and other online services, including a content analysis (SMART2013/0080). The research was commissioned by the European Commission, Directorate-General for Communications Networks, Content and Technology (DG Connect), in the context of the Framework Contract EAHC/2013/Health/01 – Lot 1 "Health Reports". The research was conducted during January – December 2015 by the Consortium partners Ecorys and THL in close collaboration with the following subcontractors: CentERdata, GfK Belgium and individual experts in the field (Prof. Peter Anderson and Prof. David Jernigan).

## 1.1. Background

Today's media environment is very different from even less than a generation ago. The current generation of minors (i.e. individuals aged below 18) is sometimes referred to as the 'digital generation'. In their use of audio-visual (AV) media services, both linear and non-linear as well as other online services, minors are exposed to commercial communications for a variety of goods and services, among which, alcoholic beverages.

The relationship between alcohol marketing and youth drinking is receiving attention in research, prevention and policy. Since alcohol consumption by minors is an increasing concern in the world and in Europe in particular, specific attention is paid to the advertising and marketing of alcohol and its effects on under-aged drinking.

In 2006 the European Union (EU) Alcohol Strategy was launched where, in order to reduce under-aged drinking and hazardous and harmful drinking, protection of minors was set to be a priority. A year later, the European Alcohol and Health Forum (EAHF) was established with two specific task forces: Task Force on Youth-Specific aspects of Alcohol and Task Force Marketing Communication.

> The Science Committee of the **EAHF** concluded in 2009 that 'alcohol marketing increases the likelihood that adolescents will start to use alcohol and to drink more if they are already using alcohol'[12].

### Protection of minors on audio-visual media services

The need for the protection of minors on AV media services in the EU was already recognized and reflected in the 1989 *Television Without Frontiers Directive*[13] (TWFD). The idea behind this Directive was to set up a Single Market for television broadcasting in Europe. Since then, the regulatory framework was revised and amended to take into account the technological changes at the same time upholding many of the previous regulations.

[12] Scientific Opinion of the Science Group of the European Alcohol and Health Forum (2009), Does marketing communication impact on the volume and patterns of consumption of alcoholic beverages, especially by young people? - a review of longitudinal studies, p.2.

[13] Council Directive 89/552/EEC of 3 October 1989 on the coordination of certain provisions laid down by Law, Regulation or Administrative Action in Member States concerning the pursuit of television broadcasting activities, 1989 OJ L 298, p. 23–30.

In 2007 the TWFD was renamed to *Audiovisual Media Services Directive*[14] (AVMSD) and afterwards codified in 2010. Within the AVMSD, which should be transposed into the national regulation of the EU Member States, a particular issue of vulnerability of minors and their susceptibility to commercial announcements is addressed (see Box 1.1).

**Box 1.1 Provisions of the AVMSD regarding the protection of minors**

**Article 9 (1) (e)**

Member States shall ensure that audiovisual commercial communications provided by media service providers under their jurisdiction comply with the following requirements:
(…)
(e) Audiovisual commercial communications for alcoholic beverages shall not be aimed specifically at minors and shall not encourage immoderate consumption of such beverages.

**Article 22**

Television advertising and teleshopping for alcoholic beverages shall comply with the following criteria:
(a) it may not be aimed specifically at minors or, in particular, depict minors consuming these beverages;…

The AVMSD makes a distinction between linear and non-linear AV media services:

> "…It is necessary, in order to avoid distortions of competition, improve legal certainty, help complete the internal market and facilitate the emergence of a single information area, that at least a basic tier of coordinated rules apply to all audiovisual media services, both television broadcasting (i.e. **linear audiovisual media services**) and on-demand audiovisual media services (i.e. **non-linear audiovisual media services**)."[15]

Next to the EU regulatory framework and the national transpositions of the AVMSD, there is additional regulation on alcohol-related marketing and the protection of minors in place at the Member State level, as well as self-regulation at the company, sector, and industry level[16].

## 1.2. Purpose of the study

The first report on the application of the AVMSD[17] was published on 4 May 2012. This report indicated that with regard to alcohol advertising, further investigations were necessary to assess, amongst other things, the exposure of minors to commercial communications for alcoholic beverages.

---

[14] Directive 2010/13/EU of the European Parliament and of the Council of 10 March 2010 on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the provision of audiovisual media services (Audiovisual Media Services Directive), 2010 OJ L 95, p. 1–24.

[15] Directive 2010/13/EU of the European Parliament and the Council of 10 March 2010 on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the provision of audio-visual media services (Audio-visual Media Services Directive), 2010 OJ L 95, p. 1–24.

[16] Chapter 5 provides more information on self-regulation.

[17] REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS First Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the application of Directive 2010/13/EU "Audiovisual Media Service Directive" Audiovisual Media Services and Connected Devices: Past and Future Perspectives, /* COM/2012/0203 final */.

Against this background, the purpose of this study was to answer three research questions:

1. How much alcohol advertising does an average minor watching linear audio-visual media services in the EU see?
2. How much alcohol advertising does an average minor see on non-linear audio-visual media services and other online services in the EU?
3. For audio-visual media services (both linear and non-linear) and other online services, what type of alcohol advertising does an average minor see in the EU? Are minors specifically targeted by alcohol advertising? In how far is alcohol advertising appealing to minors and how? In particular, in how far do the provisions of the AVMSD and their application afford the required level of protection?

The research questions, and therefore the study, go beyond the AVMSD. For example, this study covered online services *(Research Question 2)* that are not currently covered by the Directive (e.g. websites and social media). In addition, the content analysis (*Research Question 3)* did not only assess whether advertisements are specifically aimed at minors, but rather, it looked more broadly at what was actually shown in the advertisement and if this, from a broader perspective, could be considered appealing to minors.

Finally, policy recommendations are not formulated as part of this study. It is at the discretion of both EU and national policy makers to translate the findings of the study into recommendations for policy and/or practice.

## 1.3. Reading guide

Chapter 2 of this report provides an overview of the *general approach*, including a description of the scope of the study and the methodologies used to answer each research question. In Chapter 3 we present the results of the literature review on the exposure of minors to alcohol advertising on linear and non-linear AV media services and other online services. The findings with regard to the exposure of minors to alcohol advertising on linear AV media services (*Research Question 1)* are presented in Chapter 4. Chapter 5 and 6 provide the results regarding the exposure of minors on non-linear AV media services and other online services from respectively the perspective of the advertisers and the perspective of the viewers *(Research Question 2)*. The results of the content analysis (*Research Question 3)* are presented in Chapter 7. Finally, Chapter 8 provides the main conclusions of the study and recommendation for further research.

The annexes are presented in a separate document and include the following:

- Annex A: Search strategy, inclusion criteria, and full references used in the literature review;
- Annex B: Tabular overviews of the relevant literature;
- Annex C: Country reports – analysis of GfK/Dentsu Aegis data;
- Annex D: Channel list for the GfK/Dentsu Aegis spotlist data;
- Annex E: Overview of the selected YouTube channels and websites for the online data capture;
- Annex F: Questionnaires used in the survey;
- Annex G: Survey results;
- Annex H: Overview of the (sub)categories in the analysis grid;

- Annex I: Summary of the main points raised by the peer review panel;
- Annex J: List of all advertisements included in the content analysis;
- Annex K: List of organisations that participated in the stakeholder review;
- Annex L: Summary of the main comments provided during the stakeholder review.

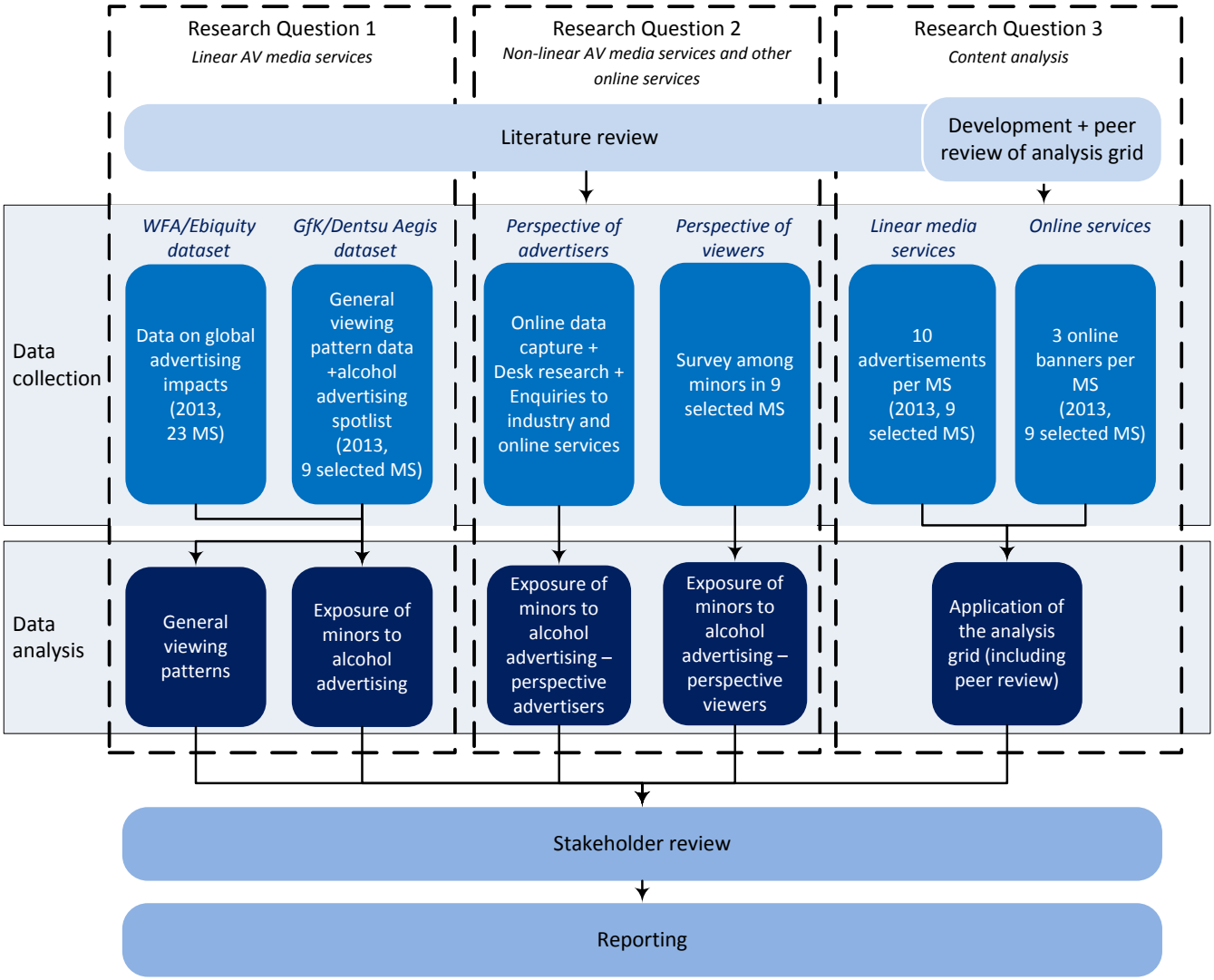
# 2. Approach and methodology

In order to answer the three research questions, the following activities were conducted:

- Literature review, with the aim to establish an overview of existing literature on the exposure of minors to alcohol advertising on linear and non-linear AV media services and other online services;
- Development of the analysis grid for the content analysis based on
    - Literature review;
    - Pilot testing; and
    - Validation by a peer review panel.
- Data collection:
    - WFA/Ebiquity data on global advertising impacts in 2013 for 23 Member States;
    - GfK/Dentsu Aegis data, consisting of both viewing data and spotlists for alcohol advertising in 2013 for nine selected Member States;
    - Online data capture on selected YouTube channels and websites;
    - Desk research and enquiries to industry and online services;
    - Survey among minors in nine selected Member States; and
    - Selection of advertisements for the content analysis (advertisements on both linear and non linear AV media services and other online services).
- Data analysis:
    - Analysis of general viewing patterns in nine selected Member States in 2013;
    - Analysis of the exposure of minors to alcohol advertising on linear AV media services in 2013:
        - Global breakdown of alcohol advertising spots and impacts for 23 Member States; and
        - Detailed breakdown of alcohol advertising spots and impacts for nine selected Member States.
    - Analysis of the exposure of minors to alcohol advertising on non-linear AV media services from the perspective of advertisers;
    - Analysis of the exposure of minors to alcohol advertising on non-linear AV media services from the perspective of viewers; and
    - Application of the analysis grid.
- Stakeholder review, with the aim to receive feedback from relevant stakeholders on the preliminary findings.

Figure 2.1 illustrates how the different activities are interlinked and which research questions they address.

**Figure 2.1 Activities conducted**




Note: MS = Member States.

In the next sections of this Chapter we describe the scope of the study as well as the approach and methodology for each of the activities conducted.

## 2.1. Scope of the study

Before outlining our approach per research question, it is important to define the scope of the study. To that end, this section provides the definitions used and makes clear that this study was focussed on the level of exposure rather than on the link between alcohol marketing and under-aged drinking. In addition, we outline the selection of Member States for the in-depth analysis and the years for which data were collected.

### Definitions

*Linear and non-linear AV media services and other online services*

For this study we used the definitions as provided in the AVMSD:

> "(e) 'television broadcasting' or 'television broadcast' (i.e. a linear audiovisual media service) means an audiovisual media service provided by a media service provider for simultaneous

> viewing of programmes on the basis of a programme schedule;
>
> …..
>
> (g) 'on-demand audiovisual media service' (i.e. a non-linear audiovisual media service) means an audiovisual media service provided by a media service provider for the viewing of programmes at the moment chosen by the user and at his individual request on the basis of a catalogue of programmes selected by the media service provider." [18]

For the purpose of this study, we defined 'other online services' as those online services that are currently not covered by the AVMSD, such as social media and websites.

*Minors*

For the purpose of this study, 'minors' were defined as 'individuals aged below 18'. The AVMSD does not provide a clear definition of 'minors' and to facilitate comparison across Member States, it was decided to choose a uniform definition, that reflects the age of majority in most of the EU Member States.

*Alcohol advertising*

In this study, alcohol advertising was defined as commercial communications that are controlled by alcohol brand advertisers. This means that, by definition, user-generated content was not considered alcohol advertising for the purpose of this study.

In the analysis of exposure to alcohol advertising on linear AV media services *(Research Question 1)*, the following types of alcohol advertisements were included:

- Television (TV) commercials for alcohol brands; and
- TV sponsorship messages for alcohol brands.

In the analysis of exposure to alcohol advertising on non-linear AV media services and other online services *(Research Question 2)*, the following types of alcohol advertisements were included:

- Banners; and
- Advertising clips (e.g. pre-rolls and mid-rolls).

Product placement is also a common form of advertising, both on linear and non-linear AV media services and other online services, but is beyond the scope this study.

### Focus on exposure to alcohol advertising

The study was focused on the exposure of minors to alcohol advertising, that is, we investigated how much alcohol advertising minors saw on AV media services (*Research Question 1 and Research Question 2)* and the content of alcohol advertising *(Research Question 3)*. The study did not aim to evaluate the effectiveness of the legislation and regulation related to the exposure.

In addition, the relationship between the level of exposure and under-aged drinking is beyond the scope of the study. In the literature review, we included several studies investigating this relationship, but only if the study also measured exposure.

[18] Directive 2010/13/EU of the European Parliament and the Council of 10 March 2010 on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the provision of audio-visual media services (Audio-visual Media Services Directive).

### Focus on a selection of nine Member States

The in-depth analysis in this study was focussed on nine Member States[19]. These Member States were selected on the basis of the following criteria:

1. Population size;
2. Gross Domestic Product (GDP) per capita;
3. The number of self- and co-regulations in place regarding alcohol marketing;
4. Forecasted advertising spending in 2014 as compared to 2013;
5. Confirmed data availability required for all tasks;
6. Geographic balance.

First, we established a list containing Members States that were either in the top- or the bottom three for criteria 1-4 (e.g., the three Member States with the highest and the three Member States with the lowest number of inhabitants were included in this list).

Thereafter, criteria 5 and 6 were used to reduce the list to a selection of nine Member States (marked dark blue on the map):

- Austria (AT);
- Czech Republic (CZ);
- Finland (FI);
- Germany (DE);
- Italy (IT);
- Netherlands (NL);
- Romania (RO);
- Spain (ES);
- United Kingdom (UK).

### Period for data collection

The data for Research Question 1 and advertisements for Research Question 3 were collected for the year 2013. The reason is that at the time of the data collection for Research Question 1, data on 2014 was not yet available and for consistency reasons, the data collection period for research question 3 was also set at 2013.

The data for Research Question 2 is collected through written enquiries, online data capture and a survey in the period May-September 2015.

## 2.2. Literature review

The literature was carefully reviewed with the objective to establish an overview of the relevant studies that have been conducted and their findings with regard to the exposure of minors to alcohol advertising on linear and non-linear audio-visual media services and other online services.

In addition, the literature review focused on identifying which features make alcohol

[19] One part of the analysis has a broader (geographical) scope: the WFA/Ebiquity dataset contains data for a total of 23 Member State**s** (including the nine selected Members States) and hence the analysis of that dataset covers 23 Member State. See section 2.4.2. for more information on this.

advertising appealing to minors (input for *Research Question 3)*[20].

### Selection of studies

To identify relevant publications, we used a structured search strategy and inclusion criteria. The search strategy and inclusion criteria were validated by the experts in our project team (Prof. Peter Anderson and Prof. David Jernigan). Relevant articles were identified by means of a search of the bibliographical databases PubMed and Google Scholar. First, PubMed was searched using MeSH terms and thereafter two reviewers independently scanned the titles and abstracts of the identified publications. Relevant publications were first selected for light reading, after which full texts were obtained. In addition, a search using key words was conducted in Google Scholar and the titles and abstracts for the publications on the first four pages of results were scanned. After removing duplicates, relevant publications were selected for light reading.

In Annex A (separate document) we provide our full search strategy, the inclusion criteria used, and the full references of the publications that were included in the review.

### Presenting the results of the review

For each part of the review, we made an overview table of relevant studies that were identified. These tabular overviews are presented in Annex B (separate document) and include information on:

- the geographical zone where the study was conducted;
- the purpose of the study;
- the methodology used;
- the main findings with regard to:
    - exposure of minors to alcohol advertising; and
    - the effect(s) of exposure to alcohol advertising on youth drinking; or
    - what appeals to minors in alcohol advertising.
- Declared interests and funding.

In Chapter 3 we present a summary of the main results of the literature review.

## 2.3. Approach for Research Question 1

**Research Question 1: How much alcohol advertising does an average minor watching linear audio-visual media services in the EU see?**

For Research Question 1 we collected data from two sources:

- GfK/Dentsu Aegis data, consisting of both viewing data and spotlists for alcohol advertising for the nine selected Member States for 2013; and
- The WFA/Ebiquity dataset, which contains information on global advertising impacts[21] for 23 Member States for 2013.

In the next sections we describe these datasets in more detail as well as the analysis conducted.

[20] One of the activities conducted in developing the analysis grid for the content analysis was a broader review of the literature. The publications to support the development of the analysis grid are discussed in Annex H (separate document).

[21] Impact is a measure of how often a spot is viewed: it yields the absolute number of times a spot was seen over a given timeframe. This is also referred to as the number of impressions.

### 2.3.1. GfK/Dentsu Aegis data

The GFK/Dentsu Aegis data consisted of:

- general viewing pattern data (by hourly timeslot); and
- spotlist data measuring advertising impacts.

Both the general viewing pattern data and the spotlists were collected for each of the nine selected Member States and cover the full 24 hours during the full year 2013.

The data have been collected as follows. In each of the selected Member States there is an audience panel, which is a representative sample of the population. This panel owns a box that is connected to their TV and records all activities related to the use of the TV screen. When a person wants to watch TV, he or she must first describe himself with a special remote. This allows the box to know who is watching TV. The box will then record which channels, programs, advertising spots, etcetera, the person is watching. It also records when and how long the viewer watches TV. All the data are then collected by an independent organisation. Every night, the data are checked and extrapolated to the total population and after that, it is sent to media agencies and TV sales houses.

For the purpose of this study, agencies in all selected Member States were asked to fill in a template with local figures. For some Member States these templates were filled in automatically and for others manually. The presentation of the figures differed across Member States and GfK therefore reorganised the data, such that it was all structured in a similar way.

#### Description of the data

*Age groups*

To allow for comparisons between minors and adults, both the viewing data and the spotlists provided a breakdown by age group. The category of minors was split into two age groups: 4-14 year olds and 15-17 year olds. These age groups were chosen to ensure representativeness of the age groups within the sample of collected data for 2013. Next to the two age groups for minors, the data also provided a breakdown for adults. Hence, the GfK/Dentsu Aegis data was analysed for three age groups:

- 4-14 year olds;
- 15-17 year olds;
- 18+.

Table 2.1 lists the universes per age group, that is, the total number of people per age group, in the GfK/Dentsu Aegis data.

**Table 2.1 Universes per age group, GfK / Dentsu Aegis data**

| | 4 – 14 universe (*1,000) | 15 – 17 universe (*1,000) | 18+ universe (*1,000) |
|---|---|---|---|
| Austria | 885 | 298 | 6,669 |
| Czech Republic | 1,098 | 278 | 8,428 |
| Finland | 723 | 178 | 4,247 |
| Germany | 7,167 | 2,593 | 61,468 |
| Italy | 6,185 | 1,706 | 49,958 |
| Netherlands | 2,202 | 615 | 12,738 |
| Romania | 2,194 | 579 | 16,196 |
| Spain | 4,975 | 1,344 | 37,027 |
| United Kingdom | 7,731 | 2,219 | 46,387 |

### *Sample of channels*

The general viewing pattern data covers a selected sample of channels in each Member State, including at least one channel specifically targeted at children. The samples of channels have a coverage of at least 70% monthly reach, which means that in each Member State, these channels were viewed by at least 70% of the population a month in 2013. Because the cumulative audience shares of the samples differ between Member States, cross-country comparisons should be made with caution[22].

The spotlists include a more extensive selection of channels compared to the general viewing pattern data. Channels that do not include alcohol advertising are not included in this selection[23].

### *Metrics*

The general viewing pattern data reports the *rating* per hourly timeslot expressed in both thousands and in percentages. The rating was calculated as follows:

- in thousands (rat000): the reach (that is, the proportion of the target group who was viewing) weighted by the Average Time Spent (that is, the amount of time watched per individual); and
- in percentages (rat%): the rat000 for a specific target group divided by the universe of that target group.

The rating per hourly timeslot can be interpreted as the audience in absolute terms (rat000) or as percentage of the target group (rat%) during that hour.

The GfK/Dentsu Aegis spotlist data measure alcohol advertising impacts in *Gross Rating Points* (GRP), both in thousands and in percentages. The GRP were calculated as follows:

- in thousands (GRP(000)): the absolute number of times an advertising spot was seen, which is also referred to as the 'gross impressions' of an advertising spot[24]; and
- in percentages (GRP%): the gross impressions of an advertising spot in a specific target group divided by the universe of that target group.

[22] The cumulative audience shares of the samples of channels for the full year 2013 are reported in the country reports in Annex C (separate document).

[23] For a complete overview of the channels included in the spotlist dataset, please refer to Annex D (separate document).

[24] It is called 'gross impressions' as it includes multiple exposures for some or all of the people that are exposed to an advertising spot. For example, if five people see an advertising spot two times, this counts as 10 gross impressions.

The GRP can be interpreted as the total number of times an advertising spot was seen in either absolute terms (GRP(000)) or as a percentage of the target group (GRP%). Hence, GRP measure the exposure to alcohol advertising, which is referred to as 'alcohol impacts' throughout this report.

### Analysis

The aim of the analysis of the GfK/Dentsu Aegis data was to provide:

- an overview of general viewing patterns broken down by age, time slots and channel (categories); and
- a global and detailed breakdown of advertising impacts by age groups and channel (categories).

To that end, the following analyses were conducted:

- For the general viewing pattern data, per age group:
    - Breakdown by day part;
    - Breakdown by hourly timeslots;
    - Breakdown by channel categories:
        - Type of channel: public or commercial;
        - Channel's target group: children or general.
    - Breakdown by individual channels.
- For the spotlist data:
    - Breakdown of the number of advertising spots by:
        - Sector;
        - Channel categories:
            - Genre (e.g. generalist, music, news, sports); and
            - Type of channel: public or commercial.
        - Individual channels.
    - Global breakdown of alcohol advertising impacts by:
        - Sector;
        - Channel categories:
            - Genre (e.g. generalist, music, news, sports); and
            - Type of channel: public or commercial.
        - Individual channels;
        - Age groups.
- Detailed breakdown of the number of alcohol advertising impacts per age group by:
    - Day part (total impact per day part);
    - Hourly timeslot;
    - Weekday;
    - Sector;
    - Channel category.

The results of the literature review indicate that the proposed breakdowns are in line with those used in other studies that analyse similar data.

Next, we analysed if differences in viewing patterns may explain the difference in the level of exposure to alcohol advertising between minors and adults. To that end, we weighted the absolute daily average alcohol impacts by the average daily viewing rates per age group. We also applied a weighting based on the average viewing rates per age group for a subset of channels, namely those channels that include alcohol advertising. To facilitate the weighting, this part of the analysis was conducted only for the channels

included in the viewing data sample.

All analyses were conducted for the individual Member States and, where possible and relevant, for all selected Member States together. The analyses were performed in Stata (version 13.1).

In sections 4.2 and 4.3 (Chapter 4) we report the preliminary results of the analysis of the GfK/Dentsu Aegis data, while more detailed per Member State results are available in Annex C (separate document).

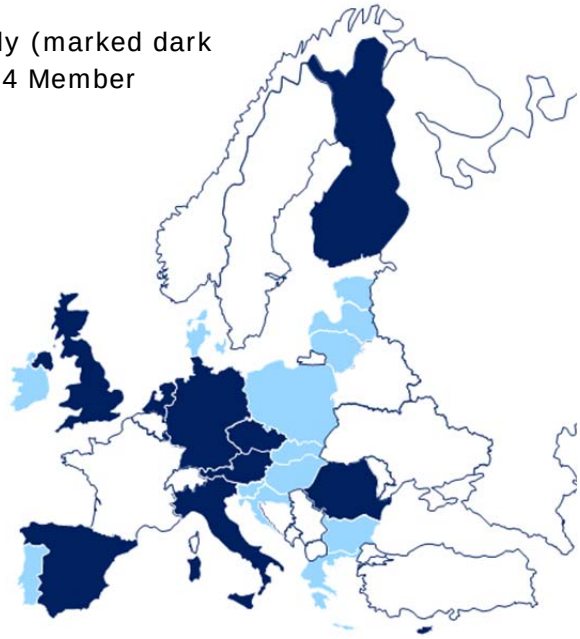
### 2.3.2. WFA/Ebiquity dataset

**Description of the data**

The WFA/Ebiquity dataset was compiled by the World Federation of Advertisers (WFA) and audited by Ebiquity. The sources of this data set are the standard currency national TV audience data as collected by third party research agencies appointed by local Joint Industry Committees or TV Associations.

Next to the nine Member States selected for this study (marked dark blue on the map), the data set covers an additional 14 Member States (marked light blue on the map):

- Belgium (BE);
- Bulgaria (BG);
- Croatia (HR);
- Denmark (DK);
- Estonia (EE);
- Greece (EL);
- Hungary (HU);
- Ireland (IE);
- Latvia (LV);
- Lithuania (LT);
- Poland (PL);
- Portugal (PT);
- Slovakia (SK);
- Slovenia (SI).



The WFA/Ebiquity dataset provides information on:

- Total national alcohol advertising impacts[25] for people of or older than the Legal Purchasing Age (LPA)[26] and sub-totals for certain alcohol categories as locally defined;
- Total national alcohol advertising Impacts for under-LPA, and subtotals for the categories mentioned above;
- Total national impacts for people of or older than the LPA;
- Total national impacts for under-LPA.

The data covers the full year 2013.

Table 2.2 lists the LPA and under-LPA universes, that is, the total number of people per target group, for the WFA/Ebiquity dataset.

[25] Impact is measured as total 30 second exposures.
[26] The LPA that was applicable on 1 January 2013.

**Table 2.2 Under-LPA and LPA universes in WFA/Ebiquity dataset**

| Member State | Under-LPA universe (*1,000) | LPA universe (*1,000) |
|---|---|---|
| Austria | 1,182 | 6,669 |
| Belgium | 1,725 | 8,616 |
| Bulgaria | 828 | 6,128 |
| Croatia | 622 | 3,468 |
| Czech Republic | 1,466 | 8,632 |
| Denmark | 861 | 4,464 |
| Estonia | 200 | 1,078 |
| Finland | 834 | 4,297 |
| Germany | 9,757 | 61,470 |
| Greece | 1,454 | 8,669 |
| Hungary | 1,322 | 7,858 |
| Ireland | 873 | 3,229 |
| Italy | 7,908 | 49,973 |
| Latvia | 302 | 1,711 |
| Lithuania | 438 | 2,444 |
| Netherlands | 2,857 | 12,929 |
| Poland | 5,431 | 30,314 |
| Portugal * | 1,121 | 8,564 |
| Romania | 2,794 | 16,228 |
| Slovakia | 815 | 4,275 |
| Slovenia | 250 | 1,704 |
| Spain | 6,413 | 37,582 |
| UK | 10,029 | 47,747 |

Data source: WFA/Ebiquity dataset.
* Note in dataset: for Portugal only the age breaks 4-14 and 15 years+ are available due to market sample size restrictions.

Next to the data, we also received a document with information on the channels that were monitored in each Member State [27].

*Differences between GfK/Dentsu Aegis data and WFA/Ebiquity data*

There are some differences between the GfK/Dentsu Aegis data and the WFA/Ebiquity data that need to be taken into account when comparing the findings based on these datasets. The differences concern the breakdown in age groups, the definition of sectors, and the included TV channels.

The main difference between the datasets is that where the GfK/Dentsu Aegis dataset reports the results for three different age groups that are uniform across Member States (4-14, 15-17, 18+), the WFA/Ebiquity dataset distinguishes between two groups based on the LPA, which results in differences in age brackets between Member States (and sometimes between sectors within a Member State). Table 2.3 provides an overview of the LPA in 2013 in each of the Member States in the WFA/Ebiquity dataset.

[27] IP Network data (2014). "European Union TV Landscapes & Audience Shares".

**Table 2.3 LPA in 2013 in the 23 Member States included in the WFA/Ebiquity dataset**

| Member State | Beer and wine | Spirits |
|---|---|---|
| Austria* | 16 | 16/18 |
| Belgium | 16 | 18 |
| Bulgaria | 18 | 18 |
| Croatia | 18 | 18 |
| Czech Republic | 18 | 18 |
| Denmark ** | 16/18 | 18 |
| Estonia | 18 | 18 |
| Finland*** | 18 | 20/18 |
| Germany | 16 | 18 |
| Greece | 18 | 18 |
| Hungary | 18 | 18 |
| Ireland | 18 | 18 |
| Italy | 18 | 18 |
| Latvia | 18 | 18 |
| Lithuania | 18 | 18 |
| Netherlands | 16 | 18 |
| Poland | 18 | 18 |
| Portugal | 16 | 18 |
| Romania | 18 | 18 |
| Slovakia | 18 | 18 |
| Slovenia | 18 | 18 |
| Spain**** | 16/18 | 16/18 |
| UK | 18 | 18 |

*For spirits, the LPA differs between regions, ** For beer and wine, the LPA off premises is 16 and the LPA on premises is 18.
*** For spirits, the LPA off premises is 20 and the LPA on premises is 18, ****Some autonomous regions have a LPA of 16 years.
Source: European Alcohol Policy Alliance (2014), Alcohol Purchase Age Limits in Europe, page 11.

Next to the differences in the age groups, there are minor differences in the definition of what is included in each of the sectors (i.e. beer, wine, spirits, other). The definitions of the sectors as used per Member State in the GfK/Dentsu Aegis data are reported in the country reports in Annex C (separate document).

Finally, the channels that are included in the datasets differ: the WFA/Ebiquity dataset covers slightly more channels than the GfK/Dentsu Aegis data.

### Analysis

The aim of the analysis of the WFA/Ebiquity dataset was to assess the exposure of minors to alcohol advertising and to compare this to:

- the exposure of adults (LPA audience) to alcohol advertising; and to
- the exposure of minors (under-LPA audience) to total advertising.

Before analysing the advertising impacts, the number of spots was considered in order to assess:

- the number of total market spots per Member States;
- the number of alcohol spots per Member State;

- the number of alcohol spots as a proportion of the number of total market spots per Member State;
- the number of alcohol spots per sector, per Member State.

Next, the exposure of both minors and adults to advertising was analysed, by assessing:

- With regard to total market exposure:
  - Exposure per audience group;
  - Exposure of minors (under-LPA audience) as a percentage of total exposure.
- With regard to exposure to alcohol advertising:
  - Exposure per average individual per audience group;
  - Exposure to alcohol brands as a percentage of total market exposure, by age group;
  - Exposure of minors (under-LPA audience) as a percentage of total exposure to alcohol brands;
  - Shares of exposure to alcohol brands by sector (beer, wine, spirits, other), both for the total universe and per age group.

Because of the aggregated nature of the data provided, we could only analyse a global breakdown of (alcohol) impacts.

The results of the analysis of the WFA/Ebiquity dataset are presented in section 4.3 (Chapter 4).

## 2.4. Approach for Research Question 2

**Research Question 2: How much alcohol advertising does an average minor see on non-linear audio-visual media services and other online services in the EU?**

In answering Research Question 2 we were asked to consider both the perspective of the advertisers as well as the perspective of the viewers. Below, we present our approach for each perspective.

### 2.4.1. Perspective of the advertisers

In order to establish an overview of the (potential for) online exposure of minors to alcohol advertising from the perspective of the advertisers, data and information was collected through a combination of desk research, enquiries to selected online services, enquiries to the industry, and online data captures for selected YouTube channels and websites. The qualitative approach focussed mainly on online services for which users need to log-in, while the online data capture focussed on situations where users are not logged-in, and thus age cannot be verified.

Initially, the plan was to also include Facebook, Instagram and Twitter in the online data capture. However, after further review of Facebook's and Twitter's Terms and Conditions, it turned out that prior permission was needed. It was therefore decided that before starting the online data capture on these channels, formal approval needed to be sought from these online services. The requests for approval of the suggested approach were submitted to Facebook and Twitter. Both Twitter and Facebook replied that they

were unable to grant approval for this approach, because the creation of fake profiles breaches their terms and conditions. Therefore we used a more qualitative approach, based on desk research and enquiries to online services, to analysing the risks for exposure of minors to alcohol advertising on Facebook, Instagram and Twitter .

### Desk research and enquiries to selected online services

Based on the desk research and enquiries to selected online services we created an overview of the measures that online services have in place to help advertisers to advertise their products responsibly and in compliance with all applicable laws and regulations and thereby, to restrict the exposure of minors to alcohol advertising. This overview includes the age-mechanisms (including age-registration and age-verification) and advertising policies of Facebook, Instagram, Twitter, and YouTube.

### Enquiries to the industry

A short questionnaire was sent out to 12 industry members and three trade associations in order to gain a better understanding of:

- why certain online services are used more for advertising purposes than others; and
- which self-regulation initiatives industry members apply to protect minors from the exposure to alcohol advertising online.

The first part of the questionnaire focussed on the use of online services for advertising purposes. To that end, the industry members were asked to fill in the following table:

**Table 2.4 Enquiries to the industry – question on the relative use of online services**

| Online service | Relative use (1="most used", 2="second most used", etc.) | Explanation |
|---|---|---|
| Facebook | | |
| Twitter | | |
| YouTube | | |
| Instagram | | |
| Pinterest | | |
| Tumblr | | |
| Online gaming platforms | | |
| Other, namely … | | |

In addition, respondents were asked if they would like to provide any additional information with regard to their use of online marketing channels as well as the self-regulation initiatives that they apply to protect minors from the exposure to alcohol advertising online.

In Section 5.3 (Chapter 5) we present a summary of the responses to this questionnaire.

### Online data capture on selected YouTube channels and websites

To assess what type of advertisements are served to specific audiences, data captures on YouTube and websites were conducted for profiles of minors (male and female) and adults (male and female) in all nine selected Member States.

The channels and websites were selected to present a mix of genres (music, beauty, games, etc.) and online activities (e.g. video streaming, playing games, sending e-mails,

etcetera[28]). For a complete overview of the YouTube channels and websites that have been monitored, we refer to Annex E (separate document).

In the next subsections we outline the approach for the data capture on YouTube and selected websites and the preparation of the data files. The results of the capture are presented in section 5.4 (Chapter 5).

*YouTube data capture*

A list of popular YouTube channels was compiled for each selected Member State, gender and age category using information collected from sites such as SocialBlade and TrendsDashboard[29].

This information was then fed in to the data capture tool "EcoSim". Over a period of two months (May and June 2015), the EcoSim tool was used to automate the activity of visiting and viewing YouTube videos. This resulted in the production of 1,319 screen capture videos, containing approximately 109 hours of video footage. The data capture footage mainly included short clips (averaging five minutes) allowing us to capture advertising content that appeared at the start of a video (pre-rolls), however the footage also included longer clips (up to 20 minutes) allowing us to capture mid-rolls.

The scheduling facility within the EcoSim tool enabled varying the times of the data capture ensuring a good mix of time slots (weekdays, weekends, mornings, afternoons, evenings and overnight).

During the early stages of testing, it was observed that when attempting to monitor Youtube channels in a different Member State then the Member State where the actual monitoring took place (i.e. the UK), the profile was automatically re-directed to the UK version of YouTube. This was due to YouTube's geolocation detection where YouTube attempts to direct you to appropriate language/country part of its site based on the geographic location of your Internet Protocol (IP) address. In order to overcome this, subscriptions for two commercial proxy providers (FoxyProxy and HideMyAss) were purchased. This solution allowed for simulation of internet browsing from all nine selected Member States.

Functionality was built into EcoSim tool in order facilitate profile selection within Chrome and Firefox before starting each data capture. This was to guard against the risk of "spillovers" between profiles, where results from one profile were influenced by remaining cookies or other tracking tools from another profile[30]. This technique enabled the building of a rich browsing history for a particular profile type (e.g. UK, girl, aged

[28] The categories of online activities are the same as those used in the survey amongst minors, that has been conducted as part of this study.

[29] Full list of sources:
http://socialblade.com/youtube/top/country/GB/mostsubscribed;
https://www.youtube.com/trendsdashboard;
https://www.commonsensemedia.org/blog/12-best-youtube-channels-for-kids-and-teens;
http://vidstatsx.com/;
http://quib.ly/qu/should-we-be-worried-about-the-minecraft-videos-our-kids-watch;
http://www.buzzfeed.com/alanwhite/how-the-slow-mo-guys-took-over-youtube#.ddm964j7G;
https://www.commonsensemedia.org/blog/the-10-best-kid-friendly-minecraft-channels-on-youtube.

[30] Although in reality there may be spillovers between browsing histories of different people (because devices are shared with others) this possibility was eliminated from the used approach as this part of the study concerns the perspective of advertisers and therefore the aim was to see what advertisements are served when it can be inferred that the user is a minor.

14), increasing the likelihood of advertising content targeting this particular profile type.

*Website data capture*

A list of popular websites was compiled for each selected Member State, gender and age category using information collected from sites such as SimilarWeb and Quantcast.

Next, for each website a list was compiled of up to five popular Uniform Resource Locators (URLs) that could be visited during the data capture[31]. This information was then fed in to the data capture tool "EcoSim". Over a period of two months (May and June 2015), the EcoSim tool was used to automate the activity of visiting and interacting with a website. A web automation tool (Selenium) was used to simulate the user scrolling up and down on a webpage. This resulted in the production of 950 screen capture videos, containing approximately 47 hours of video footage.

The scheduling facility within the EcoSim tool enabled the varying of the times of the data capture ensuring a good mix of time slots (weekdays, weekends, mornings, afternoons, evenings and overnight).

Prior to the second month of data capture, the selection of website lists was further refined, removing sites which did not feature advertising content during the first month of monitoring and, where data was available, replaced these removed websites with other websites.

*Preparation of data files*

Data files collected from the YouTube and Website data captures were checked and validated and then uploaded to a Microsoft OneDrive cloud storage area for review. For each batch of files uploaded an accompanying worksheet was created containing key information about each data capture file (i.e. Member State, platform, age category, genre, website URL/name of YouTube channel, date and time of capture, length of video, etc.).

### Review of the online data capture files

The data files from the YouTube and Website data captures were reviewed and coded by one researcher, to ensure consistency in coding. This reviewing has been done in separate batches for each platform, in each month, per Member State.

As mentioned, each batch of data files was accompanied by a worksheet containing a separate record for each individual data capture. All these worksheets have been combined in one analysis worksheet with boxes separating the different Member States and analysed platforms. In the analysis sheets, columns were added to count the number of pre-rolls, mid-rolls and banners in each capture[32]. Only these three types of advertisements were coded: the contents of the YouTube clips were not analysed for other types of marketing such as product placement.

[31] For example: http://www.dailymotion.com/gb/channel/fun, http://www.dailymotion.com/gb/channel/shortfilms, http://www.dailymotion.com/gb/channel/news, http://www.dailymotion.com/gb/channel/sport).

[32] These different types of advertisement are elaborated on in Chapter 5.

### 2.4.2. Perspective of the viewers

For analysis from the perspective of the viewers, data was collected through a one-time survey amongst minors in each selected Member State. The sample of minors for the survey was drawn from members of GfK's online panels in each of these Member States. The survey employed a Computer Assisted Web Interviewing (CAWI) methodology[33]. All questionnaires complied with ESOMAR codes and guidelines on interviewing minors[34].

The fieldwork took place between mid-June and mid-July 2015.

#### Age groups

The following age groups were used for this part of the study:

- 4 - 8 years;
- 9 - 13 years;
- 14 - 17 years.

#### Quota

The quota for this survey was set for 900 minors in each of the nine Member States (quota for total sample = 8,100 minors). The sample quota within each Member State was set for all three age groups in proportion of minors in the population in each of these groups[35]. In addition, the quota per Member State was also set on gender to ensure a balance in respondents.

#### Developing the questionnaires

Due to the large differences in the ability of 4-17 year olds to answer question items, two different questionnaires were developed: one targeting the youngest age group and one targeting the older two age groups. Certain (simple) questions regarding the online activity of the respondents are asked in both questionnaires giving us data that covers all ages. Other question items are targeted at the specific age groups according to their differing abilities. In addition, because of ethical concerns, it was decided that the questionnaire for the youngest age groups should not include questions on alcohol advertising[36]. Rather, the exposure of the 4-8 year olds to alcohol online advertisement from the perspective of viewers was estimated using a qualitative approach, based on the results for the older groups on the relationship between online activity and (perceived) exposure (see also the subsection 'Analysis').

The youngest age group were questioned via their parents. At the end of the questionnaire they were asked to indicate if the parent filled in the questionnaire together with their child or by themselves on behalf of their child. For the oldest two age groups we expected the minors to fill in the questionnaire themselves. At the end of the questionnaire they were asked to indicate if they received help and from whom. This allowed us to take the help minors received into account in the analysis.

---

33 The CAWI methodology is an Internet surveying technique.

34 See: http://www.esomar.org/uploads/public/knowledge-and-standards/codes-and-guidelines/ESOMAR_Codes-and-Guidelines_Interviewing-Children-and-Young-People.pdf. ESOMAR defines a "child" as "aged 13 or under", and a "young person" as "aged 14-17".

35 Figures on population size per age group obtained from Eurostat.

36 However, a question on advertising in general was included.

The questionnaire consisted of four 'chapters' of questions that are in line with those used in other studies:

- Online activity (all age groups);
- Details on online activity (partly for all age groups, partly only for age groups 9-13 and 14-17);
- Awareness of (alcohol) advertising[37] (full chapter for age groups 9-13 and 14-17 and one question on advertising in general for the youngest age group);
- Memory for alcohol advertising (asking minors if they can describe the latest alcohol advertisement(s) they saw online) (age groups 9-13, 14-17).

No actual alcohol advertisements were shown in the questionnaires.

After the questionnaires were scripted, they were tested by the project team. As a result of this testing, several final changes were made and after that, the survey was launched.

The final versions of the questionnaires are presented in Annex F (separate document).

### Analysis

The analysis of the survey results was conducted for the total sample as well as for the individual Member States. Results per question are presented both in total and split by age group.

The analysis was performed in Stata (version 13.1) and focussed on descriptives of the survey results as well as testing the relationship between online activity and alcohol advertisement recall. In reporting the results in Chapter 6, the findings on (detailed) online activity are used to set the scene for the analysis of self-reported exposure of minors to alcohol advertising online and serve as an input for testing the relation between online activity and self-reported exposure.

In order to estimate the exposure to alcohol advertising of the youngest age group from the perspective of viewers, we considered conducting a quantitative extrapolation of the results of the older age groups. However, in the end we decided to use a qualitative rather than a quantitative approach for this for the following reasons:

- In a quantitative extrapolation we would predict the outcome (memory for alcohol advertising) for the youngest age group based on only two observations (relationship between online activity and memory for alcohol advertising among minors aged 9-13 [observation 1] and among minors aged 14-17 [observation 2]). This number of observations is clearly insufficient for a robust quantitative extrapolation;
- The predicted memory level for alcohol advertising among the youngest age group will not be very reliable, because it will be based on the very strong (and incorrect) assumption that these age groups are in fact fully comparable. In particular, extrapolation would assume that *if* the three groups would be exposed to the exact same advertisement (on the same site/app), the probability that they will recall it afterwards is the same across the three groups. This assumption should be considered unlikely to hold true.

[37] Minors were not given a detailed definition of what was considered advertising in these questions, hence the results refer to what is perceived as advertisement.

## 2.5. Approach for Research Question 3

**Research Question 3: For audio-visual media services (both linear and non-linear) and other online services, what type of alcohol advertising does an average minor see in the EU? Are minors specifically targeted by alcohol advertising? In how far is alcohol advertising appealing to minors and how? In particular, in how far do the provisions of the AVMSD and their application afford the required level of protection?**

Research Question 3 focusses on the content of alcohol advertising on AV media services (both linear and non-linear) and other online services, in the nine selected EU Member States. More specifically, it considers what type of alcohol advertising an average minor sees, if minors are specifically targeted by alcohol advertising and to what extent alcohol advertising is appealing to minors and in what way. Hence, the analysis not only considered if the advertisements were specifically aimed at minors, but takes a broader perspective and analysed what is actually shown in the advertisements, and if this can be considered appealing to minors. This does not reflect any judgement on the presence of certain elements, but rather describes the content of the analysed advertisements.

For the purpose of the content analysis, the following activities have been undertaken:

- Development and validation of the analysis grid;
- Collecting advertisement for the content analysis;
- Application of the analysis grid.

### 2.5.1. Development of the analysis grid

In order to perform the content analysis, we developed an analysis grid based on:

- the previously used grid by GfK AUDIMETRIE;
- the articles 9 (1) and 22 a-f AVMSD;
- review literature on marketing, public health and under-aged drinking[38];
- theoretical and methodological discussions among the project team; and
- pilot testing.

The analysis grid has been validated by a peer review panel.

The analysis grid is a tool for assessing:

- whether the content of alcohol advertising reflects the above-mentioned articles of the AVMSD; and
- whether advertisements, in a more general sense, can be considered to be appealing to minors.

According to the Article 9(1) e AVMSD, the Member States shall ensure that AV communications in media comply with following requirements:

> (e) Audio-visual commercial communications for alcoholic beverages shall not be aimed specifically at minors and shall not encourage of immoderate consumption of such beverages.

[38] For an overview of the results of the review of this literature, please refer to Annex H (seperate document).

According to the Article 22 AVMSD, television advertising and teleshopping for alcoholic beverages shall comply with the following criteria:

(a) it may not be aimed specifically at minors or, in particular, depict minors consuming these beverages;
(b) it shall not link the consumption of alcohol to enhanced physical performance or to driving;
(c) it shall not create the impression that the consumption of alcohol contributes towards social or sexual success;
(d) it shall not claim that alcohol has therapeutic qualities or that it is a stimulant, a sedative or a means of resolving personal conflicts;
(e) it shall not encourage immoderate consumption of alcohol or present abstinence or moderation in a negative light;
(f) it shall not place emphasis on high alcoholic content as being a positive quality of the beverages.

The starting point of our work was the analysis grid developed by GfK AUDIMETRIE for the purpose of assessing whether the rules of the AVMSD had been able to sustain the required level of protection. As our study not only considers the provisions of the AVMSD, but also aims to evaluate the ways in which the advertisements are appealing to minors, existing research on marketing, communication and under-aged drinking was used extensively to identify the elements that have been shown to attract minors in advertising and, more generally, in substance use. In Annex H (separate document) we provide a description of these elements, supported by references to relevant literature on this topic.

The analysis grid is a theoretical model; it is not based on an inductive analysis of actual contents of alcohol advertisements, but rather, it points out elements that reflect the AVMSD criteria, or would potentially be appealing to minors according to existing scientific literature. The grid was thus established prior to the analysis, although alcohol advertisements were actively utilised during its development.

### Pilot testing

The grid has been piloted twice. First, one (cider) advertisement was evaluated in-depth using the analysis grid. On the basis of this pilot, the basic theoretical stances were discussed thoroughly. The sub-categories were defined accordingly and made more precise. In the second test eight advertisements (six for beer and two for cider) were evaluated by project team members, including those who were to conduct the actual coding. All these team members coded the advertisements independently and after that discussed the sub-categories in order to reach a consensus. The outcome was that the sub-categories and descriptions were again further refined.

### Peer review

The analysis grid has been reviewed and validated by a peer review panel of five members: Dr. Mark Grindle (University of Stirling), Professor Juan Miguel Rey Pino (University of Granada), Professor Karine Gallopel-Morvan (School of Public Health (EHESP), Professor Martin Stafström (Lund University) and Professor Bas van den Putte (University of Amsterdam). The panel received the full report on the analysis grid, including the description of the task and the development process, and the justification for the criteria. In addition, the panel members received an assessment form with specific questions regarding the analysis grid and supporting material. The overall

response by the reviewers was positive, but several concerns were raised especially relating to the ways in which minors are actually targeted in advertisements and how the age of key protagonists should be assessed. The comments and suggestions made were discussed within the project team and were taken into account as accurately as possible when preparing the new version of the grid. For a summary of the main points raised by the peer review panel, please see Annex I (separate document).

### Categories and subcategories

Tables 2.5 and 2.6 provide an overview of the categories and subcategories of the analysis grid, including a description. The subcategories are partly derived from the AVMSD (coloured boxes) and partly based on the literature review to identify additional key characteristics of contents that minors are likely to find appealing (non-coloured boxes). For a more elaborate discussion of these subcategories, please see Annex H (separate document).

**Table 2.5 Overview of analysis grid categories and subcategories, part 1: content aimed specifically at minors**

| Categories<br>Subcategories | Description |
|---|---|
| **Aimed specifically at minors** | |
| Appearance of the age of protagonist(s) >18/<18 (22a) | How old does the protagonist/s look like? |
| Protagonist(s) as a primary group or reference group for minors | Protagonist(s) represent(s) a group which the young recipients can associate themselves with, for example a youth sub-cultural group or youth related lifestyles. |
| Young people's partying as a context of alcohol use | The context of the advertisement is young people's partying scene (including celebration, bar, disco, clubbing, home party). |
| Humour | Use of humorous mannerisms, satire, sarcasm, physical humour (e.g., slapstick), jokes, irony, spoofs, parody, illogical or improbable situations. |
| Celebrities | The advertisement portrays celebrities. |
| Animals | Advertisement utilizes animal characters, real or animated. |
| Online-participation | Is there anything in the ad that suggests the minor could or should participate with the content or the brand or its products online further? |

Note: The subcategories that are derived from the AVMSD are coloured (brown).

**Table 2.6 Overview of analysis grid categories and subcategories, part 2: assessing AVMSD criteria and themes appealing to minors in advertisement**

| Categories<br>Subcategories | Description |
|---|---|
| **Physical performance** | |
| Alcohol as an enhancement of physical performance (22b) | The advertisement suggests that alcohol improves performance in physical activities, such as sports activities or dancing |
| Connection to driving a vehicle (22b) | The advertisement associates drinking with driving a vehicle. |
| Representation of athletic bodies | The advertisement contains athletic bodies. |
| Presence of sport activities | The brand and the product are associated with watching or participating in sports liked by teens (e.g. football, basketball, basketball, hockey, racing, snowboarding, skateboarding, cycling). |
| Alcohol as a reward after exercise | Alcohol is used as a means to reward oneself after physical activities. |
| Adventurous or risky setting | Alcohol is associated with challenging and/or competitive activities such as mountain climbing or rafting or other risky settings aiming at impressing others. |
| Alcohol as an enhancement of physical performance in youth setting | Alcohol is shown as improving physical performance located in youth setting (such as party, disco, skateboard park, play) |
| **Social success** | |
| Alcohol is associated with and/or is shown as contributing towards social success (22c) | The protagonist in the advertisement is shown to be popular and socially successful or is attracting positive attention. The advertisement suggests that drinking alcohol makes a person more popular and socially attractive. Product use is associated with increased personal confidence and ease in a social setting. Social success can be interpreted not only as the positive attention given to a person, but also, and more age-relevantly, as belonging and inclusion to a group. |
| Tokens of wealth | The advertisement utilizes fancy products or known indicators of wealth and success: electronics, boats, jewellery, cars, luxury clothing and accessories etc. |
| Alcohol enhances or sustains social interaction | The advertisement suggests that alcohol helps in bonding with other people and contributes to the emergence of positive and pleasant atmosphere in a social situation. An example of this is that there appears to be a change in the atmosphere and setting after the product and brand is introduced. Also, the advertisement may just associate the good atmosphere with drinking, implying that alcohol caused the good mood. |
| **Sexual success** | |
| Alcohol is associated with and/or is shown as contributing towards sexual success (22c) | The advertisement associates the product with persons who are portrayed as attracting sexual attention, and/or suggests that drinking alcohol makes a person more sexually attractive and/or helps in finding a sexual partner. |

| Categories<br>Subcategories | Description |
|---|---|
| Enhanced sexual performance or enjoyment (22c) | The advertisement suggests that alcohol contributes to a better performance in sexual act or increases sexual pleasure. |
| Male/female sexualized body as attention grabber | Male or female body is portrayed as a sexualized object. |
| **Mood-altering effects** | |
| Therapeutic, stimulating or sedative effects of alcohol (22d) | The advertisement suggests that alcohol can be used as a means of altering one's state of mind, for example to calm oneself or stimulation. The change in the state of mind is portrayed. |
| Alcohol transforms and/or helps to sustain the mood of the setting | The advertisement suggests that alcohol caused the good mood of the setting, or there is a significant change in the general mood or atmosphere after introducing the alcoholic product. |
| Alcohol is associated with relaxation | The advertisement portrays alcohol in a relaxing setting indicating holiday or free-time leisure. |
| **Enhancement of agency** | |
| Alcohol portrayed as a solution to a personal problem (22d) | The advertisement gives alcohol a positive role in solving and mitigating personal conflicts or tensions. |
| Protagonist portrayed as extraordinary competent autonomous agent | The advertisement portrays a protagonist who is able to master all sorts of situations as an independent agent. The protagonist's identity position differs from the ordinary and (s)he does not need to conform to conventional norms or authorities. |
| Enhancement of competence related to gender roles | The advertisement associates drinking with fulfilling and mastering masculine or feminine gender roles, or with emancipatory aims at opposing traditional gender roles. |
| **Immoderate consumption, abstinence and moderation** | |
| Positive portrayal of immoderate consumption (22e) | The advertisement portrays immoderate drinking in a positive light. |
| Occasions and settings indicative of immoderate consumption (22e) | The setting implies immoderate consumption, such as heavy partying. |
| Cautious attitudes, moderation or abstinence in a negative light (22e) | Moderation, abstinence and/or a cautious attitude towards drinking or other activities in the setting are seen in a negative light. |
| Presence of abstinent person as an outsider | The advertisement portrays person/persons who do not drink and are not part of the in-group. |
| Downplaying the risks of alcohol | The advertisement implies that drinking alcohol is not risky, or risk-aversive attitude is being ridiculed. |
| **High alcoholic content** | |
| Positive price/content message (22f) | The advertisement implies that the product is reasonably priced, though the alcoholic content is high. |
| High-content ingredient of a mixed drink highlighted (22f) | The advertisement portrays strong alcohol content in a mixed product as a positive quality, not only as product information. |

Note: The subcategories that are derived from the AVMSD are coloured (brown).

### 2.5.2. Collecting advertisements for the content analysis

We collected a sample of alcohol advertisements for each of the nine selected Member States.

#### Advertisements on linear AV media services

The advertisement for the linear AV media services were purchased from Ebiquity, who provided us with lists of all alcohol advertisements that aired in 2013 in the selected Member States. These lists provided information on, among other things, the title of the advertisement, the brand, the sector, a summary of the story line of the advertisement and its duration. From these lists, 50 advertisements per Member State could be selected, from which a final section of 10 advertisements could be made. For this final selection, verbatim translations to English were provided.

##### *Selecting the advertisements*

The first step in the selection of 50 advertisements per Member State was based on a categorisation per sector (beverage type). Using the information on national impacts per sector in WFA/Ebiquity dataset (used in the analysis for Research Question 1), the shares of the different sectors in the selection of 50 advertisements was determined. For example, when the shares of the impacts per sector were 60% beer, 30% spirits and 10% wine, we set the quota for the selection as follows: 30 beer ads, 15 spirits ads and five wine ads.

Secondly, we set quotas for selection within a sector by brand, based on additional data we received from Ebiquity regarding the number of insertions per brand per Member State in 2013. Building on the previous example: say 30% of all insertions in the beer sector in a Member State were for *Brand X*, the quota for selecting *Brand X* ads would be set at nine.

As a third step, we selected individual advertisements per brand. This was done based on a short description of the content of the advertisement to ensure that per brand not only advertisements from the same campaign were selected.

Next, the 450 advertisements in total, consisting of 50 advertisements per selected Member State, were made available to the project team through the online portal of Ebiquity. Out of these 50 advertisements per Member State, 10 advertisements per Member State were selected, using the same approach as before (spilt per sector, spilt per brand, selection of individual advertisement). In Annex J (separate document) we list the final selection of advertisements.

#### Advertisement on non-linear audio-visual media services and other online services

For the online advertisements, three advertisements per Member State have been selected based on most frequent occurrence of the overall campaign on the Internet.

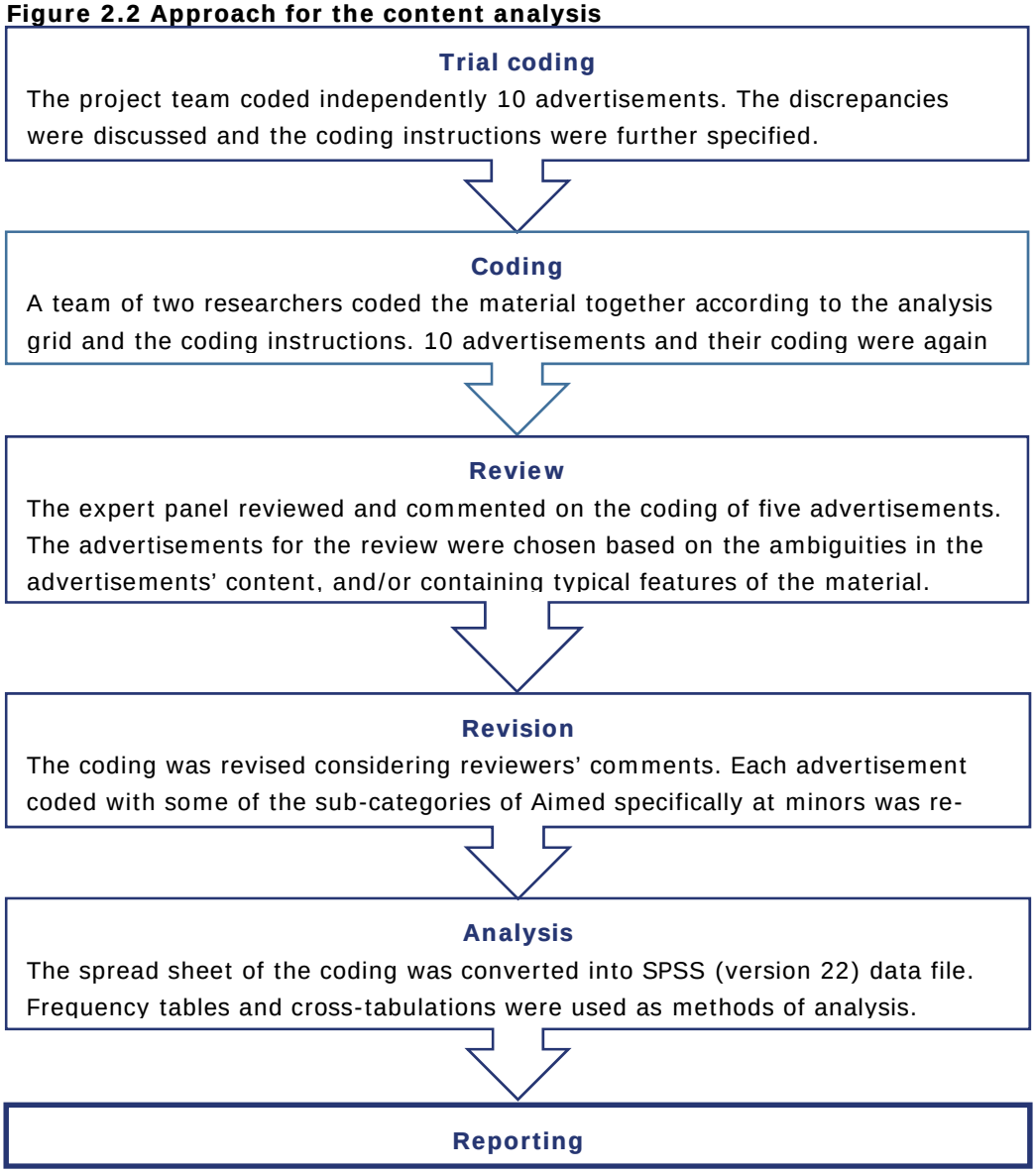
Initially, the idea was to include advertisements on non-linear AV services and other online services that would be collected through the online data capture that is part of the approach for Research Question 2. However, as during the online data capture only a very limited number of advertisements was encountered, an alternative approach had to be explored. It was decided to purchase up to three online advertisements per Member State from Ebiquity. Ebiquity provided for each Member State the banners with the

highest number of 'advert events' by campaign in 2013. Because of limitations in the availability of online advertisements, the sample only includes banners.

### 2.5.3. Application of the analysis grid

Figure 2.2 illustrates the approach used in the content analysis of the selected advertisements.

**Figure 2.2 Approach for the content analysis**




All findings and conclusions in this study only relate to the specific advertisements that were reviewed, that is, these results cannot be extrapolated to draw conclusions on alcohol advertisements on AV media services (both linear and non-linear) and on other online services in general.

## 2.6. Stakeholder review

A stakeholder review was organised as part of this study. The aim of the review was to get feedback from key stakeholders on the preliminary findings through:

- Written comments on the preliminary draft study report; and/or
- The stakeholder review meeting that was held in Brussels on 7 September 2015.

Relevant stakeholders were approached to ask if they would be willing to participate in the review. Invitations were sent out by email and followed up both by email and phone. The stakeholders that expressed their willingness to participate received:

- The preliminary draft study report, presenting the preliminary findings of the study; and
- A questionnaire for providing feedback on the report.

Stakeholders were invited to submit a first draft of their written comments prior to the stakeholder meeting.

Representatives from 26 stakeholders participated in the meeting in Brussels. During the meeting, the preliminary findings of the study were presented and the main comments of the stakeholders were discussed.

After the meeting, final versions of the written comments could be submitted. All comments were carefully considered in drafting the final report.

In total, 35 stakeholders participated in the stakeholder review via written comments and/or participation in the stakeholder review meeting. For a list of stakeholders that participated, please see Annex K (separate document). For a summary of the main comments raised during the stakeholder review, please see Annex L (separate document).

# 3. Literature review

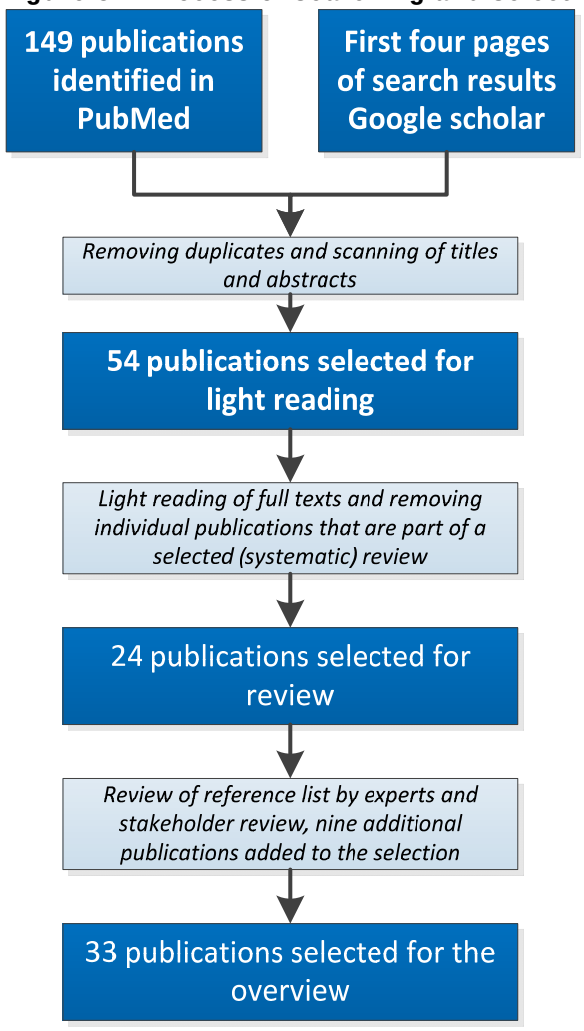
## 3.1. Overview of studies on the exposure of minors to alcohol advertising on linear and non-linear audio-visual media services and other online services

The first part of the review aimed to identify the relevant studies that have been conducted on the online exposure of minors to alcohol-related advertising on linear and non-linear AV media services and other online services.

### 3.1.1. Selection of publications

In Figure 3.1, we illustrate the selection process of the publications for this part of the review.

**Figure 3.1 Process of searching and selecting publications**




PubMed was searched using MeSH terms. Two reviewers independently scanned the titles and abstracts of 149 identified publications, after which 50 were selected for light reading. In addition, a search was conducted in Google Scholar. Four additional publications were selected for light reading.

For the resulting 54 publications full texts were obtained and after light reading by the two reviewers and eliminating individual publications that were part of a selected

(systematic) review, 24 publications were selected. Subsequently, the experts in our team (Prof. Peter Anderson and Prof. David Jernigan) reviewed the reference list to check whether it was complete and a stakeholder review of the preliminary study report was conducted. As a result, nine additional relevant publications (meeting the inclusion criteria) were identified and added to the selection. This led to a final selection of 33 publications. The experts also informed us on several relevant forthcoming publications. As these publications are not yet in the public domain, we have not included them in the review.

### 3.1.2. Summary of the results

Table 3.1 presents the authors and year of publication of the 33 selected publications.

**Table 3.1 Overview of selected publications**

| No. | Author(s) (year) | No. | Author(s) (year) | No. | Author(s) (year) |
|---|---|---|---|---|---|
| 1 | Anderson et al. (2009) | 12 | McClure et al. (2013) | 23 | Martin et al. (2002) *(Proceedings of a symposium: 2001 Research Society on Alcoholism symposium)* |
| 2 | Nelson (2010) | 13 | Morgenstern et al. (2011a) | 24 | RAND Europe (2012) |
| 3 | Smith and Foxcroft (2008) | 14 | Pettigrew et al. (2012) | 25 | Ross et al. (2013) |
| 4 | Austin and Hust (2005) | 15 | Ringel et al. (2006) | 26 | Ofcom (2013) |
| 5 | Chung et al. (2010) | 16 | Tucker et al. (2013) | 27 | De Bruijn (AMPOHORA) (2013) |
| 6 | Collins et al. (2005) | 17 | Unger et al. (2003) | 28 | De Bruijn et al. (AMPHORA) (2012) |
| 7 | Fielder et al. (2009) | 18 | Winpenny et al. (2013) | 29 | De Bruijn et al. (AMMIE) (2012) |
| 8 | Grenard et al. (2013) | 19 | Winter et al. (2008) | 30 | Gordon et al. (2011) |
| 9 | Jernigan et al. (2005) | 20 | Centre for Disease Control and Prevention (2013) | 31 | Scharf et al. (2013) |
| 10 | Jernigan and Rushman (2014) | 21 | Davoren et al. (2012) *(Letters)* | 32 | Morgenstern et al. (2011b) |
| 11 | Jones and Magee (2011) | 22 | Jernigan (2006) *(Editorial)* | 33 | Morgenstern et al. (2015) |

Of the 33 studies included in the review, 24 are scientific (peer-reviewed) publications [numbers 1 – 19, 25, 30 – 33 in Table 3.1] and 9 publications can be considered grey literature [numbers 20 – 24, 26 – 29 in Table 3.1]. Three of the 24 scientific publications are (systematic) reviews [numbers 1 - 3 in Table 3.1].

### Geographical zone

In the three (systematic) reviews, the majority of the studies included (70-77%) are conducted in the United States.

This also holds for the individual scientific publications included in this review:

- United States: 12 [4, 5, 6, 8, 9, 10, 12, 15, 16, 17, 31, 33];
- Australia: 4 [7, 11, 14, 19];
- Germany: 2 [13, 32];
- United Kingdom: 2 [18, 30];
- The Netherlands: 1 [25].

Out of the publications that can be considered grey literature, three studies were conducted in the United States [20, 22, 23], one in Australia [21], one in the United Kingdom, the Netherlands and Germany [24], two in the United Kingdom [26], two in Germany, Italy, the Netherlands and Poland [27, 28] and one in Bulgaria, Denmark, Germany, Italy and the Netherlands [29].

Although the majority of scientific publications are from the US, the majority of the grey literature included is based on studies conducted in the EU. The experts in our team informed us that there are several forthcoming studies (amongst others from the AMPHORA project) that are also conducted in the EU and show similar results as the studies conducted in the US.

### Purpose of the study

The studies differ in their purpose in relation to measuring exposure of minors to alcohol advertising and/or the effect of this exposure on youth drinking:

- 18 of the studies focus on (methodologies for) measuring exposure; and
- 15 of the studies focus on (methodologies for) examining the relationship between exposure and youth drinking.

### Type of media services

Of the 30 individual scientific- and grey- publications, 18 focus on the exposure of minors to alcohol advertising on television [5, 6, 7, 8, 13, 14, 15, 17, 19, 20, 21, 22, 23, 25, 26, 29, 32, 33].

Two of the 30 individual studies focus specifically on social media [10, 18] and ten studies examine multiple media services, including TV [4, 9, 11, 12, 16, 24, 27, 28, 30, 31]. Except for one study [4], these studies also covered exposure on the Internet.

### Methodologies

The 33 selected studies use different methodologies including:

- (Systematic) review of studies:
    - (Systematic) review of longitudinal studies: 2 [1, 2];
    - Systematic review of prospective cohort studies: 1 [3];
- Recording or purchasing of aired TV ads: 3 [4, 14, 33];
- Analysis of viewing and/or advertising impact/occurrence data: 10 [5, 7, 9, 15, 19, 20, 21, 24, 26, 29];
- Analysis of online data/monitoring of online activity: 2 [10, 18];
- Survey: 11 [6, 8, 11, 12, 13, 16, 17, 27, 28, 30, 32];
- Simulation model: 1 [25];

- Analysis of exposure using Ecological Momentary Assessment: 1 [31].

In addition, one of the included publications is an editorial [22] and one publication contains the proceedings of a symposium [23].

*Systematic review of longitudinal studies (n=2)*

One study conducted a systematic review of 16 publications that report on 13 longitudinal studies, which followed up a total of 38,000 young people in the period of 1990 tot 2008. Participants of the studies were youngsters below the age of 18 years or below the legal drinking age of the country of origin of the study (whichever was the higher). Each of the studies included assessed: the exposure of individuals (below the legal drinking age) to commercial communications and media; alcohol drinking behaviour at baseline and alcohol drinking behaviour at follow-up [1]. Another study reviewed 20 longitudinal studies, each including a baseline and follow-up sample(s) of youth or young adults. All studies used one or more drinking behaviours as outcomes; one or more advertising marketing, promotional, brand recognition or receptivity measures as covariates; and multivariate statistical procedures [2].

*Systematic review of prospective cohort studies (n=1)*

One study conducted a systematic review of 9 publications reporting on 7 cohort (longitudinal) studies that followed up 13,255 young people aged 10-26 years old. The studies evaluated exposure to advertising or marketing or alcohol portrayals and drinking at baseline and assessed drinking behaviour at follow-up in young people. Studies were identified in October 2006 by searches of electronic databases, with no date restriction [3].

*Recording or purchasing of aired TV ads (n=3)*

The three studies using this methodology examined the amount of video-based advertisements on television in the US [4, 33] and Australia [14]. All three studies looked into the frequency as well as the content of alcohol advertisements. In the studies the advertisements were coded on the basis of the type of products promoted, the used themes and (potential) appealing elements to minors. In addition, Pettigrew et al. and Morgenstern et al. coded the airing times and the latter also considered the channel placement. All the studies made a comparison between exposure to alcohol and non-alcohol advertisements.

*Analysis of viewing and/or advertising impact/occurrence data (n=10)*

Nine of these ten studies analyse data on advertising occurrence and viewership [5, 7, 9, 15, 19, 20, 22, 26, 29]. One study analyses exposure to alcohol advertising during a specific broadcast (the 2008 broadcast of the Bathurst V8 car race) by combining the results of measuring on-screen time of alcohol sponsorship combined with viewing data for that broadcast [21].

The studies differ in their measure for reporting exposure:

- Two studies report Incidence rate ratios (IRRs), which indicates the amount by which alcohol ad intensity is multiplied for a given age category, relative to a reference category [5,22];
- One study used Nielsen Media to report characteristics of the data like, exposure of certain age groups and the adherence to the audience thresholds [29];

- Two studies report Target Audience Ration Point (TARPs), which is calculated from the number of target audience individuals exposed to the advertisement as a proportion of the total target audience, multiplied by 100 [7,19];
- Four studies use data that is similar to the data that is analysed in this study for Question 1:
    - One study reports gross impressions, which indicate the total number of times that all members of a specific audience are exposed to the advertising [20];
    - Two studies report Gross Rating Points (GRPs), which are calculated as the gross impressions divided by the relevant population, multiplied by 100 [9,15];
    - One study measured viewing trends using audience data from the British Audience Research Bureau (BARB) by two measures: the volume of spot advertising (number of commercials aired on television) and advertising expenditure. In addition, impact data was analysed [26].

Studies also differed in the age groups they used:
- 12-20 years [9, 20];
- 2-11 years, 12-20 years, 21-24 years, 25+ years [5];
- 0-12 years, 13-17 years, 18-24 years, and 25+ years [7, 19];
- 6 -11 years, 12-17 years [15];
- 13-17 years, 18-24 years [21];
- 2-9 years, 10-15 years, 16-24 years, 25+ years (for 2 countries) and 6-12 years, 13-19 years, 20+ years (one country) [22];
- 4-15 years, 4-9 years, 10-15 years, 16-24 years, 16-17 years [26];
- 13-17 years, 18+ years [29].

Hence, except for one study, all use a reference group above the LPA in their analysis, such that exposure of minors can be compared to the exposure of adults. This is also done in our analysis for Research Question 1.

Next to age, some studies reported difference in exposure based on gender, race/ethnicity, demographic group and/or household income. In addition, several studies reported difference between the types of alcohol products (e.g. beer, wine, spirits). This breakdown is also considered in our analysis for Research Question 1.

The studies were conducted using data for the following periods:
- September 1998 – February 2002 [15];
- 2001-2006 [5];
- 2001-2003 [9];
- November 2005 – October 2006 [7];
- March 2005 – February 2006 [19];
- 2008 [21];
- 2010 [20]; and
- December 2010 – May 2011 [22];
- 2007 – 2011 [26];
- May – October 2010 [29].

Hence, one study considered one broadcast [21], two studies analysed data for half a year [22, 29], three studies for a full year [7, 19, 20], one study for 3 years [9], one for 3,5 years [15], one for 5 years [26], and one study for 6 years [5].

*Survey (n=11)*

Ten of the studies conducted in-school surveys amongst:

- 1,996 fourth graders and 1,525 ninth graders [6];
- 3,890 seventh to tenth graders [8];
- 2,130 sixth to eighth graders (mean age 12.2 years) [32];
- 3,415 sixth to eighth graders (mean age 12.5 years) [13];
- 2,321 students (mean age 12.6 years) [16];
- 591 eighth and tenth graders (mean age 14.3 years) [17];
- 9,032 students (mean age 14.05 years) [27];
- 6,651 students (mean age 13.95 years) [28];
- 920 second year pupils (mean age 13 years) [30].

Two cross-sectional surveys were conducted amongst:

- 1,113 adolescents aged 12 – 17 years [11]; and
- 1,734 underage drinkers from 15- to 20-year-old [12].

The studies used different measures of exposure, including:

- General television exposure/TV time [12,17];
- General online exposure/Internet time [12];
- Self-reported frequency of alcohol- or other drug-related media exposure [16, 27, 28];
- Self-reported frequency of alcohol advertising exposure (on different media) [8, 11, 17, 27, 28];
- Self-reported frequency of exposure to specific ads [13];
- Self-reported exposure to alcohol brand in movies [12];
- Exposure to alcohol advertising on popular shows (combining self-reported viewing time with data on frequency of alcohol ads on these shows) [8];
- Advertisement recognition/cued recall [6, 8, 9, 13, 17];
- Self-reported exposure to alcohol advertising and recall of brand names [30, 32];
- Recall of brand names/brand naming [6, 13,17];
- Product naming [6];
- Liking of alcohol advertisements [6, 8, 17];
- Favourite alcohol ad [12]; and
- Ownership of alcohol branded merchandise [12].

The survey that is conducted as part of this study for Research Question 2 focusses on exposure on non-linear audio-visual media services and other online services. Measures of exposure that were included are general online exposure/Internet time, self-reported exposure, memory for alcohol advertising and recall of brand names.

Ten of the studies using a survey methodology examined the relationship between exposure to alcohol advertising and drinking alcohol [8, 11, 12, 13, 16,17, 27, 28, 31, 32]. Two of these studies did not only consider on alcohol advertising, but also alcohol- or other drug-related media exposure in general [16] or advertising for non-alcohol products [13].

*Analysis of online data/monitoring of online activity (n=2)*

Both studies examined brand activity and user engagement. Brand activity was measured in terms of posts by the brand and user engagement in the forms of posting, liking and sharing. One study focussed on Facebook and used the CrowdTangle

Discovery App that automates monitoring of Facebook activity [10]. The other study also included Twitter and YouTube next to Facebook. In this study, brand activity was measured by following the brand on each of these three online services and user engagement was analysed by age (6 –14 years; 15 –24 years) and gender, the reach (proportion of Internet users who used the site in each month) and impressions (number of individual pages viewed on the site in each month) from alcohol brands for Facebook, YouTube and Twitter using Ebiquity data [18].

*Simulation model (n=1)*

One study used a simulation model to determine if time restrictions on alcohol advertisements on television and radio reduce youth exposure to alcohol ads. The model used advertising data from the USA and validated this with data from an actual time restriction policy implemented in the Netherlands.

*Analysis of exposure using Ecological Momentary Assessment (n=1)*

One study assesses the feasibility of using Ecological Momentary Assessment to measure adolescents' exposure to alcohol (and smoking-related) media. This assessment allows for precise measurement of the specific characteristics and context of individual alcohol-related media exposures via collection of data on smartphones.

### Findings regarding the exposure of minors to alcohol advertising

Studies that examine the exposure of minors to alcohol advertising use a range of different measures. The longitudinal studies included in the systematic review by Anderson et al. (2009) for example include 'estimates of volume of media and advertising exposure'; 'ownership of branded merchandise'; 'recall and receptivity'; 'expenditure on advertisements'. In the systematic review of prospective cohort studies by Smith and Foxcroft (2008), all studies included self-reported measures of exposure (including questionnaires and interviews). Unger et al. (2003) investigated correlations among alcohol advertising exposure measures (including 'TV viewing', 'exposure to sport events', 'self-reported frequency of seeing commercials', 'cued recall', 'brand recall') and found that such correlations are small to moderate.

Austin and Hust (2005) report that ads for alcohol beverages aired more frequently than for non-alcohol beverages and that the majority of these ads were for beer. Pettigrew et al. (2012) found that one in ten beverage advertisements in Australia during the period of monitoring were an alcohol advertisement.

The awareness of exposure to alcohol advertising appears to be significant. That is, through self-reported measures of exposure, people indicate that they are aware of their exposure to alcohol advertisement. For example, Jones and Magee (2011) asked respondents to indicate their level of exposure on eight different media (including TV and Internet). The results show that the majority of respondents indicated to have been exposed to alcohol advertising on these media. Collins et al. (2005) conclude that exposure to advertisements appear to result in higher levels of beer advertising awareness. According to Gordon et al. (2011), the awareness of alcohol exposure is highest for TV advertising, followed by branded clothing, sport sponsorship and price promotions.

The literature indicates that minors are not only aware of their exposure to alcohol advertising, but they also recall the advertising and/or the brand. Morgenstern et al.

(2011a/b) for example, asked a sample of German adolescents to indicate brand recall and contact frequency for nine alcohol and eight non-alcohol TV ads few students (less than 2% of the sample) answered never to have seen any of the presented alcohol advertisements (for non-alcoholic ads this percentage was around 0.5%).

The studies included in this review indicate that exposure levels differ between age groups, gender and race. For example, two studies conducted in Australia [7, 19] indicate that adults are more exposed to alcohol advertising. More specifically, these studies found that the exposure of children (0 – 12 years) to alcohol advertising is equal to one-third of the level of mature adults (25+ years) and that underage teens (13 – 17 years) have more or less the same level of exposure as young adults (18 – 24 years). Ringel et al. (2006) found that boys are more exposed to alcohol advertising than girls (and that this differential increases with age), and that African-American minors are more exposed than whites (and this differential increases over time).

Multiple studies analysed during which timeslots exposure to alcohol advertising is highest. Two studies conducted in the United States [9, 22] show that underage youth (12-20) were per capita more likely to have seen nearly 24% of all alcohol ads broadcasted than legal-age adults. In addition, Jernigan et al. (2005) report that in 2003, the 15 television shows with the largest audiences of teens all portrayed alcohol ads. Chung et al. (2010) report that almost all alcohol advertisements were broadcasted in timeslots during which minors account for 30% or less of the audience. Ringel et al. (2006) found that there was more exposure to alcohol advertising during late-night television than during prime time and that sports programming had the highest share of alcohol advertising. This was also found by Martin et al. (2002). Scharf et al. (2013) found that exposure to alcohol-related media tended to occur most in the afternoon. Morgenstern et al. (2015) found that 46% of the alcohol advertisements they analysed aired between 3 AM and 8 PM.

The study of Ofcom (2013) also investigated differences in exposure levels between channels and their results showed a shift in viewing of UK children towards commercial channels, which increases the exposure of children to advertisement in general and more specific to alcohol advertising. The Ofcom study also showed that children watch more adult programmes, which have fewer restrictions on alcohol advertisement. Morgenstern et al. (2015) also consider the channel placement of alcohol advertising and found that most alcohol ads were placed on Sports and Entertainment channels.

Jernigan and Rushman (2014) and Winpenny et al. (2013) investigated exposure to alcohol advertising on social media sites in the UK. Jernigan and Rushman (2014) found that brand- and user activity has grown dramatically over the past three years for the 15 most popular alcohol brands in the United States. Winpenny et al. (2013) found that Facebook has the highest reach of the social media sites that were investigated (Facebook, YouTube and Twitter). In the case studies they conducted for online activity of several alcohol brands, they found that each of the brands maintained a Facebook page and a YouTube channel and that the levels of user engagement varied. In addition, they found that content on alcohol could often not be accessed by underage youth on Facebook, whereas this was possible on YouTube and Twitter. By examining the policies for Facebook, YouTube, and Twitter, Jernigan and Rushman (2014) also found that how accessible alcohol brand content is to users differs per Social Networking Site, but that with various levels of ease, underage users can access alcohol brand content that is

restricted to audiences above the legal purchase age.

#### Findings regarding the relationship between the exposure to alcohol advertising and youth drinking

The results of the studies included in this review indicate that there is a relationship, or association, between exposure to alcohol advertising and youth drinking, but that the strength of this association differs per study.

In the systematic review by Anderson et al. (2009), 12 of the 13 included studies concluded that exposure to alcohol advertising and/or media exposure has an impact on alcohol use. It was however noted that there is variation in the strength of the association as well as in the degree to which potential confounders were controlled for.

De Bruijn et al. (2013) showed that a higher exposure to online alcohol marketing increased the odds of binge drinking in the last 30 days. They showed a robust relation which was consistent over four different countries.

Smith and Foxcroft (2008) conclude in their systematic review that data from prospective cohort studies suggest an association between exposure and subsequent alcohol consumption and that this effect is significant across a range of different exposure variables and outcome measures.

Individual scientific publications as well as grey literature included in this review indicate the same effect or association between the exposure of minors to alcohol advertising and youth drinking, although the size of the effect differs across studies [8, 11, 12, 13, 16, 17, 22, 23, 27, 28, 31].

Nelson (2010) reviewed 20 longitudinal studies of youth drinking. The review finds that 21 out of 63 estimates of the effects of advertising and promotion on adolescent drinking are significant. In addition, it is noted that there are studies with negative, no and positive effects. It is concluded that there is no causal effect demonstrated, because of methodological shortcomings in the studies.

## 3.2. Overview of studies to support the development of the analysis grid

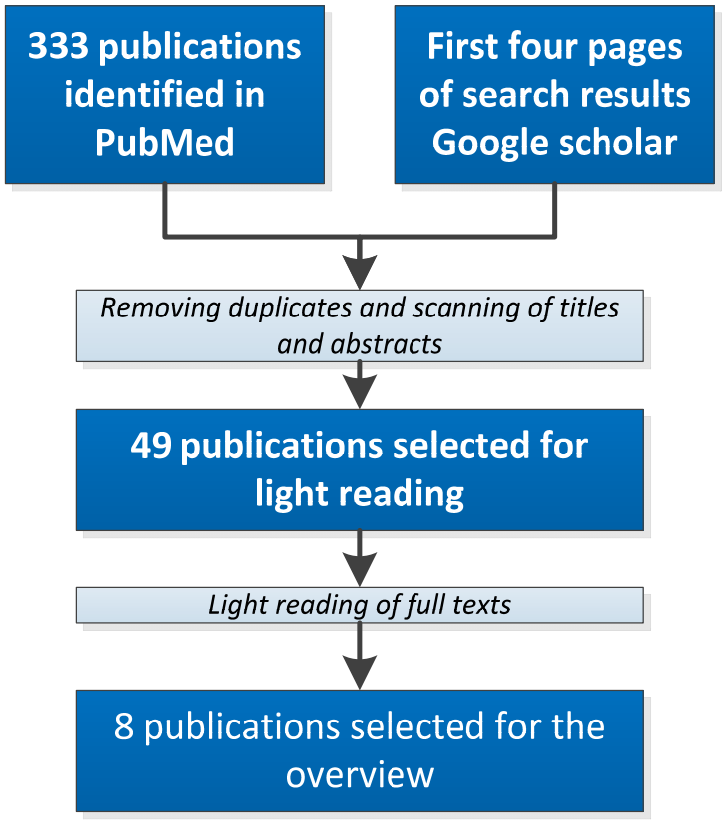
A second part of the literature review aimed to identify which features make alcohol advertising appealing to minors. The results of the review fed into the analysis grid developed as part of Research Question 3 of this study. For the development of the analysis grid, additional publications - that are outside the scope of this part of the literature review – are included. These publications are discussed in Annex H (separate document).

### 3.2.1. Selection of publications

The report by RAND Europe from 2012 acted as a starting point for this part of the review.

Figure 3.2 presents the process of searching and selecting publications for this part of the review.

**Figure 3.2 Process of searching and selecting publications**




PubMed was searched using MeSH terms and key words[39]. Two reviewers independently scanned the titles and abstracts of 333 identified publications, after which 40 were selected for light reading. In addition, a search was conducted in Google Scholar. Nine additional publications were selected for light reading.

For the resulting 49 publications, full texts were obtained and after light reading by the reviewers, eight publications were selected for further analysis.

### 3.2.2. Summary of the results

Table 3.2 presents the authors and year of publication of the eight selected publications.

**Table 3.2 Overview of selected publications**

| Ref. | Author(s) (year) | Ref. | Author(s) (year) |
|---|---|---|---|
| A | Ansu-Mensah et al. (2013) | E | Primack et al. (2012) |
| B | Banerjee et al. (2013) | F | Rozendaal et al. (2011) |
| C | Hellman et al. (2013) | G | Hartigan and Coe (2012) |
| D | Pettigrew et al. (2013) | H | RAND Europe (2012) |

[39] A search with only MeSH terms yielded a limited number of results. We therefore searched PubMed using both MeSH terms and key words.

Of the eight studies included in the review, six are scientific (peer-reviewed) publications [numbers A-F in table 2-2]and two publications can be considered grey literature [numbers G-H in table 2-2].

### Geographical zone

Two of the studies are conducted in the United States [B,E], one in Australia [D], one in Ghana [A] and the other four in EU countries. One of these four studies is conducted in the United Kingdom [G] and one in the Netherlands [F]. The other two cover multiple countries: the RAND study (2012) covers the United Kingdom, Germany and the Netherlands and Hellman et al. (2013) covers Denmark, Finland, Germany, Italy, the Netherlands and Poland.

### Purpose of the study

The studies differ in their purpose and what they aim to examine in relation to what minors find appealing in alcohol advertising:

- Two of the included studies focus on the content of alcohol advertising and what elements of these advertisements appeal to minors [A and H];
- One of the included studies focusses on what appeals to minors and how minors respond to alcohol content encountered in different media [G];
- Two of the included studies examine ad literacy and understanding of persuasion tactics employed by advertisers [C and F];
- One of the included studies examines the prevalence of alcohol brand appearances in US popular music [E];
- One of the included studies focusses on the tactics employed by minors themselves, when creating counter-advertisements [B]; and
- One of the included studies assesses whether the new Code in Australia requires substantial changes to alcohol advertising [D].

### Methodologies

The eight studies use different methodologies including:

- surveys amongst minors: 2 [A and F];
- focus groups with minors: 1 [C];
- (semi-structured) interviews: 1 [G];
- content analysis: 4 [B, D, E, H].

Of the four studies that conducted a content analysis, two did this for existing advertisements, one for references to alcohol and brand appearances in songs and one focussed on print alcohol counter-advertisement that were developed by high-school students.

### Findings regarding appealing elements

Two studies identified ‘humour’ to be one the most appealing elements for minors in alcohol advertisements [A, H]. Other appealing elements that were mentioned in at least two studies that report on appealing elements [A, G, H] include celebrity endorsement/appearance, people having fun, people characters to whom they can relate, drinking setting (bar/party setting, nightclub scenes, social events), music, cartoons or animation, animal characters, and a simple, uncomplicated storyline.

The RAND study (2012) also elaborated on unappealing features, including product-focused aspects, poor technical presentation, negative presentation of women, exploitation or misrepresentation.

Primack et al. (2012) suggest that brand-name references to alcohol in popular US music are strongly linked to positive feelings and that these appearances are associated with, 'wealth', 'sex', 'luxury objects', 'partying', 'drugs', and 'vehicles'.

### Findings regarding persuasion tactics

Banerjee et al. (2013) found that when high school- and college students had to draw their own counter-advertisement, the most often used persuasion strategies were 'having fun' and 'being one of the gang'. Other strategies used include: 'unexpected' (i.e. to include an unexpected event, image, element, etc.), 'endorsement' and 'glamour/sex appeal'.

Rozendaal et al. (2011) reported that tactics that have proven to be effective in child-directed advertising include: 'ad repetition', 'product demonstrations', 'peer popularity appeal', 'humour', 'celebrity endorsement' and 'premiums'. In addition, the study finds that the understanding of such tactics increases progressively between the ages of 8 and 12 years and it differs between tactics when children's understanding reaches the adult level. For example, this occurs at a relatively early age for 'celebrity endorsement' and at a relatively later age for 'product placement'. Hellman et al (2013) found, on the basis group discussions about televised beer commercials, that adolescents in six different European countries distinguished between the following tactics: 'branding', 'sociability' (i.e. to present social situations that adolescents identify with or with to strive for), 'scenery and setting' and 'humour'.

Pettigrew et al. (2013) analysed the content of advertisements in a two-month period approximately 18 months prior to the AARB Code in Australia. Most of the potential breaches of this new Code were related to the 'association of alcohol with success' and 'using appeals likely to be attractive to young people' (for example by depicting night club scenes or social events). Other potential breaches include: 'alcohol consumption taking precedence over other activities', 'change in mood or environment', and 'adults under 25 years'.

# 4. Exposure to alcohol advertising on linear audio-visual media services

The first research question for this study concerns the exposure of minors on linear AV media services:

> **"How much alcohol advertising does an average minor watching linear audio-visual media services in the EU see?"**

To answer this question, data on general viewing patterns and on alcohol impacts was analysed.

The analysis of exposure of minors to alcohol advertising on linear AV media services was based on two datasets:

- the WFA/Ebiquity dataset providing information on global advertising impacts in 23 EU Member States; and
- the GfK/Dentsu Aegis dataset providing more detailed data for the nine selected Member States (Austria, Czech Republic, Finland, Germany, Italy, the Netherlands, Romania, Spain, United Kingdom''.

**Definitions of terms and metrics used in this chapter**

- The general viewing pattern data reports the rating (rat) per hourly timeslot expressed in both thousands and in percentages. The rating was calculated as follows:
  - in thousands (rat000): the reach (that is, the proportion of the target group who was viewing) weighted by the Average Time Spent (that is, the amount of time watched per individual); and
  - in percentages (rat%): the rat000 for a specific target group divided by the universe of that target group.

  The rating per hourly timeslot can be interpreted as the audience in absolute terms (rat000) or as percentage of the target group (rat%) during that hour.

- The GfK/Dentsu Aegis spotlist data measure alcohol advertising impacts in Gross Rating Points (GRP), both in thousands and in percentages, The GRP were calculated as follows:
  - in thousands (GRP(000)): the number of times an advertising spot was seen, which is also referred to as the 'gross impressions'[40] of an advertising spot; and
  - In percentages (GRP%): the gross impressions of an advertising spot in a specific target group divided by the universe of that target group.

  The GRP can be interpreted as the total number of times an advertising spot was seen in either absolute terms (GRP(000)) or as a percentage of the target group (GRP%). Hence, GRP measure the exposure to alcohol advertising, which is referred to as 'alcohol impacts' throughout this report.

- Universe is defined as the total number of people per target group.

[40] It is called 'gross impressions' as it includes multiple exposures for some or all of the people that are exposed to an advertising spot. For example, if five people see an advertising spot two times, this counts as 10 gross impressions.

In the next section we present the main findings of the analysis for Research Question 1 (section 4.1). Next, we discuss the results of the analysis of the general viewing pattern data (section 4.2.) followed by a discussion of the findings with regard to the exposure to alcohol advertising based on the WFA/Ebiquity dataset (section 4.3) and the in-depth analysis of the nine selected Member States based on the GfK/Dentsu Aegis data (section 4.4). Subsequently, we present the results of the analysis of absolute and relative daily average alcohol impacts, including the weighting by average daily viewing ratings (section 4.5). Finally, we discuss the main limitations of the approach and methodology used (section 4.6).

## 4.1. Summary of main findings

*On average, a minor in the EU saw 200 alcohol impacts and an adult over 450 in 2013*

The analysis of both the WFA/Ebiquity dataset and the GfK/Dentsu Aegis dataset[41] revealed that, on average, approximately 7.3% of the total number of alcohol impacts seen in the EU on linear AV media services in 2013 were seen by minors. For the nine selected Member States this ranges from 5.0% to 9.0%.

In absolute numbers this means that, on average, a minor in the EU saw 200 alcohol impacts and an adult over 450 in 2013. Similar results were seen for each Member State. A further breakdown of these results by distinguishing between two age groups for minors shows that a 15-17 year old on average saw almost 300 alcohol impacts in 2013 and a minor aged 4-14 year old 180. Hence, the average number of alcohol impacts, an individual saw on linear media services in the nine selected Member States, increases with age.

*1.8% of all advertising impacts seen by minors are for alcohol advertising*

Based on the data in the WFA/Ebiquity dataset we found that the percentage of alcohol impacts of total market impacts is on average 1.8% for minors and 2.2% for adults.

*Most impacts are seen for the sector 'beer'*

In the selection of Member States the sector 'beer' has the highest share in both the number of spots and the number of impacts seen.

*Consistent results across datasets*

The analysis for Research Question 1 is based on two datasets: data collected from GfK/Dentsu Aegis, and (2) the WFA/Ebiquity dataset. For both datasets a global breakdown of the number of alcohol spots and alcohol impacts in 2013 is analysed and, although there were a few differences between the datasets in terms of the definition of age groups and sectors, the findings are consistent.

*The difference in the level of exposure to alcohol advertising between minors and adults may be partly explained by the differences in their viewing habits*

The analysis of the viewing data for the nine Member States revealed that the viewing patterns of adults and minors differed. In order to analyse if this difference in viewing habits may explain the difference in the level of exposure to alcohol advertising between minors and adults, we weighted the absolute daily average alcohol impacts by the average daily viewing rates per age group.

[41] For more information on these datasets, please see Chapter 2.

We found that after applying this weighting, the difference between the exposure of minors and the exposure of adults to alcohol advertising on linear AV media services was reduced. We also applied a weighting based on the average viewing rates per age group for a subset of channels, namely those channels that include alcohol advertising. The results showed that applying this weighting further reduced the difference in exposure between minors and adults. In several of the nine selected MS, this weighted value was even higher for minors than for adults.

Hence, the difference in the level of exposure to alcohol advertising between minors and adults may be partly explained by the differences in their viewing habits, both in terms of how often they watch television, and which channels they watch.

*Majority of alcohol impacts is seen on commercial and generalist channels*

An analysis of the breakdown of alcohol impacts by the type of channel revealed that in all Member States, the majority of both alcohol spots and alcohol impacts were seen on commercial channels. However, the average impact per spot appeared to be higher on public channels. Moreover, the results indicated that while in most Member States the majority of spots were on generalist (i.e., not topic-specific) channels or on 'Entertainment, Series, Movies' channels, the majority of impacts was seen on generalist channels. This may be explained by the relatively high viewing rating for these channels.

*Exposure to alcohol advertising peaks in the evening*

When looking at difference in terms of alcohol impacts throughout a day, we found that for the adults the peak day part was between 21:00 and 23:59 in all Member States. With the exception of one Member State, this was also the peak day part for the 15-17 years olds. For the 4-14 year olds the peak day part was between 17:00 and 20:59 in four Member States and between 21:00 and 23:50 in five Member States. Comparing these results with the peak day parts in terms of viewing patterns, we saw that for all age groups, in all nine Member States, the peak day part in terms of number of alcohol impacts was either the same as the peak day part for viewing patterns or one day part later.

With regard to hourly timeslots we found that in each selected Member State the alcohol impacts for all age groups followed a rather similar pattern with a peak in the evening. In four of the nine selected Member States, the peak hourly timeslot was the same across age groups.

*Within Member States, exposure to alcohol advertising is highest for all age groups on the same week day*

Finally, the results showed that there is a strong diversity across Member States in terms of the weekday with the highest number of impacts seen. Also within Member States differences between age groups were observed, but in the majority of Member States, all age groups saw on average the most impacts on the same weekday.

## 4.2. Viewing patterns

In order to set the scene for the analysis of the exposure of minors to alcohol advertising, we first present the findings with regard to general viewing patterns.

The data on general viewing patterns concerns ratings, in both thousands and percentages, per hourly timeslot, in 2013 for the nine selected Member States. This data was obtained from GfK/Dentsu Aegis. As explained in section 2.3.1 (Chapter 2), this data source covers a selected sample of channels in the Member States analysed[42]. Because of differences in the level of coverage of cumulative audience shares between Member States, cross-country comparisons should be made with caution.

Central focus of our analysis of viewing patterns is the breakdown between the following three age groups: 4-14 year olds, 15-17 year olds, and people aged 18+. For each of these age groups, we first present the average daily rating, after which we provide a break down by:

- day parts;
- hourly time slots; and
- channel category.

The findings outlined in this chapter are based on the information presented in the country reports in Annex C (separate document).

### 4.2.1. Average daily ratings

Before providing more detailed information on the general viewing patterns in each of the nine selected Member States, we first present the average daily rating in 2013 in rat%.

**Table 4.1 Daily average viewing rating, per age group (year = 2013; in rat%)**

| Daily average rating (000) | 4-14 year olds | 15-17 year olds | 18+ year olds |
|---|---|---|---|
| AT | 81 | 103 | 190 |
| CZ | 119 | 117 | 249 |
| FI | 104 | 67 | 201 |
| DE | 63 | 53 | 189 |
| IT | 99 | 117 | 276 |
| NL | 116 | 103 | 257 |
| RO | 383 | 313 | 454 |
| ES | 118 | 106 | 229 |
| UK | 65 | 70 | 167 |

Source: Ecorys consortium analysis, data source GfK/Dentsu Aegis.

From Table 4.1 it can be inferred that in each Member State, the daily average rating in 2013 was higher for adults than for minors.

In three Member States (Austria, Italy, and the United Kingdom) the average daily

[42] For an overview of the selected sample of channels per Member State, please refer to the country reports presented in Annex C (separate document).

ratings increase with age, whereas in the other six selected Member States the numbers are higher for the 4-14 year olds than for the 15-17 year olds.

The average daily ratings will serve as an input for the weighting of the daily average alcohol impacts (see Section 4.5).

Next, we present the results for the different breakdowns of the viewing ratings, which provide more detailed information on the general viewing patterns for the three age groups in the nine selected Member States.

### 4.2.2. Viewing patterns by day part

Tables 4.2 – 4.4 provide a breakdown of average hourly viewing rates, expressed as a percentage of the universe, by day part for the three age groups per selected Member State. Orange marked fields signal the highest value within a Member State for the various day parts.

**Table 4.2 Average hourly viewing rating by day part, age group 4-14 (year = 2013; in rat%)**

| Day part | AT | CZ | FI | DE | IT | NL | RO | ES | UK |
|---|---|---|---|---|---|---|---|---|---|
| 06:00 - 09:59 | 1.7 | 3.8 | 7.0 | 1.6 | 1.5 | 3.5 | 9.5 | 1.7 | 1.7 |
| 10:00 - 16:59 | 3.4 | 5.1 | 3.9 | 2.6 | 4.2 | 3.6 | 18.3 | 6.0 | 2.1 |
| 17:00 - 20:59 | **8.0** | **12.6** | **9.6** | **5.8** | 6.5 | **12.4** | **28.6** | 7.1 | **8.1** |
| 21:00 - 23:59 | 5.2 | 5.7 | 3.2 | 4.5 | **11.5** | 8.5 | 27.2 | **11.2** | 3.5 |
| 00:00 - 05:59 | 0.4 | 0.2 | 0.1 | 0.3 | 0.6 | 0.2 | 3.4 | 1.1 | 0.1 |

Source: Ecorys consortium analysis, data source GfK/Dentsu Aegis.
Note: Orange marked fields signal the highest value within a Member State for the various day parts.

**Table 4.3 Average hourly viewing rating by day part, age group 15-17 (year = 2013; in rat%)**

| Day part | AT | CZ | FI | DE | IT | NL | RO | ES | UK |
|---|---|---|---|---|---|---|---|---|---|
| 06:00 - 09:59 | 0.9 | 1.4 | 0.6 | 0.5 | 0.8 | 0.8 | 5.3 | 0.6 | 0.6 |
| 10:00 - 16:59 | 3.8 | 4.6 | 1.8 | 2.0 | 5.5 | 1.6 | 13.1 | 4.9 | 2.0 |
| 17:00 - 20:59 | 8.6 | **11.1** | **7.9** | 4.1 | 7.2 | 10.2 | 24.4 | 5.3 | **7.9** |
| 21:00 - 23:59 | **9.3** | 10.1 | 6.4 | **5.4** | **13.4** | **14.7** | **26.6** | **11.3** | 6.8 |
| 00:00 - 05:59 | 1.7 | 0.8 | 0.2 | 0.7 | 1 | 0.7 | 3.8 | 2.3 | 0.2 |

Source: Ecorys consortium analysis, data source GfK/Dentsu Aegis.
Note: Orange marked fields signal the highest value within a Member State for the various day parts.

**Table 4.4 Average hourly viewing rating by day part, age group18+ (year = 2013; in rat%)**

| Day part | AT | CZ | FI | DE | IT | NL | RO | ES | UK |
|---|---|---|---|---|---|---|---|---|---|
| 06:00 - 09:59 | 1.9 | 3.5 | 4.3 | 2.5 | 4.7 | 2.5 | 12.9 | 1.7 | 2.3 |
| 10:00 - 16:59 | 6.0 | 8.6 | 3.6 | 6.8 | 13.3 | 3.7 | 17.0 | 10.0 | 5.7 |
| 17:00 - 20:59 | **17.6** | **25.6** | **22.8** | 15.7 | 18.9 | 25.4 | 33.0 | 14.5 | **18.0** |
| 21:00 - 23:59 | **17.6** | 20.7 | 20.5 | **18.2** | **24.9** | **34.5** | **36.1** | **22.2** | 14.4 |
| 00:00 - 05:59 | 2.8 | 1.8 | 0.9 | 2.3 | 2.3 | 2.7 | 7.2 | 4.6 | 0.5 |

Source: Ecorys consortium analysis, data source GfK/Dentsu Aegis.
Note: Orange marked fields signal the highest value within a Member State for the various day parts.

The results indicate that in each selected Member State for each age group, average hourly viewing ratings increased over the day until they peaked and then declined again.

Table 4.2 shows that for the 4-14 year olds the day part with the highest average hourly viewing rates was 17:00-20:59 in all selected Member States except Italy and Spain. In these two Member States the peak for this age group is observed in the day part 21:00-23:59.

For the older two age groups it can inferred from Tables 4.3 and 4.4. that in each selected Member State the day part with the highest average hourly ratings was the same for the 15-17 year olds and the adults.

In addition, the results of the analysis by day part show that there are five Member States for which the day part with the highest average hourly ratings was the same for all age groups:

- In Czech Republic, Finland and the UK this is the case for the day part 17:00-20:59;
- In Italy and Spain this is the case for the day part 21:00-23:59.

In the other four Member States (Austria, Germany, the Netherlands and Romania) the peak in average hourly viewing ratings for the 4-8 year olds occurred one day part earlier than those for the older two age groups.

The day part with the lowest average hourly ratings for the youngest age group (4-14 year olds) was 00:00-05:59 in all selected Member States. In Czech Republic, Finland, Romania and the UK this is the day part with the lowest average hourly viewing rates for all age groups. For the other age groups this varied per Member State:

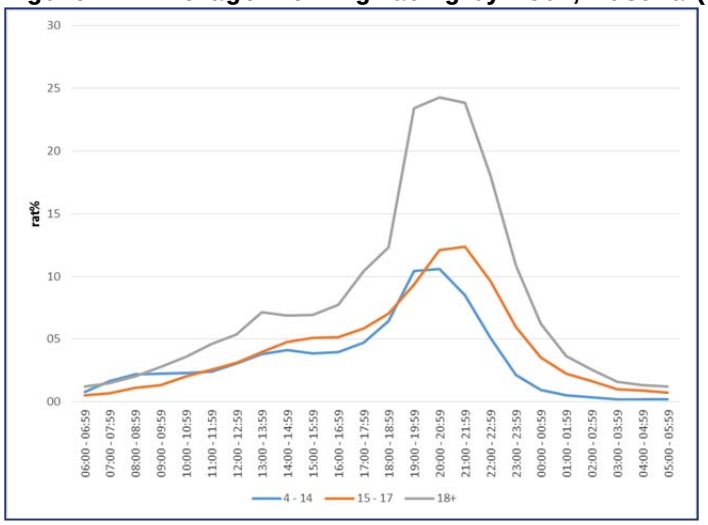
- in Austria and Spain the day part with the lowest average hourly viewing ratings was the day part 06:00-09:59 for both the 15-17 year olds and the adults;
- in Germany and Italy the day part with the lowest average hourly viewing ratings was the day part 06:00-09:59 for the 15-17 year olds and the day part 00:00-05:59 for the adults; and
- in the Netherlands the day part with the lowest average hourly viewing ratings was the day part 00:00-05:59 for the 15-17 year olds and the day part 06:00-09:59 for the adults.

### 4.2.3. Viewing patterns by hourly timeslot

Figure 4.1 - Figure 4.9 present the average viewing rates per hourly timeslot, for the three age groups in each Member State. These figures show that in each Member State the viewing rates followed similar patterns for the different age groups.

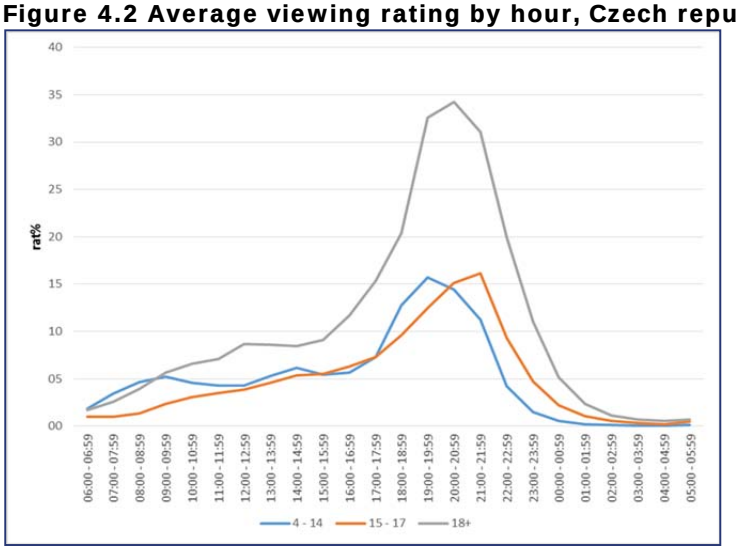
The viewing patterns show increasing rates over the day with the highest peak during in the evening. A distinct second peak was observed in Italy in the early afternoon. For the other Member States, the viewing pattern showed a more gradual increase to the prime time peak in the evening. In all Member States, there was a steep decline in viewing ratings after the evening peak.

**Figure 4.1 Average viewing rating by hour, Austria (year = 2013; in rat%)**



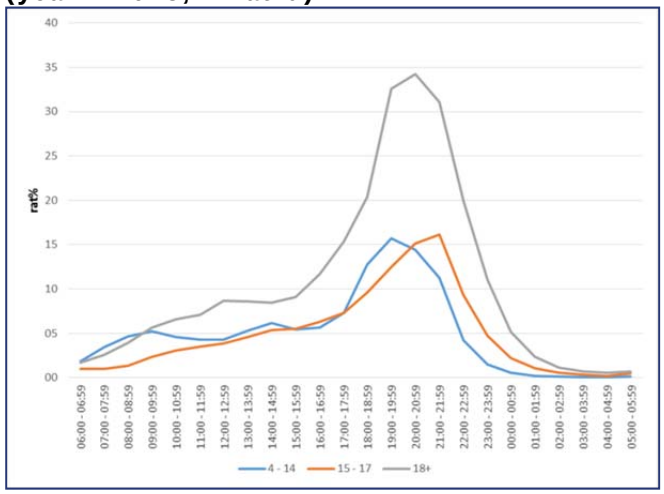

Source: Ecorys consortium analysis, data source GfK/Dentsu Aegis.

**Figure 4.2 Average viewing rating by hour, Czech republic (year = 2013; in rat%)**



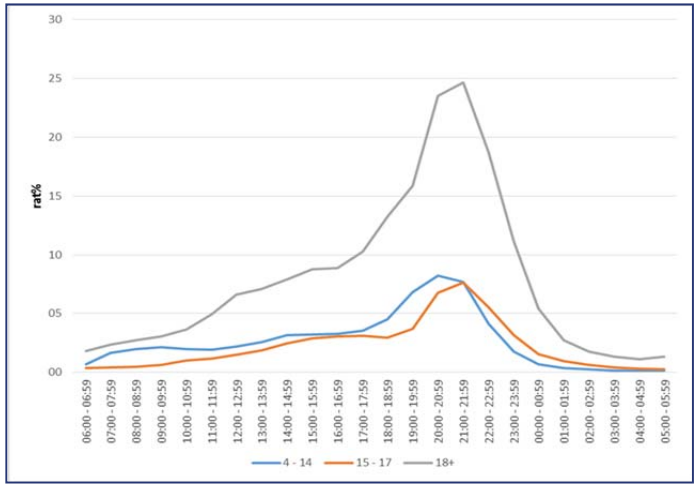

Source: Ecorys consortium analysis, data source GfK/Dentsu Aegis.

**Figure 4.3 Average viewing rating by hour, Finland (year = 2013; in rat%)**



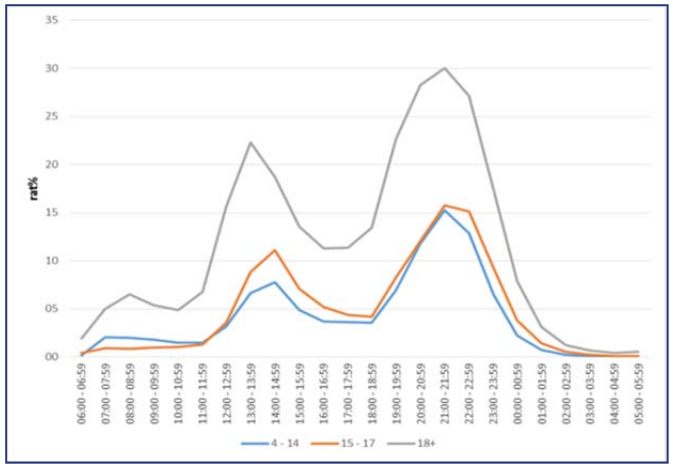

Source: Ecorys consortium analysis, data source GfK/Dentsu Aegis.

**Figure 4.4 Average viewing rating by hour, Germany (year = 2013; in rat%)**



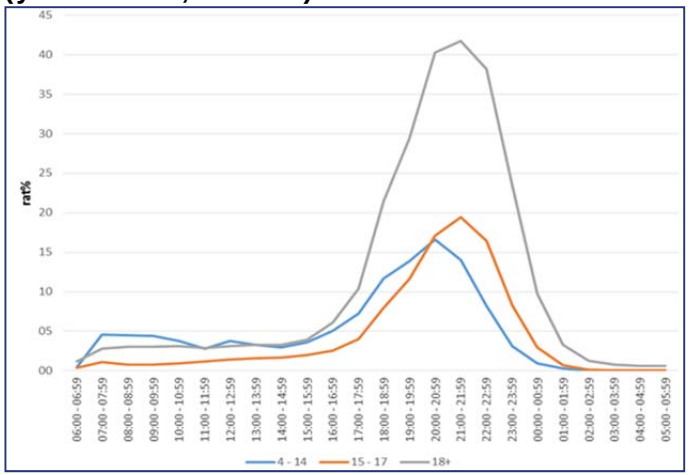

Source: Ecorys consortium analysis, data source GfK/Dentsu Aegis.

**Figure 4.5 Average viewing rating by hour, Italy (year = 2013; in rat%)**



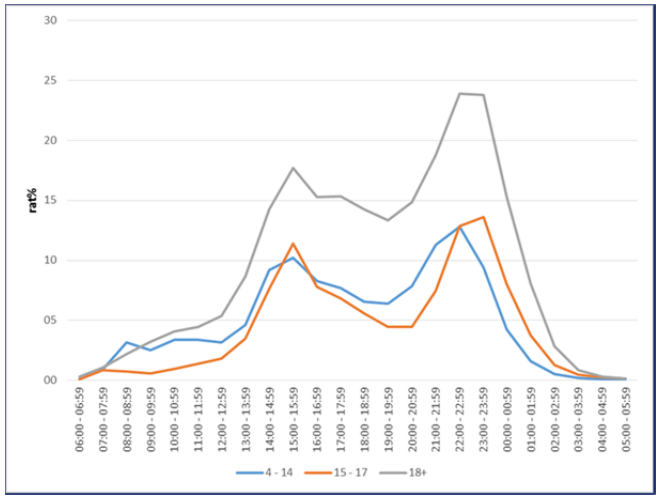

Source: Ecorys consortium analysis, data source GfK/Dentsu Aegis.

**Figure 4.6 Average viewing rating by hour, The Netherlands (year = 2013; in rat%)**



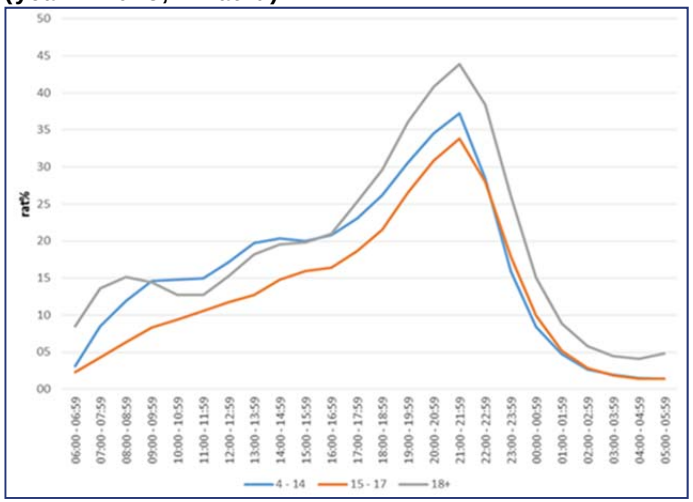

Source: Ecorys consortium analysis, data source GfK/Dentsu Aegis.

**Figure 4.7 Average viewing rating by hour, Romania (year = 2013; in rat%)**



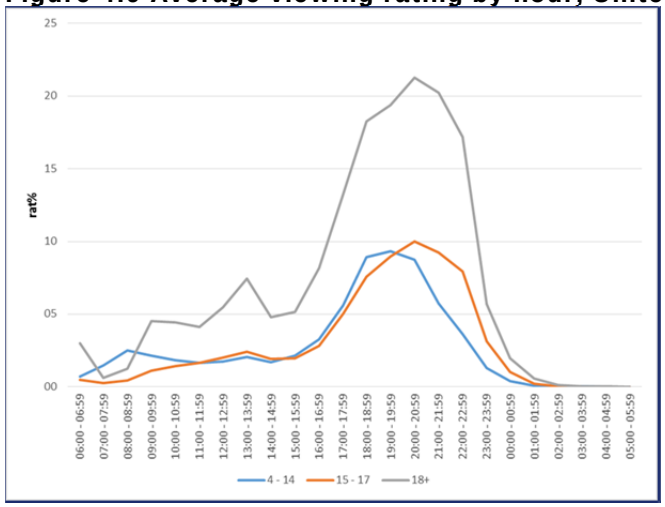

Source: Ecorys consortium analysis, data source GfK/Dentsu Aegis.

**Figure 4.8 Average viewing rating by hour, Spain (year = 2013; in rat%)**




Source: Ecorys consortium analysis, data source GfK/Dentsu Aegis.

**Figure 4.9 Average viewing rating by hour, United Kingdom (year = 2013; in rat%)**

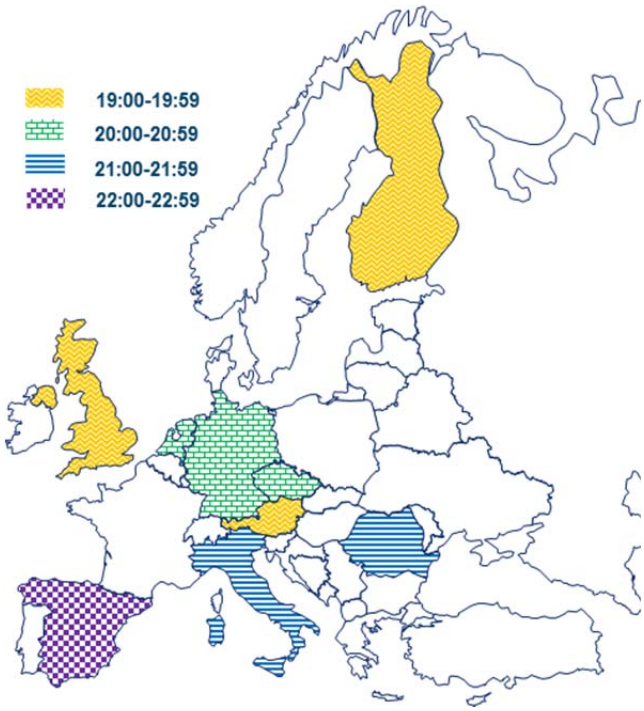



Source: Ecorys consortium analysis, data source GfK/Dentsu Aegis.

As can be seen from the figures, peak hours differ across Member States and across age groups. Figures 4.10 to 4.12 present the peak hours per Member State in a map and the average ratings during these peak hours (both in absolute values and as percentages of the universe) in the table. Overall, the spread in peak hours across Member States is lowest for the 15-17 year olds. The maps also illustrate that peak hours tend to be later in the more Southern and Eastern Member States.

**Figure 4.10 Peak hours and average ratings in peak hours, 4-14 year olds (year = 2013; in rat% / rat000)**

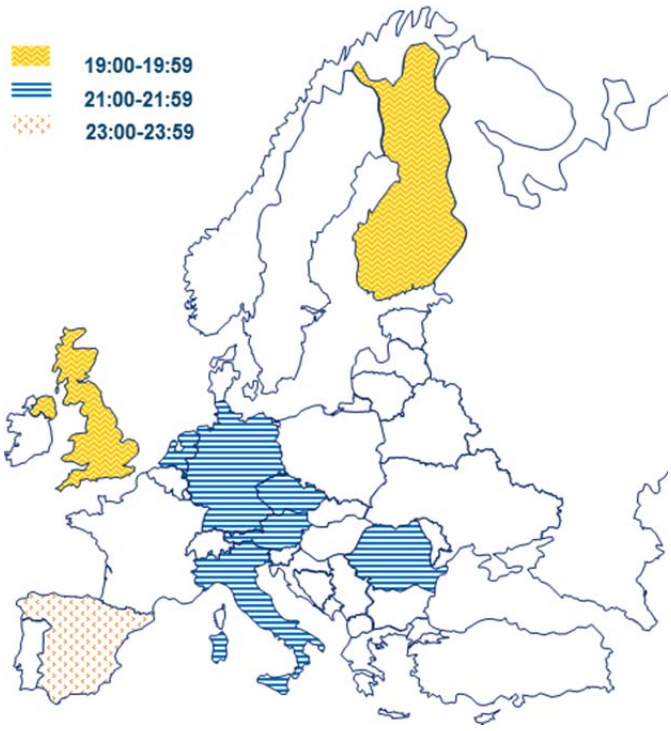
| Member State | Average rating |
|---|---|
| Austria | 10.6%<br>94,000 |
| Czech Republic | 14.4%<br>173,000 |
| Finland | 13.1%<br>113,000 |
| Germany | 8.2%<br>591,000 |
| Italy | 15.3%<br>946,000 |
| The Netherlands | 16.6%<br>372,00 |
| Romania | 37.2%<br>827,000 |
| Spain | 12.8%<br>649,000 |
| United Kingdom | 9.3%<br>727,000 |




Source: Ecorys consortium analysis, data source GfK/Dentsu Aegis.

**Figure 4.11 Peak hours and average ratings in peak hours, 15-17 year olds (year = 2013; in rat% / rat000)**

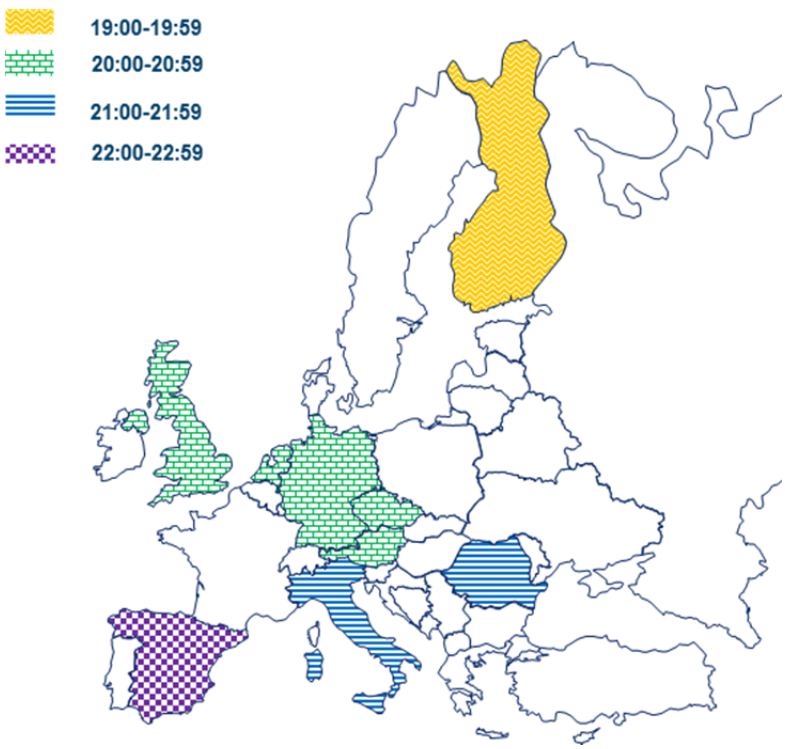
| Member State | Average rating during peak hour |
|---|---|
| Austria | 12.4%<br>37,000 |
| Czech Republic | 16.1%<br>45,000 |
| Finland | 12.4%<br>31,000 |
| Germany | 7.6%<br>198,000 |
| Italy | 15.7%<br>271,000 |
| The Netherlands | 19.4%<br>121,000 |
| Romania | 33.9%<br>194,000 |
| Spain | 13.6%<br>185,000 |
| United Kingdom | 10.0%<br>223,000 |




Source: Ecorys consortium analysis, data source GfK/Dentsu Aegis

**Figure 4.12 Peak hours and average ratings in these hours, 18+ year olds (year = 2013; in rat% / rat000)**

| Member State | Average viewing rating during peak hour |
|---|---|
| Austria | 24.3%<br>1,618,00 |
| Czech Republic | 34.2%<br>2,889,000 |
| Finland | 31.1%<br>1,425,000 |
| Germany | 24.7%<br>15,171,000 |
| Italy | 30.0%<br>15,009,000 |
| The Netherlands | 41.8%<br>5,402,000 |
| Romania | 43.9%<br>7,123,000 |
| Spain | 23.9%<br>8,994,000 |
| United Kingdom | 21.3%<br>10,177,000 |




Source: Ecorys consortium analysis, data source GfK/Dentsu Aegis.

### 4.2.4. Viewing patterns by channel categories

For the viewing data we made a split in channel categories on the basis of:

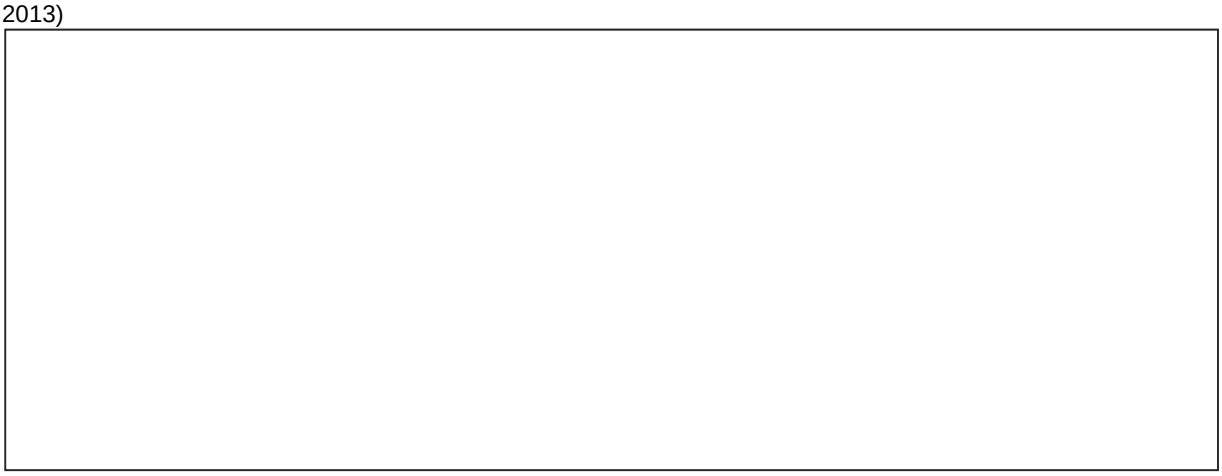
- the channel's target group: children or general; and
- the channel's type: public or commercial.

The country reports (Annex C, separate document) contain detailed information on viewing patterns by individual channel.

#### Channel's target group

Figure 4.13 presents the share of average hourly viewing rates by the channel's target group, per age group, for all nine Member States together. These overall shares are calculated as the sum of average viewing rates per channel's target group across Member States. The figure illustrates that on average, the share of children channels in viewing rates decreased with age, compared to that of general channels.

Figure 4.13 Share of average hourly viewing ratings by channel's target group (year = 2013)



Source: Ecorys consortium analysis, data source GfK/Dentsu Aegis.

Figure 4.14 presents the per Member State shares of hourly viewing rates for children's channels, broken down by age group. The figure also includes the overall results of the nine selected Member States combined as presented in Figure 4.14, labelled as "All".