

# Monitoring food and beverage marketing to children via television in Estonia



World Health  
Organization

European Region



# Monitoring food and beverage marketing to children via television **in Estonia**

---

# Abstract

This report analysed the amount of food and beverages advertising, and the type of product, that children (under 18 years of age) are likely to be exposed to on television. The most advertised product type on television was food and beverages (32.7%). When foods and beverages were classified according to the WHO nutritional profile model into those permitted and not permitted to be marketed to children, 69.0% of advertisements for food and beverages were in the not permitted group. The most advertised categories were “chocolate and sugar confectionery” (20.3%), “other beverages” (12.9%) and “fresh and frozen meat” (10.4%). On average, 10.7 food advertisements were shown on television every hour, and 7.3 of these were of products not permitted to be advertised to children. The most advertised category around children’s programmes was “chocolate and confectionery”. It will be worth discussing whether stricter methods are needed to tackle food marketing to children and adolescents in Estonia because self-regulation via the Estonian Broadcasters Association’s code of conduct has not proved sufficient.

Document number: WHO/EURO:2024-XXXX-XXXX-XXXX

© World Health Organization 2024

Some rights reserved. This work is available under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 IGO licence (CC BY-NC-SA 3.0 IGO; <https://creativecommons.org/licenses/by-nc-sa/3.0/igo>).

Under the terms of this licence, you may copy, redistribute and adapt the work for non-commercial purposes, provided the work is appropriately cited, as indicated below. In any use of this work, there should be no suggestion that WHO endorses any specific organization, products or services. The use of the WHO logo is not permitted. If you adapt the work, then you must license your work under the same or equivalent Creative Commons licence. If you create a translation of this work, you should add the following disclaimer along with the suggested citation: “This translation was not created by the World Health Organization (WHO). WHO is not responsible for the content or accuracy of this translation. The original English edition shall be the binding and authentic edition: Monitoring food and beverage marketing to children via television in Estonia. Copenhagen: WHO Regional Office for Europe; 2024”.

Any mediation relating to disputes arising under the licence shall be conducted in accordance with the mediation rules of the World Intellectual Property Organization. (<http://www.wipo.int/amc/en/mediation/rules/>).

**Suggested citation.** Monitoring food and beverage marketing to children via television in Estonia. Copenhagen: WHO Regional Office for Europe; 2024. Licence: CC BY-NC-SA 4.0.

**Cataloguing-in-Publication (CIP) data.** CIP data are available at <http://apps.who.int/iris>.

Sales, rights and licensing. To purchase WHO publications, see <http://apps.who.int/bookorders>. To submit requests for commercial use and queries on rights and licensing, see <http://www.who.int/about/licensing>.

**Third-party materials.** If you wish to reuse material from this work that is attributed to a third party, such as tables, figures or images, it is your responsibility to determine whether permission is needed for that reuse and to obtain permission from the copyright holder. The risk of claims resulting from infringement of any third-party-owned component in the work rests solely with the user.

**General disclaimers.** The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers’ products does not imply that they are endorsed or recommended by WHO in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by WHO to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall WHO be liable for damages arising from its use.

---

# Contents

Acknowledgements	iv
Abbreviations	v
<b>1. Background</b>	<b>1</b>
1.1 The aim of the report	3
<b>2. Methodology</b>	<b>4</b>
2.1 Sampling	4
2.2 Coding of data	5
<b>3. Results</b>	<b>6</b>
3.1 Total number and distribution of advertisements	6
3.2 Marketing exposure of food or beverages	8
<b>4. Discussion</b>	<b>14</b>
<b>5. Conclusions</b>	<b>16</b>
References	17
Annex 1. Data tables	19

---

# Acknowledgements

## Authors

This report was written by Ele Kiisk and Inga Villa (University of Tartu, Estonia).

## Other acknowledgements

The WHO Regional Office for Europe would like to thank the following, in particular, for their support: Heigo Eesmets (student in Tallinn University, Estonia), who recorded the channels, checked all the videos and carried out the first data entry; Karolin Toompere and Kaja-Triin Laisaar (University of Tartu, Estonia) who provided consultations throughout the period of the study; and Kathrin Hetz (WHO Regional Office for Europe), Hanna Alajõe (National Institute for Health Development, Estonia) and Kadi Reintam (Estonian Ministry of Social Affairs), who reviewed the report.

The authors are grateful for the financial support and methodological guidance provided by the WHO Regional Office for Europe and WHO Country Office in Estonia.

---

# Abbreviations

<b>AEB</b>	Association of Estonian Broadcasters
<b>COSI</b>	WHO Childhood Obesity Surveillance Initiative
<b>Nick Jr</b>	Nickelodeon Junior, television channel
<b>WHO NPM</b>	WHO Regional Office for Europe nutrient profile model





---

# 1. Background

Overweight and obesity is the fourth highest cause of death after high blood pressure, dietary risks and tobacco, with more than 1.2 million deaths across the WHO European Region every year. Overweight and obesity also increases the risk of noncommunicable diseases and is major risk factor for disability. Despite several action plans and policy frameworks (the 2016 Report of the Commission on Ending Childhood Obesity (1), the European Charter on Counteracting Obesity (2) and the Global Nutrition Targets 2025: Childhood Overweight Policy Brief (3)), prevalence of overweight and obesity has been consistently increasing in the Region. Almost 60% of adults and 30% of children (29% of boys and 27% of girls) are living with overweight and obesity. While 7.9% of children under the age of 5 years are affected by overweight or obesity, prevalence is remarkably higher in those aged 5–9 years (29.5%) and 10–19 years (24.9%) (4).

According to data collected for the 2018–2020 WHO European Childhood Obesity Surveillance Initiative (COSI), 29% of children aged 7–9 years were found to be overweight or obese, with higher prevalence among boys (31%) compared with girls (28%) (5). There was also large variation between countries, with the highest prevalence (around 40%) for both genders identified in Cyprus, Greece and Italy, and the lowest prevalence (below 10%) in Tajikistan. In Estonia, the prevalence for overweight was 26.0% (including 10.2% obese) for 7-year-old children and 26.9% (of which 11.2% obese) for 8-year-old children (5).

In Estonia, the proportion of children living with overweight or obesity has been increasing steadily. According to the Estonian Health Insurance Fund, the proportion of children with excess body weight was 6.5% in the academic year 2004/2005 but had risen to 11.1% by academic year 2013/2014 (6). According to the COSI survey of academic year 2015/2016 (7), every fourth first-grade child (aged 7 or 8 years) was living with overweight or obesity. In the academic year 2018/2019, both first and fourth grade pupils were studied, and altogether 29.6% had excess weight (18.2% overweight and 11.4% obese) (8). In the first grade, 15.8% were overweight and 10.7% obese, while in the fourth grade 20.6% were overweight and 12.1% were obese (8). According to all COSI survey waves, the prevalence of overweight and obesity in Estonia has been higher among boys (5,7,8).

According to the latest 2021/2022 Health Behaviour in School-aged Children survey in Estonia, the increase in the number of children living with overweight has continued (9). In the 2002 survey year, the prevalence of overweight and obesity was 6% among children aged 11–15 years, but in 2022 it was already 20%. Overweight and obesity was more prevalent among boys (25%) than girls (15%) (9). Among pupils with excess weight, there were more who were inactive, who participated significantly less in sports training and who spent significantly more time playing with computers and other devices and watching television.

The primary causes for overweight and obesity are unbalanced diet and inadequate physical activity, as also confirmed by the COSI surveys (5,7,8). In the Nordic countries, every seventh child was found to have an unhealthy diet, with overconsumption of energy-dense foods, and was overweight or obese, with the proportion being higher among boys (17.5%) compared with girls (13.7%) (10).

Children are an important target group for the food industry and marketing. They are not only customers but also can influence their family's and peers' purchasing behaviour (11). Developmental vulnerabilities of children (lack of the cognitive skills and experience to critically interpret marketing messages) are

---

reasons for food marketers to take advantage of children (12). This may also be the reason why food advertising to children exceeds that intended for adults (11). In their systematic review in 2013, Cairns et al. concluded that food marketing continued to promote low-nutrition foods and that marketing influenced children's food behaviours and diet-related health (11).

Television advertising is the most popular of the promotional channels used by food marketers, and the categories of food products most frequently promoted to children are pre-sweetened breakfast cereals, soft drinks, savoury snacks, confectionery and fast foods (11). Unhealthy food advertising is more frequent on children's channels and around children's programming, during children's typical viewing times and during school holidays (13).

In their 2019 study, Kelly et al. found that unhealthy food or beverages was promoted four times more often than healthier food or beverages, and that the rate of such advertisements was even higher during peak viewing times for children compared with other times (14). Marketing of unhealthy food and beverages to children via television may contribute to obesity not only by enhancing sedentary activity but also by influencing their food choices (15). In addition, children's exposure to unhealthy food advertisements increases their food intake (16,17).

The amount of time that children spend watching television or using electronic devices has been correlated with poorer diet quality, higher energy intake and higher intake of fast food, sugar-sweetened beverages and energy-dense snacks (18–20). In their 2017 systematic review, Avery et al. referred to the positive association between eating during television use and prevalence of childhood obesity, as children eating while watching television were more likely to have excess weight (18).

Higher weekly television viewing has also been associated with a less healthy diet, including more sweets and desserts among children and more sugar-sweetened beverages among adolescents (20).

According to the 2018–2020 COSI survey, 43% of children aged 6–9 years spent at least 2 hours a day, on average, watching television or using electronic devices. In Estonia, this indicator was 64.1%. On weekdays, 23.8% of Estonian children spent 3 hours or more a day watching television, with boys watching more than girls (29.4% and 17.9%, respectively); and at weekends 51.3% of children spent 3 hours or more a day watching television (57.8% of boys and 44.4% of girls) (5).

In Estonia, several attempts have been made to change the food marketing and consumption of foods high in fats, sugar and salt. In 2016 an evidence brief for policy report by the WHO Evidence-informed Policy Network was published that addressed issues related to sugar-sweetened beverages and minimizing their impact on children's health in Estonia (21). To tackle food marketing targeted to children, the following three main considerations were suggested based on the systematic review carried out for the report: (i) to introduce comprehensive measures to restrict advertising to children, at least to those under the age of 12 years; (ii) to ensure Government monitoring of compliance, and sanctions for non-compliance with advertising restrictions; and (iii) to identify the media that will be targeted by the Government's advertising restrictions, the products to be controlled and the audience to be protected by the restrictions (21).

In Estonia, advertising to children is regulated by two main acts: the Advertising Act (22) and the Consumer Protection Act (23). In addition, media services are regulated by the Media Services Act (24). Based on these three acts, a guideline for advertising targeted to children and the use of children in advertising was issued in 2020 by the Consumer Protection and Technical Regulatory Authority (25), which supervises national media services (radio, television and on-demand services). The aim of this guideline is to explain the regulations and give recommendations to protect children as a vulnerable target group. It encompasses explanations of the law and examples of practical monitoring activities.

---

The Association of Estonian Broadcasters (AEB) has adopted a code of conduct regarding responsible food marketing to children to support balanced nutrition (26). The AEB defines children as those aged up to 12 years and broadcasts for children as broadcasts where at least 50% of the audience is children. Compliance with the code of conduct is obligatory to all AEB members and strongly recommended for other media service providers. An updated version of the code of conduct was issued in 2023 and reporting was expected subsequently. In Estonia, thresholds for the nutritional value of food and beverages are those outlined in the WHO Regional Office for Europe's nutrient profile model, second edition (WHO NPM (27)). The first attempt by broadcasters to self-regulate food advertising to children was in 2011, when the first version of the AEB code of conduct was adopted.

Since 2010 WHO has called for global action to reduce the impact on children of marketing foods high in saturated fats, trans-fatty acids, free sugars or salt.

## 1.1 The aim of the report

This report was developed to analyse the amount of food and beverages advertising that children (under 18 years of age) are likely to be exposed to on television, and what types of food and beverages are advertised to them.

---

## 2. Methodology

This study used the TV monitoring protocol V2 2020, which was developed and disseminated by the WHO Regional Office for Europe (28). It had previously been used in Kazakhstan (29), the Kyrgyz Republic (30) and Türkiye (31). The study was coordinated by the WHO Country Office in Estonia.

### 2.1 Sampling

In Estonia, television channels (ETV, ETV2 and ETV+) of the Estonian Public Broadcasting are freely accessible all over the country and their programmes do not contain advertisements. These television channels can be seen without any contract with a service provider. Estonian commercial television channels are included in the basic television packages of all service providers. Commercial channels expect to be paid for viewing and they sell advertising time.

According to the Kantar Media TV Meter Survey (data provided to the National Institute for Health Development by Kantar Emor, 2023), among the television channels that carry programmes with advertisements, the most popular among children younger than 18 years in Estonia are Kanal 2, TV3 and Nickelodeon Jr (Nick Jr).

Kanal 2 and TV3 are also the two biggest Estonian commercial television channels and offer programmes for all ages. This study, therefore, analysed advertisements on Kanal 2 and TV3, Estonian commercial television channels for all ages, and on Nick Jr, which is intended to be specifically for children at preschool age.

For each channel, all broadcasts were recorded for four different days of the week in May 2023 for a total of 17 hours each day (6.00 to 23.00): two weekdays (Wednesday and Friday) and two weekend days (Table 1).

---

**Table 1.** Recording schedule in 2023

Channel	Weekdays	Weekend days
<b>Kanal 2</b>	10 May (Wed) and 12 May (Fri)	13 May (Sat) and 28 May (Sun)
<b>TV3</b>	3 May (Wed) and 5 May (Fri)	6 May (Sat) and 7 May (Sun)
<b>Nick Jr</b>	17 May (Wed) and 19 May (Fri)	20 May (Sat) and 21 May (Sun)

---

The dates were chosen to reflect the normal pattern of advertising. In total, 204 hours of broadcasts were recorded over 12 days using the Open Broadcaster Software.

---

## 2.2 Coding of data

Coding was carried out by one person following the instructions given in the WHO TV monitoring protocol V2 2020 (28) using the TV coding template V2 2020 minimal version (32). The minimal version gathers information about which products were advertised overall, which foods or beverages were advertised and whether they were permitted to be advertised to children. Data about persuasive appeal or power of advertisements were not gathered. Recordings were played in a VLC media player while codes were added to an Excel table. This approach provided the ability to pause, change playback speed and replay advertisements to ensure that the coder had time to evaluate the nature of each advertisement and place it in the right category. All food products advertised were added to a separate file to make a list of all food products and their advertisements for data integrity. Still copies of food advertisements were made with the print screen function and added to a separate folder.

In addition to the codes in the WHO protocol, some codes were also added. Two advertising time slots – 33 for 22.00 and 34 for 22.30 – were added by the coder. Two categories were added to advertised product types: Prisma Konto, a loyalty programme advertisement (category 21) and the Rimi campaign to hire new workforce (category 22). Gambling advertisements were coded under category 20 (“other”).

For food and non-alcoholic beverages, product brand name, detailed description, WHO NPM food category (27) and information about whether it was a brand advertisement or not were all collected, as suggested in the TV monitoring protocol V2 2020 (28).

All food advertisements were coded according to whether the advertised product was permitted for advertising to children or not. The eligibility decision was made according to nutritional information and the thresholds from the WHO NPM (27). Nutritional information for food products was acquired from brand or retailer websites and the product labels. Salt content listed in product labels was converted to sodium.

Statistical analysis was carried out using Stata 14 (33).

---

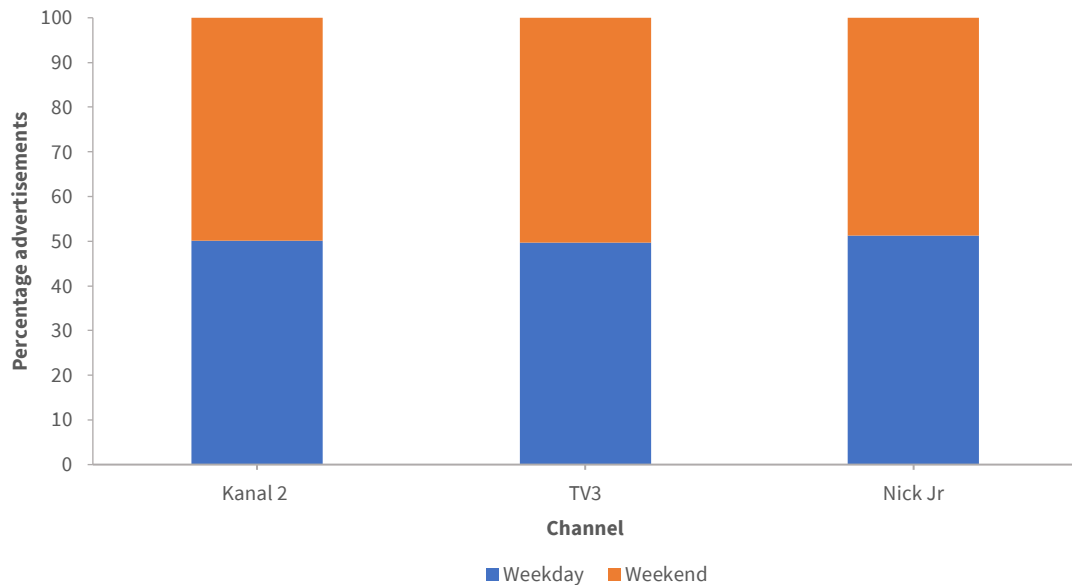
## 3. Results

Acquired data about recorded advertisements were analysed in two parts: (i) all advertisements, and (ii) only these which advertised food or beverages.

### 3.1 Total number and distribution of advertisements

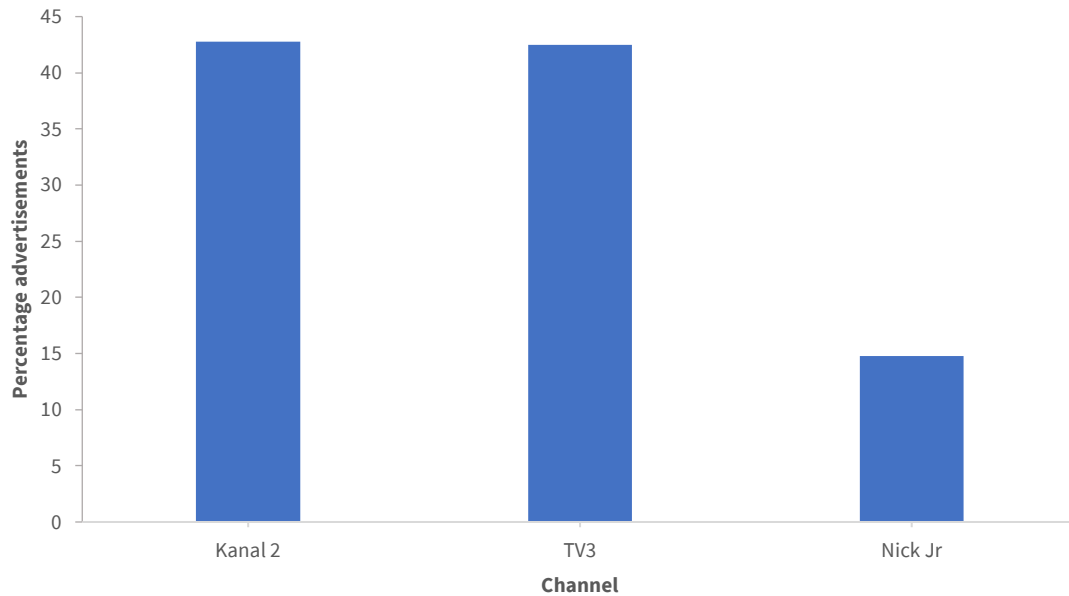
During all the days together, there were 6732 recorded advertisements on Kanal 2, TV3 and Nick Jr. The total included broadcast time during the 12 days in May 2023 was 204 hours. The advertisements were distributed evenly between weekdays and weekend days (Fig. 1).

**Fig. 1.** Proportion of recorded and viewed advertisements on weekdays and at weekends by channel



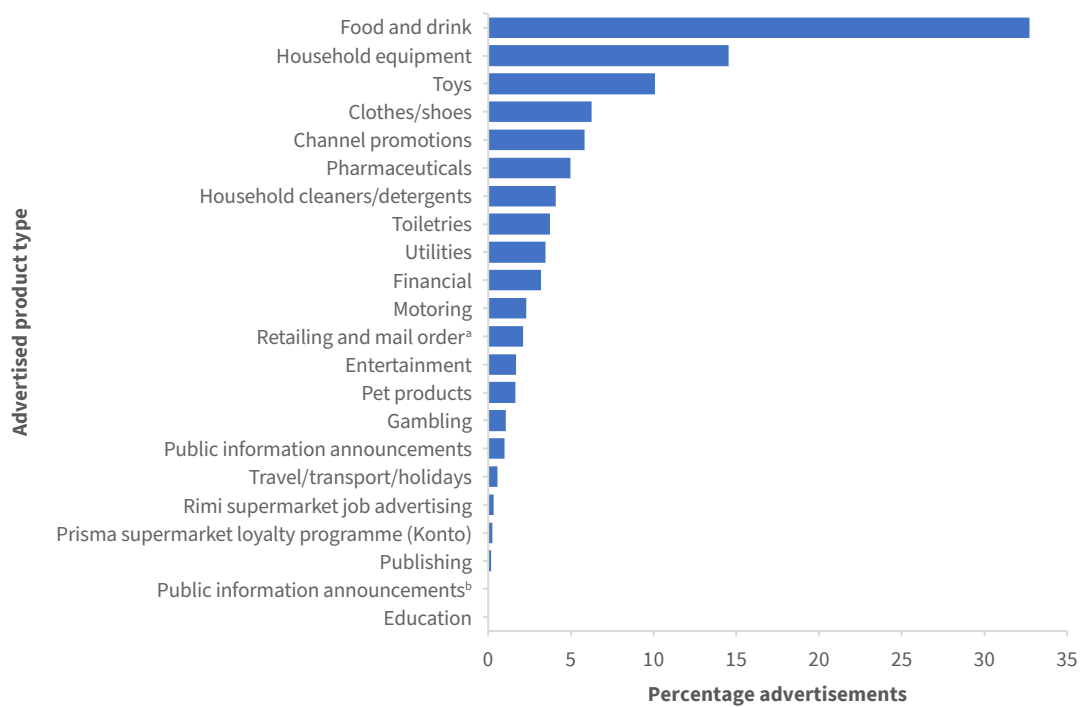
Most advertisements were found on the two biggest Estonian television channels equally: 2877 on Kanal 2 (42.7%) and 2861 on TV3 (42.5%). There were fewer on Nick Jr (994; 14.8%) (Fig. 2).

**Fig. 2.** Proportion of all advertisements between channels



Analysing advertised product categories revealed that the three most popular advertised product categories were food and beverages (32.7 %), household equipment (14.5%) and toys (10.1%) (Fig. 3). During study days, education and public information announcements (sponsored by food companies) were not advertised at all.

**Fig. 3.** Proportion of advertisements by advertised product type



<sup>a</sup>Includes catalogues but not supermarkets, which should be coded as a food advertisements.

<sup>b</sup>Sponsored by food companies.

On weekdays, as at weekends (Table A1.1), the most popular product category advertised was food and beverages, followed by household equipment and toys.

Food and beverages were advertised on all television channels and were the most advertised product category for Kanal 2 (36.0%) and TV3 (37.6%). For Nick Jr, the most advertised product category was toys (47.0%); food and beverages accounted for 9.1% of all the Nick Jr's advertisements (Table A1.2).

Analysis of advertising frequency by time interval showed some common features (Table A1.3). For all channels, the fewest advertisements (8.2%) were shown in the morning between 6.00 and 8.00. After 8.00, the frequency increased and remained fairly stable for the rest of the day (Fig. 4 and Table A1.3). Kanal 2 and TV3 were quite stable in showing advertising throughout the day. Although, the difference was minimal, Nick Jr first advertising peak time was between 15.00 and 16.00, with a later peak in the evening at 17.00–22.00.

**Fig. 4.** Distribution of all advertisements by time slot and television channel

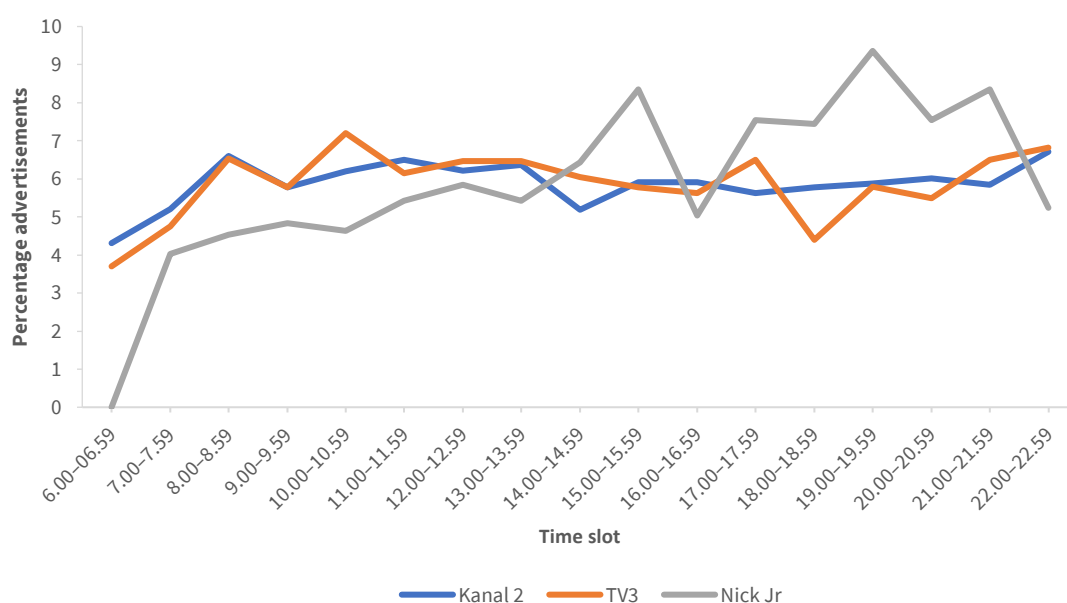


Table A1.2 also contains data advertisements for gambling (template category “other”), for the Rimi supermarket advertising their working conditions for hiring and for the Prisma supermarket loyalty programme. The last two did not classify as food or brand advertisements.

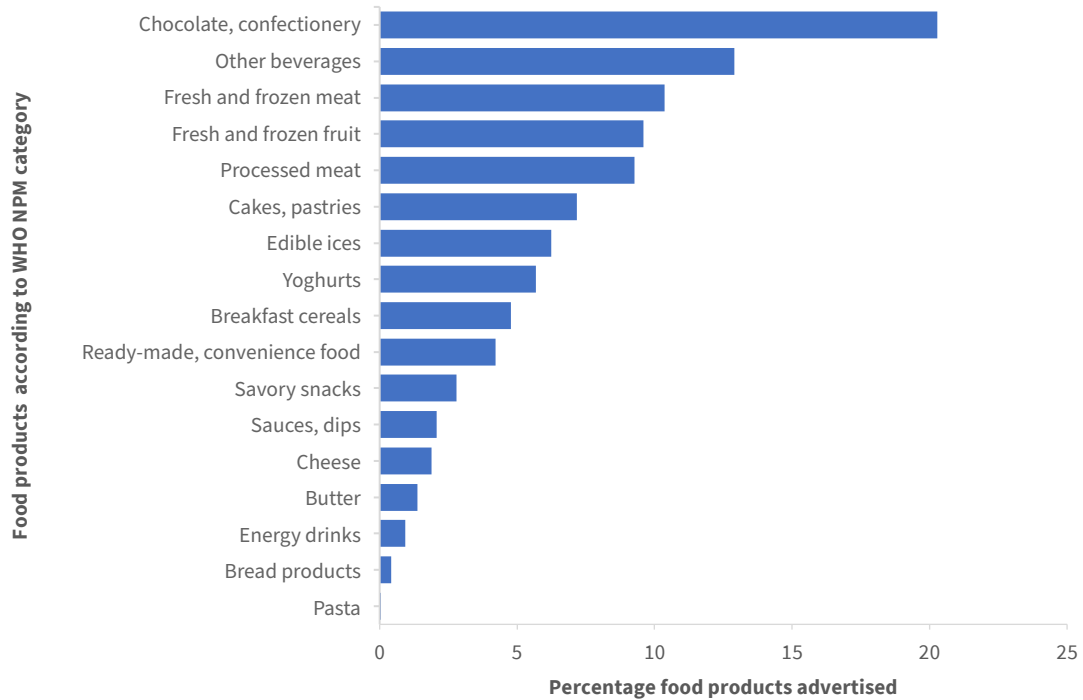
### 3.2 Marketing exposure of food or beverages

During the study, 2203 advertisements were recognized as food or beverages advertisements and 101 food or beverage products were advertised. For the food data analysis, alcoholic drink advertisements were removed (four products, 24 advertisements) because they were not in the scope of WHO NPM. Finally, 2179 advertisements for 97 food or beverage products were analysed.



During the study period, the most advertised WHO NPM categories were chocolate and sugar confectionery (20.3%; Raffaello, Nutella, Twix, Kinder Pengui, etc.), other beverages (13.0%; mineral water, coffee, Coca-Cola, nectar and alcohol-free alcohol beverages), fresh and frozen meat (10.4%) and fresh and frozen fruit (9.6%) (Fig. 5 and Table A1.4).

**Fig. 5.** Proportion of food products advertised according to WHO NPM category

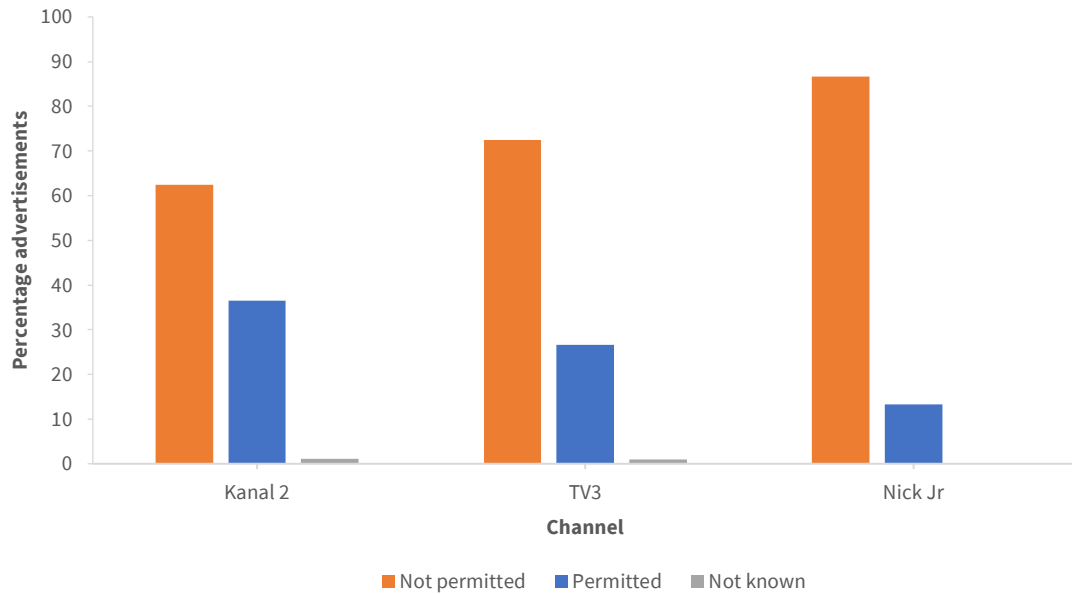


An additional analysis examined whether advertising of WHO NPM product categories differed on weekdays and weekend days. On weekdays, the most popular advertised WHO NPM categories were the same as the overall figures. The only difference noticed for weekend days was that the third most popular category advertised was processed meat instead of fresh and frozen meat (Table A1.5).

Food and beverage advertisements were divided into those for products permitted and not permitted to be marketed to children based on the available product nutritional information. Nutritional information could not be obtained for two meat products that belonged to the same WHO NPM category (category 14, processed meat products). This meant that 21 (1.0%) of the 2179 advertisements were not classified in this section; 1489 (68.3%) were classified as not permitted and 669 (30.7%) were classified as being advertisements permitted for showing to children (Table A1.6).

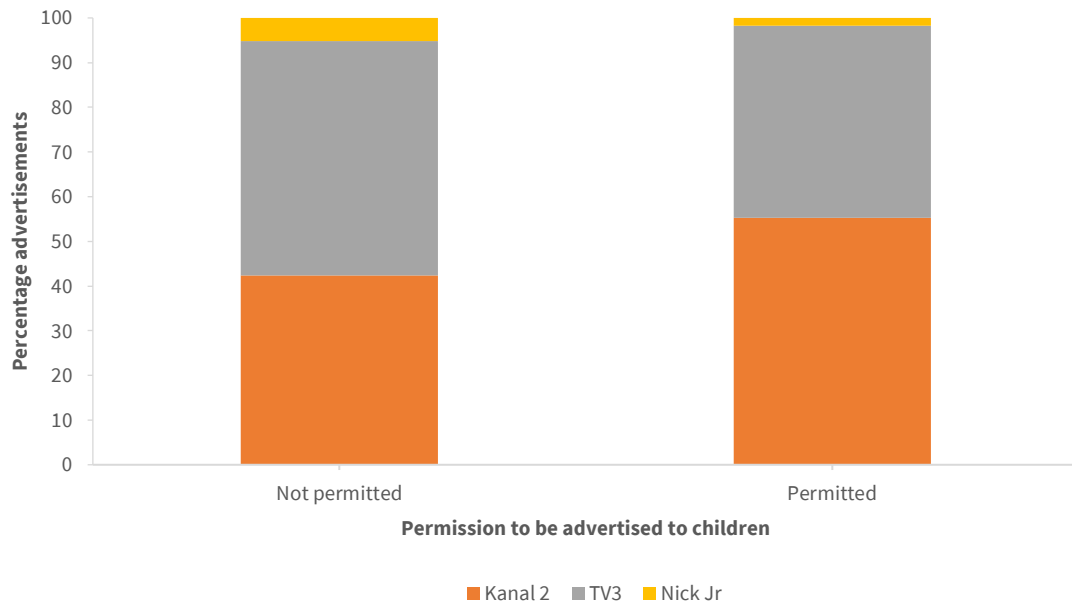
It was evident that, on the days examined, all channels advertised more products that should not be marketed to children than products permitted to be marketed to children. The difference between permitted and not permitted advertising was even as high as 6.5-fold on Nick Jr (Fig. 6).

**Fig. 6.** Proportion of food and beverages advertisements not permitted, permitted and unknown for marketing to children, by channel



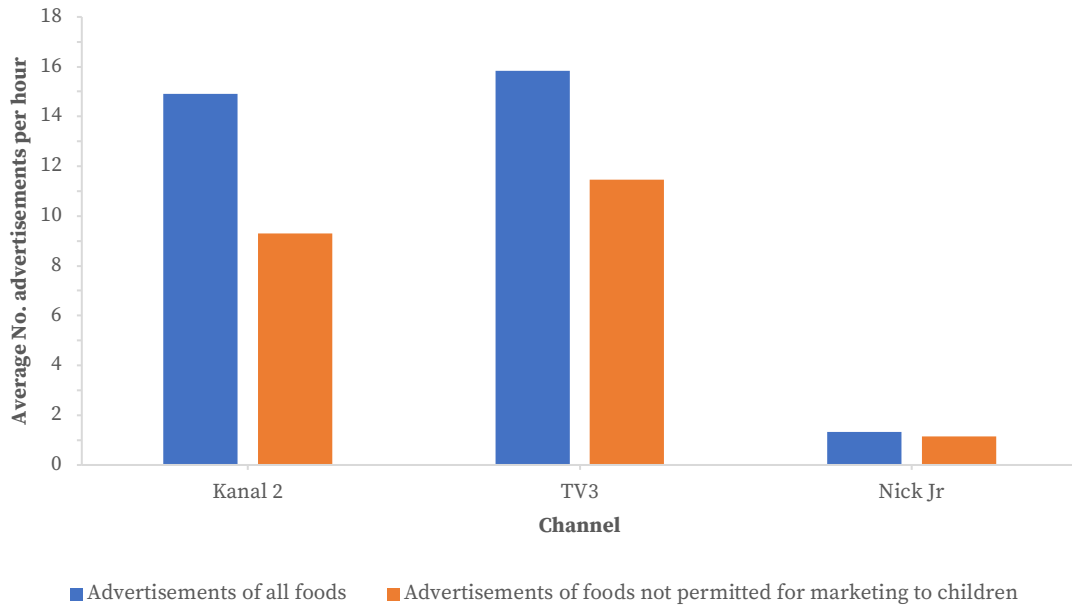
Food and beverages not permitted to be marketed to children were advertised on all channels. Of all permitted advertisements, 55.3% were shown on Kanal 2 and of all not permitted advertisements 52.3% were shown on TV3 (Fig. 7).

**Fig. 7.** Distribution of advertisements of food or beverages between channels by permission to be advertised to children



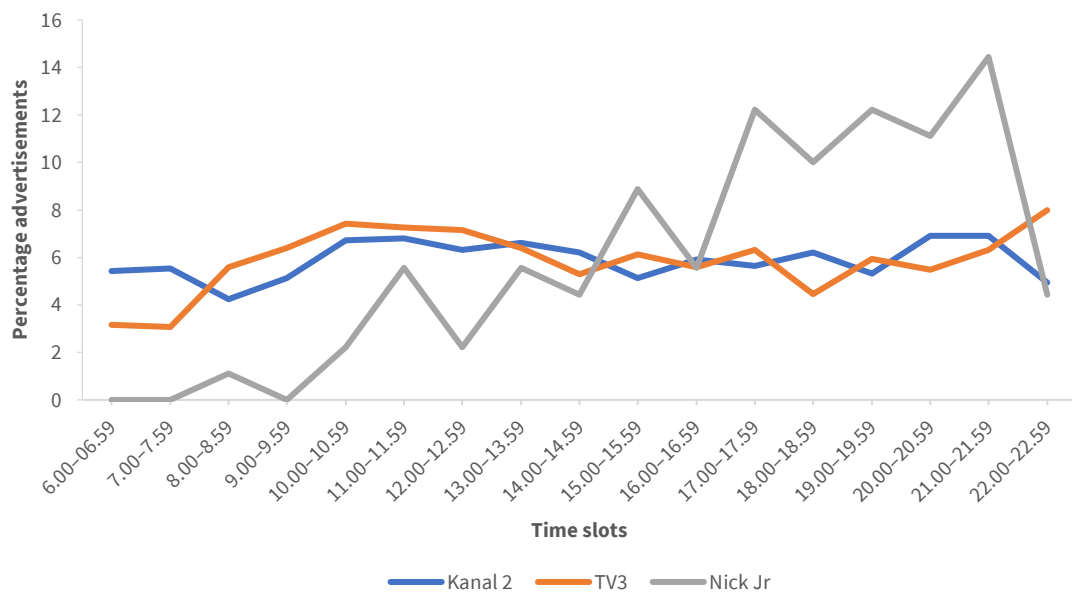
During the researched days, on average, 10.7 food advertisements overall and 7.3 food advertisements about products not permitted to be advertised to children per hour were shown. For Nick Jr, almost all food advertisements were of products not to be advertised for children (Fig. 8). For Kanal 2, three of five and for TV3 almost four of five food advertisements were of products not to be marketed to children.

**Fig. 8.** Average number of food advertisements per hour, overall and of products not permitted for marketing to children, by channel



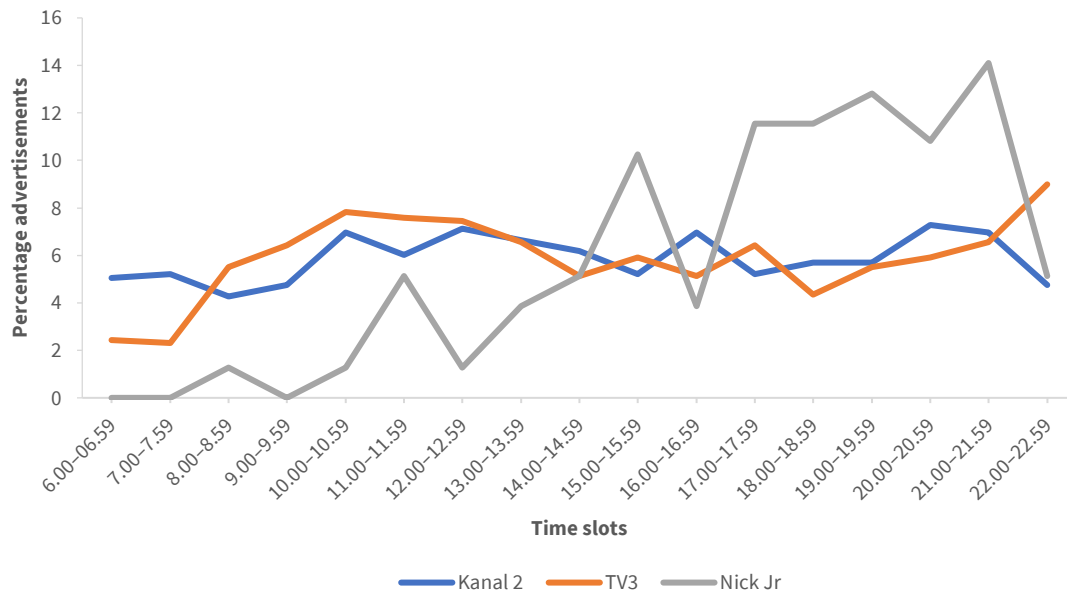
Food and beverage advertising across all channels was almost evenly distributed throughout the day (Fig. 9 and Table A1.7). Kanal 2 and TV3 broadcasted advertisements more evenly throughout the day. Although the difference was minimal, Nick Jr compared with Kanal 2 and TV3 showed fewer food advertisements in the morning and more food advertisements in the evening.

**Fig. 9.** Proportion of food advertisements by time slot and channel



The same pattern was repeated for advertisements of food products not permitted to be marketed to children (Fig. 10 and Table A1.8): Kanal 2 and TV3 food and beverage advertisements were distributed throughout the day, whereas for Nick Jr food advertisements were shown more after 15.00 and up to 22.00, with peak between 21.00 and 22.00.

**Fig. 10.** Advertisements of products not permitted to be marketed to children by time slot and channel

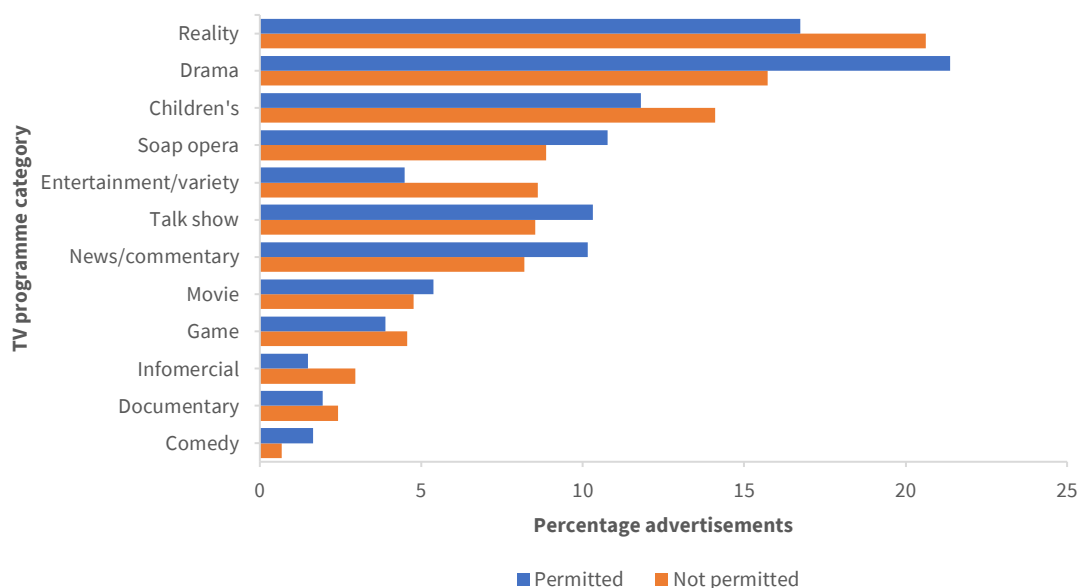


Of the total 2179 food advertisements, 156 (7%) were brand advertisements. During the study days, Kalev Mesikäpp (confectionery product series of Kalev), Selver and Lidl advertised this way. Advertisements divided equally between weekdays and weekend days.

The most popular television programme category for advertising was children’s programmes. This result should be interpreted with caution because it includes programmes on Nick Jr, where all broadcasts were classified as children’s programmes. Of all advertisements, 1770 (26.3%) were shown before and during a children’s programme (Table A1.9). The most popular product categories to advertise before and during a children’s programme were toys (37.1%) followed by food and beverages (16.4%).

The three most popular television programme categories for advertising were children’s programmes, reality shows and drama. This was also the case for food and beverage advertisements permitted and not permitted to be shown to children (Fig. 11 and Table A1.10).

**Fig. 11.** Proportion of food and beverage advertisements permitted and not permitted for marketing to children, by television programme category



Of a total of 2158 advertisements for food and beverage products (both permitted and not permitted to be advertised to children), 289 (13.4%) were before and during children’s programmes (Table A1.11). Of food advertisements before and during children’s programmes, 210 (72.7%) were advertisements of products not permitted to be marketed to children. During the studied days, the most food and beverage advertisements before and during children’s programme were on TV3 (165; 57.1%). Nick Jr shows entirely children’s programmes and had 90 (31.1%) food advertisements.

The most common WHO NPM categories advertised before and during children’s programme were chocolate and confectioneries, fresh and frozen meat, and butter (Table A1.12).

The television channels that were followed in this study differed in nature: Nick Jr was fully intended for children; TV3 had a daily children’s programme, and Kanal 2 had a children’s programme only at weekends (Table A1.13).

At weekends, advertisements before and during children’s programmes were mostly of food products that should not be marketed to children. Only 58 of a total of 185 advertisements (31.3%) were permitted advertisements (Table A1.14).

---

## 4. Discussion

This study was the first of its kind to analyse television marketing of food and beverages to children and adolescents in Estonia. It was supported by and conducted in cooperation with the WHO Country Office in Estonia, and according to the WHO Regional Office for Europe methodology to study marketing of unhealthy food to children (27). The same methodology has been used before in several countries: Kazakhstan (29), Kyrgyz Republic (30) and Türkiye (31).

During the study period in May 2023, there were 6732 television advertisements recorded and analysed. Two of the television channels (Kanal 2 and TV3) showed 85% of the advertisements. The advertisements were evenly divided between weekdays and weekend days. The most popular category of advertisements was food and beverages (33%). In the Estonian context, it meant that during the study period the television audience, including children and adolescents, was exposed to advertisements for food and beverages more than twice as often as for household equipment and more than three times as often as for toys.

The exposure to food and beverages advertisements was assessed using the WHO NPM categories for food and beverage products. Nutritional information could be obtained for almost every product advertised and this allowed the advertisements to be divided into products permitted or not permitted to be seen by children and adolescents using WHO NPM thresholds. The two most popular WHO NPM categories advertised were “chocolate and confectionery” (20%) and “other beverages” (13%). However, the WHO NPM category of “other beverages” is quite wide and encompasses mineral water and coffee (grounded and beans), which are permitted to be advertised to children, and Coca-Cola, nectar and alcohol-free alcohol products, which are not permitted to be advertised to children. When all food and beverage products were classified according to the WHO NPM, it became evident that 69% of the advertisements fell into the category of not permitted to be seen by children or adolescents.

Previous research on the impact of television advertising on children’s consumption of unhealthy food has shown that children exposed to food advertisements consume more unhealthy food, and have a positive attitude towards that type of food (34). Governments and the food industry have claimed that lack of evidence linking food marketing to childhood obesity is the reason for limited action to restrict children’s exposure to unhealthy food marketing, yet a systematic review strongly confirmed that there is a strong link between food marketing and childhood obesity (34).

Evidence shows that exposure to food advertising increases dietary intake in all children, but the increase is highest among children living with obesity (35); that is, children living with overweight and obesity are more responsive to food promotion. Studies have demonstrated that the effect of food advertising is not limited to increasing intake of the particular item being advertised, rather there is a beyond-brand effect stimulating the consumption of all snack foods on offer (35).

This current study in Estonia found 10.7 food advertisements per hour and 7.3 not permitted food advertisements per hour on the days examined: not permitted food advertisements were shown twice as often as permitted food advertisements. Research pooling television advertising data from 22 countries found that the average frequency of food advertising was highest in Canada, where a total of 10.9 food advertisements were shown on television per hour, with 9.7 being not permitted food advertisements (15). According to the same study, the overall average frequency of food advertising in the 22 countries was 3.7 advertisements per hour and that for not permitted foods was 2.4 advertisements per hour, which is nearly 2.5 times less than in our study. Based on this information, it can be concluded that food advertising

---

frequency in Estonia is almost as high as in Canada and there is still a long way to go for Estonia to reduce the amount of advertising to at least the overall average frequency of other countries.

In the current study, most of the advertisements (26%) were shown before and during children's programmes. Food and beverages were overall the second most popular category advertised (after toys). Of all the food and beverage products permitted and not permitted to be advertised to children, 13% were shown before and during children's programmes. Of those, 73% were advertisements of products not permitted to be marketed to children. The proportion of not permitted advertisements during children's programmes was similar to the overall proportion of not permitted food product advertisements. The fact that the most popular food products advertised before and during children's programmes were chocolate and confectionery was in accordance with the overall high frequency of chocolate and confectionery advertisements during the study days.

Reducing children's exposure to food marketing is an important obesity prevention strategy. To tackle the situation in television advertising in Estonia, the AEB has created a code of conduct (26) regarding responsible food marketing for children and made it compulsory for its members. Although the code of conduct has been mandatory for the members of AEB since 1 January 2023, it is evident from this report that the code is not being followed. This confirms the previous global evidence that shows that mandatory policies are more likely to reduce exposure to television advertising and the power of this advertising relative to voluntary policies (36). To ease implementation by its members, the AEB should make the full version of the code (including the appendix with the details of the WHO NPM) publicly available on its website. According to the code of conduct, there should also be a council, which currently does not exist, to monitor the execution of the code by the members of AEB every year and resolve any complaints.

Since the situation in food marketing in Estonia is far from perfect, the Estonian Government could consider implementing a more comprehensive strategy to protect children and adolescents from the potential harms of food marketing.

---

## 5. Conclusions

In conclusion, the results of this food marketing study in Estonia showed that food and beverages advertisements appearing on the studied television channels do not support a healthy balanced diet among children and adolescents.

The study found that the most popular items advertised in Estonia were food and beverages. The three most popular advertised food products based on the WHO NPM were chocolate and confectionery, other beverages, and fresh and frozen meat. It was evident that 69% of all the food advertisements were of products not permitted to be advertised to children. A similar proportion was detected when advertised food products before and during children's programmes were analysed.

On average, 10.7 food advertisements were shown on television every hour, 7.3 were of products not permitted to be advertised to children.

Although the AEB has adopted a code of conduct regarding responsible food marketing to children, it appears that self-regulation within the members of the AEB is not as effective as it should be, as confirmed by the results of this study. It is worth discussing whether stricter policy measures are needed to minimize the amount of advertising of products not permitted to be marketed to children.

It would be useful to repeat this study in a few years to see whether the situation of food marketing to children and adolescents in Estonia has improved. It will also be important to study what kinds of food and beverages are advertised in other types of media.



---

# References<sup>1</sup>

1. Report of the commission on ending childhood obesity. Geneva: World Health Organization; 2016 (<https://iris.who.int/handle/10665/204176>).
2. European charter on counteracting obesity: WHO European Ministerial Conference on Counteracting Obesity: diet and physical activity for health: Istanbul, Turkey, 15–17 November 2006. Copenhagen: WHO Regional Office for Europe; 2006 (<https://iris.who.int/handle/10665/107801>).
3. Global nutrition targets 2025: childhood overweight policy brief. Geneva: World Health Organization; 2014 (<https://iris.who.int/handle/10665/149021>).
4. WHO European Regional obesity report 2022. Copenhagen: WHO Regional Office for Europe; 2022 (<https://iris.who.int/handle/10665/353747>).
5. Report on the fifth round of data collection, 2018–2020: WHO European Childhood Obesity Surveillance Initiative (COSI). Copenhagen: WHO Regional Office for Europe; 2022 (<https://iris.who.int/handle/10665/363950>).
6. Estonian Health Insurance Fund Yearbook 2013. Tallinn: Estonian Health Insurance Fund; 2014 ([https://www.tervisekassa.ee/sites/default/files/annual\\_report\\_2013\\_.pdf](https://www.tervisekassa.ee/sites/default/files/annual_report_2013_.pdf)).
7. Metsoja A, Nelis L, Nurk E. WHO Childhood Obesity Surveillance Initiative. Estonian study report for the academic year 2015/2016. Tallinn: National Institute for Health Development; 2018 ([https://tai.ee/sites/default/files/2021-03/152586931296\\_WHO\\_Childhood\\_Obesity\\_Surveillance\\_Initiative\\_COSI.pdf](https://tai.ee/sites/default/files/2021-03/152586931296_WHO_Childhood_Obesity_Surveillance_Initiative_COSI.pdf)).
8. Eesti õpilaste kasvu seire: 2018/19. õppeaasta uuringu raport WHO Childhood Obesity Surveillance Initiative (COSI) [Estonian student growth monitoring: 2018/19. Academic year study report WHO Childhood Obesity Surveillance Initiative (COSI)]. Tallinn: National Institute for Health Development; 2021 (<https://www.tai.ee/et/valjaanded/eesti-opilaste-kasvu-seire-201819-oppeaasta-uuringu-raport-who-childhood-obesity>) (in Estonian).
9. Oja L, Piksööt J, Haav A, Kasvandik L, Mäll T, Rahno J et al. Eesti kooliõpilaste tervisekäitumine: 2021/2022. õppeaasta uuringu raport [Health behaviour survey of Estonian school students: 2023/2022. Academic year survey report]. Tallinn: National Institute for Health Development; 2023 (<https://tai.ee/et/valjaanded/eesti-kooliopilaste-tervisekaitumine>).
10. Meltzer HM, Brantsæter AL, Trolle E, Eneroth H, Fogelholm M, Ydersbond TA et al. Environmental sustainability perspectives of the Nordic diet. *Nutrients*. 2019;11(9):2248. doi: 10.3390/nu11092248.
11. Cairns G, Angus K, Hastings G, Caraher M. Systematic reviews of the evidence on the nature, extent and effects of food marketing to children. A retrospective summary. *Appetite*. 2013;62:209–15. doi: 10.1016/j.appet.2012.04.017.
12. Wilcox B, Kunkel D, Cantor J, Dowrick P, Linn S, Palmer E. Report of the APA Task Force on Advertising and Children. Worcester (MA): American Psychological Association; 2004 (<https://www.apa.org/pi/families/resources/advertising-children.pdf>).
13. Food marketing exposure and power and their associations with food-related attitudes, beliefs, and behaviours: a narrative review. Geneva: World Health Organization; 2022 (<https://iris.who.int/handle/10665/351521>).
14. Kelly B, Vandevijvere S, Ng S, Adams J, Allemandi L, Bahena-Espina L et al. Global benchmarking of children’s exposure to television advertising of unhealthy foods and beverages across 22 countries. *Obes Rev*. 2019;20(suppl 2):116–28. doi: 10.1111/obr.12840.
15. Zimmerman FJ, Bell JF. Associations of television content type and obesity in children. *Am J Public Health*. 2010;100(2):334–40. doi: 10.2105/AJPH.2008.155119.
16. Boyland EJ, Nolan S, Kelly B, Tudur-Smith C, Jones A, Halford JC et al. Advertising as a cue to consume: a systematic review and meta-analysis of the effects of acute exposure to unhealthy food and nonalcoholic beverage advertising on intake in children and adults. *Am J Clin Nutr*. 2016;103(2):519–33. doi: 10.3945/ajcn.115.120022.
17. Boyland E, McGale L, Maden M, et al. Systematic review of the effect of policies to restrict the marketing of foods and non-alcoholic beverages to which children are exposed. *Obes Rev* 2022;23(8):e13447.
18. Avery A, Anderson C, McCullough F. Associations between children’s diet quality and watching television during meal or snack consumption: a systematic review. *Matern Child Nutr*. 2017;13(4):e12428. doi: 10.1111/mcn.12428.

.....

1 All references were accessed 23 February 2024.

- 
19. Shqair AQ, Pauli LA, Costa VPP, Cenci M, Goettems ML. Screen time, dietary patterns and intake of potentially cariogenic food in children: a systematic review. *J Dent.* 2019;86:17–26. doi: 10.1016/j.jdent.2019.06.004.
  20. Jensen ML, Dillman Carpentier FR, Corvalán C, Popkin BM, Evenson KR, Adair L et al. Television viewing and using screens while eating: associations with dietary intake in children and adolescents. *Appetite.* 2022;168:105670. doi: 10.1016/j.appet.2021.105670.
  21. Köhler K, Eksin M, Peil E, Sammel A, Uuetoa M, Villa I et al. Suhkruga magustatud jookide tarbimise ja sellest põhjustatud tervisekahjude vähendamise eestis: EvipNet tõendus põhise ülevaade, Number 1 [Reducing the consumption of sugar-sweetened beverages and the resulting health damage in Estonia: EVIPNet evidence-based review, issue 1]. Copenhagen: WHO Regional Office for Europe; 2016 (<https://iris.who.int/handle/10665/346204>) (in Estonian).
  22. Reklaamiseadus [Advertising Act]. RT I, 17.03.2023, 21.
  23. Tarbijakaitseadus [Consumer Protection Act]. RT I, 06.07.2023, 95.
  24. Meediateenuste seadus [Media Services Act]. RT I, 15.06.2022, 3.
  25. Juhend lastele suunatud reklaamidele ning lapse kasutamine reklaamis [Guide about advertising to children and the use of children in advertising]. Tallinn: Consumer Protection and Technical Regulatory Authority; 2020 ([https://ttja.ee/ari klient/ametist/lisainfo-ja-dokumendid/juhendid?view\\_instance=3&current\\_page=1#reklaam](https://ttja.ee/ari klient/ametist/lisainfo-ja-dokumendid/juhendid?view_instance=3&current_page=1#reklaam)) (in Estonian).
  26. Vastutustundlik toidu ja joogi reklaampoliitika lastesaadetes: tegevusjuhend [Responsible food and beverage advertising policy in children's programmes: code of conduct]. Tallinn: Association of Estonian Broadcasters; 2021 (<https://www.terviseinfo.ee/et/valdkonnad/toitumine/toiduturundus/soovitused-ja-regulatsioonid>) (in Estonian).
  27. WHO Regional Office for Europe nutrient profile model, second edition. Copenhagen: WHO Regional Office for Europe; 2023 (<https://iris.who.int/handle/10665/366328>).
  28. Monitoring of marketing of unhealthy products to children and adolescents: protocols and templates. 2.1 TV monitoring protocol V2 2020. Copenhagen: WHO Regional Office for Europe; 2020 (<https://www.who.int/europe/tools-and-toolkits/monitoring-of-marketing-of-unhealthy-products-to-children-and-adolescents---protocols-and-templates#463526>).
  29. National Center of Public Health of the Republic of Kazakhstan, WHO Regional Office for Europe. Monitoring food and beverage marketing to children via television in Kazakhstan: key findings 2019. Copenhagen: WHO Regional Office for Europe; 2019 (<https://iris.who.int/handle/10665/346271>).
  30. Monitoring food and beverage marketing to children via television in the Kyrgyz Republic: key findings 2019. Copenhagen: WHO Regional Office for Europe; 2019 (<https://iris.who.int/handle/10665/346258>).
  31. Bosi TB, Ergüder T, Breda J, Jewell J. Monitoring food marketing to children in Turkey, 2018. Copenhagen: WHO Regional Office for Europe; 2018 (<https://iris.who.int/handle/10665/345861>).
  32. Monitoring of marketing of unhealthy products to children and adolescents: protocols and templates. 2.3 TV coding template: V2 2020. Copenhagen: WHO Regional Office for Europe; 2020 (<https://www.who.int/europe/tools-and-toolkits/monitoring-of-marketing-of-unhealthy-products-to-children-and-adolescents---protocols-and-templates#463526>).
  33. Stata 14. College Station (TX): StataCorp; 2015 (<https://www.stata.com/stata14/>).
  34. Smith R, Kelly B, Yeatman H, Boyland E. Food marketing influences children's attitudes, preferences and consumption: a systematic critical review. *Nutrients.* 2019;11(4):875. doi: 10.3390/nu11040875.
  35. Boyland EJ, Halford JC. Television advertising and branding. Effects on eating behaviour and food preferences in children. *Appetite.* 2013;62:236–41. doi: 10.1016/j.appet.2012.01.032.
  36. Policies to protect children from the harmful impact of food marketing: WHO guideline. Geneva: World Health Organization; 2023 (<https://iris.who.int/handle/10665/370113>).

# Annex 1. Data tables

**Table A1.1.** Number and proportion of advertised product categories on weekdays and weekends

Advertised product type	Weekdays		Weekend days		Total	
	No.	%	No.	%	No.	%
Food and beverages	1171	34.7	1032	30.7	2203	32.7
Clothes/shoes	192	5.7	228	6.8	420	6.2
Entertainment	45	1.3	69	2.1	114	1.7
Financial	112	3.3	103	3.1	215	3.2
Household cleaners	156	4.6	120	3.6	276	4.1
Household equipment	568	16.9	410	12.2	978	14.5
Motoring	68	2.0	86	2.6	154	2.3
Pet products	42	1.3	70	2.1	112	1.7
Pharmaceuticals	172	5.1	163	4.9	335	5.0
Public information announcements	28	0.8	38	1.1	66	1.0
Publishing	5	0.2	6	0.2	11	0.2
Retailing and mail order	69	2.0	73	2.2	142	2.1
Toiletries	128	3.8	123	3.7	251	3.7
Toys	292	8.7	388	11.6	680	10.1
Travel/transport/holidays	24	0.7	15	0.5	39	0.6
Utilities	97	2.9	136	4.1	233	3.5
Channel promotions	148	4.4	244	7.3	392	5.8
Gambling	44	1.3	28	0.8	72	1.1
Prisma supermarket loyalty programme advertising (Konto)	9	0.3	7	0.2	16	0.2
Rimi supermarket job advertising	3	0.1	20	0.6	23	0.3
<b>Total</b>	<b>3373</b>	<b>100</b>	<b>3359</b>	<b>100</b>	<b>6732</b>	<b>100</b>

**Table A1.2.** Number and proportion of advertised product categories, by channel

Advertised product type	Kanal 2		TV3		Nick Jr		Total	
	No.	%	No.	%	No.	%	No.	%
Food and beverages	1037	36.0	1076	37.6	90	9.1	2203	32.7
Clothes/shoes	225	7.8	153	5.4	42	4.2	420	6.2
Entertainment	47	1.6	67	2.3	0	0	114	1.7
Financial	103	3.6	112	3.9	0	0	215	3.2
Household cleaners/detergents	0	0	190	6.6	86	8.7	276	4.1
Household equipment	548	19.1	423	14.8	7	0.7	978	14.5
Motoring	91	3.2	49	1.7	14	1.4	154	2.3
Pet products	14	0.5	35	1.2	63	6.3	112	1.7
Pharmaceuticals	196	6.8	139	4.9	0	0	335	5.0
Public information announcements	33	1.2	28	1.0	5	0.5	66	1.0
Publishing	11	0.4	0	0	0	0	11	0.2
Retailing and mail order	82	2.9	47	1.6	13	1.3	142	2.1
Toiletries	35	1.2	209	7.3	7	0.7	251	3.7
Toys	74	2.6	139	4.9	467	47.0	680	10.1
Travel/transport/holidays	30	1.0	8	0.3	1	0.1	39	0.6
Utilities	85	3.0	80	2.8	68	6.8	233	3.5
Channel promotions	244	8.5	31	1.1	117	11.8	392	5.8
Gambling	8	0.3	64	2.2	0	0	72	1.1
Prisma supermarket loyalty programme advertising (Konto)	5	0.2	11	0.4	0	0	16	0.2
Rimi supermarket job advertising	9	0.3	0	0	14	1.4	23	0.3
<b>Total</b>	<b>2877</b>	<b>100</b>	<b>2861</b>	<b>100</b>	<b>994</b>	<b>100</b>	<b>6732</b>	<b>100</b>

**Table A1.3.** Number and proportion of advertisements shown each hour, by channel (all days)

Time slot	Kanal 2		TV3		Nick Jr		Total	
	No.	%	No.	%	No.	%	No.	%
6.00–7.59	124	4.3	106	3.7	0	0	230	3.4
7.00–8.59	150	5.2	136	4.8	40	4.0	326	4.8
8.00–9.59	190	6.6	187	6.5	45	4.5	422	6.3
9.00–10.59	166	5.8	165	5.8	48	4.8	379	5.6
10.00–11.59	178	6.2	206	7.2	46	4.6	430	6.4
11.00–12.59	187	6.5	176	6.2	54	5.4	417	6.2
12.00–13.59	179	6.2	185	6.5	58	5.8	422	6.3
13.00–14.59	183	6.4	185	6.5	54	5.4	422	6.3
14.00–15.59	149	5.2	173	6.1	64	6.4	386	5.7
15.00–16.59	170	5.9	165	5.8	83	8.4	418	6.2
16.00–17.59	170	5.9	161	5.6	50	5.0	381	5.7
17.00–18.59	162	5.6	186	6.5	75	7.6	423	6.3
18.00–19.59	166	5.8	126	4.4	74	7.4	366	5.4
19.00–20.59	169	5.9	166	5.8	93	9.4	428	6.4
20.00–21.59	173	6.0	157	5.5	75	7.6	405	6.0
21.00–22.59	168	5.8	186	6.5	83	8.4	437	6.5
22.00–23.59	193	6.7	195	6.8	52	5.2	440	6.5
<b>Total</b>	<b>2877</b>	<b>100</b>	<b>2861</b>	<b>100</b>	<b>994</b>	<b>100</b>	<b>6732</b>	<b>100</b>

**Table A1.4.** Number and proportion of food and beverage items by WHO NPM category, by channel

WHO NPM category	Kanal 2		TV3		Nick Jr		Total	
	No.	%	No.	%	No.	%	No.	%
Chocolate, confectionery	193	19.1	202	18.8	47	52.2	442	20.3
Cakes, pastries	61	6.0	95	8.8	0	0	156	7.2
Savory snacks	8	0.8	49	4.6	4	4.4	61	2.8
Energy drinks	15	1.5	5	0.5	0	0	20	1.0
Other beverages	154	15.2	127	11.8	0	0	281	13.0
Edible ices	87	8.6	49	4.6	0	0	136	6.2
Breakfast cereals	0	0	104	9.7	0	0	104	4.8
Yoghurts	87	8.6	37	3.4	0	0	124	5.7
Cheese	17	1.7	24	2.2	0	0	41	1.9
Ready-made, convenience food	14	1.4	78	7.3	0	0	92	4.2
Butter	3	0.3	0	0	27	30.0	30	1.4
Bread products	7	0.7	2	0.2	0	0	9	0.4
Pasta	1	0.1	0	0	0	0	1	0.1
Fresh and frozen meat	110	10.9	106	9.9	10	11.1	226	10.4
Processed meat	129	12.7	73	6.8	0	0	202	9.3
Fresh and frozen fruit	86	8.5	122	11.3	1	1.1	209	9.6
Sauces, dips	41	4.1	3	0.3	1	1.1	45	2.1
<b>Total</b>	<b>1013</b>	<b>100</b>	<b>1076</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>2179</b>	<b>100</b>

**Table A1.5.** Number and proportion of food and beverage items by WHO NPM category on weekends and weekdays

WHO NPM category	Weekend day		Weekday		Total	
	No.	%	No.	%	No.	%
Chocolate, confectionery	236	23.1	206	17.8	442	20.3
Cakes, pastries	61	6.0	95	8.2	156	7.2
Savory snacks	37	3.6	24	2.1	61	2.8
Energy drinks	8	0.8	12	1.0	20	0.9
Other beverages	133	13.0	148	12.8	281	13.0
Edible ices	37	3.6	99	8.6	136	6.2
Breakfast cereals	67	6.6	37	3.2	104	4.8
Yoghurts	65	6.4	59	5.1	124	5.7
Cheese	18	1.8	23	2.0	41	1.9
Ready-made, convenience food	58	5.7	34	3.0	92	4.2
Butter	3	0.3	27	2.3	30	1.4
Bread products	2	0.2	7	0.6	9	0.4
Pasta	1	0.1	0	0	1	0.1
Fresh and frozen meat	87	8.5	139	12.0	226	10.4
Processed meat	100	9.8	102	8.8	202	9.3
Fresh and frozen fruit	85	8.3	124	10.7	209	9.6
Sauces, dips	23	2.3	22	1.9	45	2.1
<b>Total</b>	<b>1021</b>	<b>100</b>	<b>1158</b>	<b>100</b>	<b>2179</b>	<b>100</b>

**Table A1.6.** Number and proportion of food and beverage advertisements by marketing status for children according to the WHO NPM, by channel (all days)

Marketing status by WHO NPM	Kanal 2		TV3		Nick Jr		Total	
	No.	%	No.	%	No.	%	No.	%
Not permitted	632	62.4	779	72.4	78	86.7	1489	68.3
Permitted	370	36.5	287	26.7	12	13.3	669	30.7
Unknown	11	1.1	10	0.9	0	0	21	1.0
<b>Total</b>	<b>1013</b>	<b>100</b>	<b>1076</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>2179</b>	<b>100</b>

**Table A1.7.** Number and proportion of food advertisements each hour, by channel (all days)

Time slot	Kanal 2		TV3		Nick Jr		Total	
	No.	%	No.	%	No.	%	No.	%
6.00–7.59	55	5.4	34	3.2	0	0	89	4.1
7.00–8.59	56	5.5	33	3.1	0	0	89	4.1
8.00–9.59	43	4.2	60	5.6	1	1.1	104	4.8
9.00–10.59	52	5.1	69	6.4	0	0	121	5.6
10.00–11.59	68	6.7	80	7.4	2	2.2	150	6.9
11.00–12.59	69	6.8	78	7.3	5	5.6	152	7.0
12.00–13.59	64	6.3	77	7.2	2	2.2	143	6.6
13.00–14.59	67	6.6	69	6.4	5	5.6	141	6.5
14.00–15.59	63	6.2	57	5.3	4	4.4	124	5.7
15.00–16.59	52	5.1	66	6.1	8	8.9	126	5.8
16.00–17.59	60	5.9	60	5.6	5	5.6	125	5.7
17.00–18.59	57	5.6	68	6.3	11	12.2	136	6.2
18.00–19.59	63	6.2	48	4.5	9	10.0	120	5.5
19.00–20.59	54	5.3	64	6.0	11	12.2	129	5.9
20.00–21.59	70	6.9	59	5.5	10	11.1	139	6.4
21.00–22.59	70	6.9	68	6.3	13	14.4	151	6.9
22.00–23.59	50	5.0	86	8.0	4	4.4	140	6.4
<b>Total</b>	<b>1013</b>	<b>100</b>	<b>1076</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>2179</b>	<b>100</b>

**Table A1.8.** Number and proportion of advertisements for food and beverages not permitted for marketing to children according to the WHO NPM, each hour by channel (all days)

Time slot	Kanal 2		TV3		Nick Jr		Total	
	No.	%	No.	%	No.	%	No.	%
6.00–7.59	32	5.1	19	2.4	0	0	51	3.4
7.00–8.59	33	5.2	18	2.3	0	0	51	3.4
8.00–9.59	27	4.3	43	5.5	1	1.3	71	4.8
9.00–10.59	30	4.8	50	6.4	0	0	80	5.4
10.00–11.59	44	7.0	61	7.8	1	1.3	106	7.1
11.00–12.59	38	6.0	59	7.6	4	5.1	101	6.8
12.00–13.59	45	7.1	58	7.5	1	1.3	104	7.0
13.00–14.59	42	6.7	51	6.6	3	3.9	96	6.5
14.00–15.59	39	6.2	40	5.1	4	5.1	83	5.6
15.00–16.59	33	5.2	46	6.0	8	10.3	87	5.8
16.00–17.59	44	7.0	40	5.1	3	3.9	87	5.8
17.00–18.59	33	5.2	50	6.4	9	11.5	92	6.2
18.00–19.59	36	5.7	34	4.4	9	11.5	79	5.3
19.00–20.59	36	5.7	43	5.5	10	12.8	89	6.0
20.00–21.59	46	7.3	46	6.0	10	10.8	102	6.9
21.00–22.59	44	7.0	51	6.6	11	14.1	106	7.1
22.00–23.59	30	4.8	70	9.0	4	5.1	104	9.0
<b>Total</b>	<b>632</b>	<b>100</b>	<b>779</b>	<b>100</b>	<b>78</b>	<b>100</b>	<b>1489</b>	<b>100</b>

**Table A1.9.** Number and proportion of TV programme categories by channel

Programme category	Kanal 2		TV3		Nick Jr		Total	
	No.	%	No.	%	No.	%	No.	%
Comedy	70	2.4	0	0	0	0	70	1.0
Drama	750	26.1	259	9.1	0	0	1009	15.0
Movie	188	6.5	96	3.4	0	0	284	4.2
Soap opera	406	14.1	171	6.0	0	0	577	8.6
News/commentary	284	9.9	209	7.3	0	0	493	7.3
Talk show	258	9.0	224	7.8	0	0	482	7.2
Reality	369	12.8	736	25.7	0	0	1105	16.4
Entertainment/variety	167	5.8	248	8.7	0	0	415	6.2
Documentary	44	1.5	109	3.8	0	0	153	2.3
Game	19	0.7	209	7.3	0	0	228	3.4
Children's	195	6.8	581	20.3	994	100.0	1770	26.3
Infomercial	127	4.4	19	0.7	0	0	146	2.2
<b>Total</b>	<b>2877</b>	<b>100</b>	<b>2861</b>	<b>100</b>	<b>994</b>	<b>100</b>	<b>6732</b>	<b>100</b>

**Table A1.10.** Number and proportion of food and beverage advertisements before and during a TV programme, by marketing status for children according to the WHO NPM

TV programme category	Not permitted		Permitted		Total	
	No.	%	No.	%	No.	%
Comedy	10	0.7	11	1.6	21	1.0
Drama	234	15.8	143	21.4	377	17.5
Movie	71	4.8	36	5.4	107	5.0
Soap opera	132	8.9	72	10.8	204	9.5
News/commentary	122	8.2	68	10.2	190	8.8
Talk show	127	8.5	69	10.3	196	9.1
Reality	307	20.6	112	16.7	419	19.4
Entertainment/variety	128	8.6	30	4.5	158	7.3
Documentary	36	2.4	13	2.0	49	2.3
Game	68	4.6	26	3.9	94	4.4
Children's	210	14.1	79	11.8	289	13.4
Infomercial	44	3.0	10	1.5	54	2.5
<b>Total</b>	<b>1489</b>	<b>100</b>	<b>669</b>	<b>100</b>	<b>2158</b>	<b>100</b>

**Table A1.11.** Number and proportion of food and beverage advertisements before and during children's TV programmes by marketing status for children according to the WHO NPM, by channel

Marketing status by WHO NPM	Kanal 2		TV3		Nick Jr		Total	
	No.	%	No.	%	No.	%	No.	%
Not permitted	20	58.8	112	67.9	78	86.7	210	72.7
Permitted	14	41.2	53	32.1	12	13.3	79	27.3
<b>Total</b>	<b>34</b>	<b>100</b>	<b>165</b>	<b>100</b>	<b>90</b>	<b>100</b>	<b>289</b>	<b>100</b>

**Table A1.12.** Number and proportion of WHO NPM categories before and during children's programme

WHO NPM category	No.	%
Chocolate, confectionery	87	30.1
Cakes, pastries	12	4.2
Savory snacks	16	5.5
Other beverages	24	8.3
Edible ices	9	3.1
Yoghurts	19	6.6
Cheese	2	0.7
Ready-made, convenience food	26	9.0
Butter	27	9.3
Fresh and frozen meat	36	12.5
Processed meat	10	3.5
Fresh and frozen fruit	18	6.2
Sauces, dips	3	1.0
<b>Total</b>	<b>289</b>	<b>100</b>

**Table A1.13.** Number and proportion of food and beverage advertisements before and during children's TV programmes by marketing status on weekdays, by channel<sup>a</sup>

Marketing status by WHO NPM	TV3		Nick Jr		Total	
	No.	%	No.	%	No.	%
Not permitted	58	98.3	25	55.6	83	79.8
Permitted	1	1.7	20	44.4	21	20.2
<b>Total</b>	<b>59</b>	<b>100</b>	<b>45</b>	<b>100</b>	<b>104</b>	<b>100</b>

<sup>a</sup>Kanal 2 has children's programmes only at weekends.

**Table A1.14.** Number and proportion of food and beverage advertisements before and during children's TV programme by marketing status on weekend days, by channel

Marketing status by WHO NPM	Kanal 2		TV3		Nick Jr		Total	
	No.	%	No.	%	No.	%	No.	%
Not permitted	20	58.8	20	64.5	87	72.5	127	68.7
Permitted	14	41.2	11	35.5	33	27.5	58	31.3
<b>Total</b>	<b>34</b>	<b>100</b>	<b>31</b>	<b>100</b>	<b>120</b>	<b>100</b>	<b>185</b>	<b>100</b>





---

## The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

### Member States

Albania	Greece	Portugal
Andorra	Hungary	Republic of Moldova
Armenia	Iceland	Romania
Austria	Ireland	Russian Federation
Azerbaijan	Israel	San Marino
Belarus	Italy	Serbia
Belgium	Kazakhstan	Slovakia
Bosnia and Herzegovina	Kyrgyzstan	Slovenia
Bulgaria	Latvia	Spain
Croatia	Lithuania	Sweden
Cyprus	Luxembourg	Switzerland
Czechia	Malta	Tajikistan
Denmark	Monaco	Türkiye
Estonia	Montenegro	Turkmenistan
Finland	Netherlands (Kingdom of the)	Ukraine
France	North Macedonia	United Kingdom
Georgia	Norway	Uzbekistan
Germany	Poland	