

## TITLE PAGE

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### Manuscript title:

Does the French Evin law on alcohol advertising content reduce the attractiveness of alcohol for young people? An online experimental survey

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**ABSTRACT**

**Objective:** France's Evin law limits the content of alcohol advertising to purely factual product information. Little research to date has examined the effectiveness of this measure. To address this gap, we investigated the effect on young people of (i) content restrictions in general, and (ii) more of less strict content regulations, and (iii) whether different youth profiles are more or less susceptible to content regulations.

**Method:** An online experimental survey on 18-25-year-olds in France was conducted ( $n=2,163$ ). Participants were exposed to three advertising conditions for four alcohol brands: (1) neutral ads with only bottles and logos (in line with Evin law restrictions); (2) contextual ads (partying and sport iconography) without characters; (3) contextual ads featuring characters. Participants self-reported their reactions on attention, appeal, product and alcohol consumption perception, image benefits, and perceived behavioral impact. Demographics and alcohol use measures were also collected.

**Results:** For almost all reactions, ads that featured sport or party contexts (with/without characters) generated more positive reactions and more perceived behavioral impact compared to neutral ads. Ads that featured characters had more positive reactions than ads without characters. Women and the youngest segment (18–21 years old) emerged as the most sensitive to contextual ads.

**Conclusion:** Regulating alcohol advertising content via strongly prohibitive measures, as per France's Evin law in 1991 or similar measures in other countries, is an effective policy direction for protecting vulnerable young people. This approach should be considered by countries that currently have only partial bans on alcohol advertising placement.

## INTRODUCTION

Alcohol consumption is responsible for three million annual deaths worldwide, causes disease (e.g. liver cirrhosis, cancers) and carries social-cost burdens (injuries, road accidents; WHO, 2019). France has one of the highest consumption rates in the world with 11.6 liters of pure alcohol consumed per inhabitant in 2018 (OFDT, 2020). It is a major cause of death (41,000 deaths in 2015; Bonaldi & Hill, 2019) and the social cost is estimated at €120 billion (Kopp, 2015).

The WHO (2018) advocates several measures to counter alcohol misuse among young people, such as minimum unit pricing, banning sales to minors, and restrictions on alcohol marketing. Approximately 50 countries have implemented statutory marketing regulations (WHO, 2018, page 106). Except for Lithuania and Norway which have comprehensive bans on alcohol advertising with very limited exemptions, countries have generally implemented partial bans (e.g. Poland, Finland, Estonia) that prohibit alcohol advertising in popular media for young people (cinema, event sponsorship, Internet, television) while permitting it in other channels (press, radio, flyers). For authorized media, most countries regulate the contents of alcohol ads, although the extent of restrictions varies. Some have banned the use of characters and/or images other than alcohol products and bottles in alcohol ads. In France, for instance, positive, evocative images (or text) associating alcohol with pleasure, glamour, partying, sport, sex or celebrities are banned, and ads can only contain factual/informative data and objective qualities of alcohol products (e.g. proof, origin, composition, and production process) (Evin law, 1991). In Sweden, the Alcohol Act rules that ads can only show the alcohol product, its ingredients, and the trademark (the 'picture rule') (STAP, 2007, page 188). The alcohol industry lobbies strongly against these strict content and media regulations (Millot et al., in press), arguing that it is disproportionately hard. In France, after a lobbying struggle won by alcohol firms, policy was reversed in 2005 to again allow ads for "place of origin" products to feature characters such as makers, sellers, or barmaids (JORF, 24 February 2005), which had previously been banned under the Evin law of 1991. A similar situation arose in Sweden, where the alcohol industry overturned the 'picture rule' in the Alcohol Act in 2021 (Aftonbladet, 2019).

To date, most of the extant research has examined how often young people are exposed to alcohol advertising and to what extent this media exposure is associated with alcohol consumption (Anderson et al., 2009; Jernigan et al., 2017; Finan et al., 2020). However, there has been little attempt to address the public-health relevancy of content restrictions in general and the effect of more or less strict content regulations that ban or allow the use of characters and/or images other than alcohol products. Furthermore, there has been no research into how different profiles of young people may be more or less susceptible to content regulations in general and to various ad-content options. Further investigation on these topics is needed to provide countries with arguments in support of maintaining current content regulations or introducing similar controls on alcohol advertising. Here, to address these gaps, this research set out with three objectives:

- to demonstrate the effect of general content regulations on young people and the consequences of not implementing such regulations in terms of alcohol attractiveness;
- to analyze the effect of different content regulation options on young people's reactions to alcohol advertising: authorizing ads with alcohol products only, authorizing images other than alcohol products in ads, or authorizing the presence of characters in ads;
- to investigate how various content regulations influence different profiles of young people (e.g. female/male, age, student/non student).

## **METHODS**

### ***Design and sample***

An online cross-sectional survey was conducted in France from February to March 2020, employing a within-group experimental design. The survey was conducted on 18-25-year-olds who consume alcohol ( $n=2,163$ ). The rationale for choosing this age-group was that: (1) they report high-risk consumption patterns and a variety of alcohol-related harms (Le Borgès et al., 2019); (2) they are a key target audience for alcohol marketing, which means they are also a key target for alcohol advertising content regulations.

The participants were recruited by a private company (Panelabs, MIS group) from an existing non-probability-sampling market research panel living in France, which counted over one million subscribers in 2020<sup>1</sup>. Panelists were sent an e-mail invitation to participate. All participants received a €2 incentive in return for participation. The sample was balanced by gender, age-group, occupation, geographic area (nine broad areas that cover all of France), and size of urban unit (<2000 inhabitants of cities with more than two million inhabitants). Due to the design of the study stimuli, participants were only able to participate using a laptop, desktop or tablet device, but not through mobile phones. Those accessing the survey on smartphones were identified and automatically screened out when they clicked on the link to the study.

#### ***Description of the tested alcohol ads***

Participants were shown 12 alcohol ads (Figure 1). Each ad fit to one of three content conditions: (1) a neutral content ad featuring only a bottle and logo on a grey/plain background (hereafter 'NA'); (ii) a contextual ad featuring a bottle and logo surrounded by elements/pictures designed to be attractive to young adults, i.e. sports or partying cues, but without characters (hereafter 'CAwithoutC'); and (iii) a contextual ad (sport or parties) that did feature characters (hereafter 'CAwithC'). The NA condition is considered congruent with the existing Evin law restrictions limiting advertising to factual information, while the CAwithoutC and CAwithC conditions would not be permitted under the current restrictions.

The NA condition used a grey background to be consistent with previous research showing that grey is unattractive to French consumers (Gallopel-Morvan et al., 2012; Ou et al., 2011). The positive context of a party was chosen to reflect social settings in which young adults drink (Christiansen et al., 2002), because such ads are considered appealing to this age group (Walters et al., 2001) and exposure to them is reportedly linked to higher-risk drinking (Morgenstern et al., 2017). A sports setting was also chosen, as it is common alcohol marketing practice (including in France where it should be banned; Purves et al., 2017), and alcohol–sport associations may increase consumption (Brown, 2016;

Kelly et al., 2018; Jones et al., 2010). The size and placement of the bottle and the alcohol brand logo were consistent between each ad.

All the advertising stimuli were created by an advertising agency and featured brands that are readily available in France. To ensure broad appeal, the ads staged four brands: two beer brands (Leffe and Kronenbourg) and two spirit/vodka brands (Poliakov and Eristoff). They were chosen in a preliminary study that found they were the most familiar and the most heavily consumed by this target audience (88 young adults aged 18–25). The mandatory warning “*Alcohol abuse is dangerous for health*” (Evin law) and the message “*Consume with moderation*” (added by the alcohol industry) were displayed at the bottom on the tested ads, just as real-world ads would be.

The 12 ads were shown to participants in four blocks. In each block, all three ad-format conditions for the same one brand were displayed on-screen simultaneously. The order in which participants were shown each block was randomized.

## Measures

### *Demographics and alcohol consumption measures*

Participants self-reported their sociodemographic information (gender, age, occupation, education). Their alcohol consumption was assessed using the AUDIT-C screen (Saunders et al. 1993) that consists of three questions: “How often do you have a drink containing alcohol?; How many (standard<sup>2</sup>) alcoholic drinks do you have on a typical evening (or day)?; How often do you have six or more drinks on one occasion?”. Responses provide score that matches to a drinking status: <2 for women and <3 for men = moderate risk; between 3 and 6 for women between 4 and 7 for men = high risk. Non-drinkers and people who scored higher than 8 (considered as alcoholics) were not included in the survey.

### *Advertising reactions*

After seeing each trio of ads (NA, CAwithoutC and CAwithC) for the same brand, participants were asked which one was the most effective in terms of persuasiveness: (1) Attention (‘of these three ads,

which one do you consider the most effective in getting attention'); (2) Appeal ('of these three ads, which one do you like the most'); (3) Perceived product and Alcohol consumption (three questions: 'of these three ads, which one, according to you, presents the tastiest product / presents the highest-quality product / makes you think that consuming alcohol is enjoyable'); (4) Perceived image benefits (two questions: 'of these three ads, which one is the most effective at making people think drinking alcohol enhances self-image / is cool'); and (5) Perceived behavioral impact (two questions: 'of these three ads, which one is the most effective at increasing the desire to buy the product displayed / increasing the desire to drink alcohol'). For all questions, participants had the option to select one of the ads, or 'none'.

#### *Brand familiarity*

At the end of the questionnaire, participants were asked to rate their familiarity with the tested brands (on an Osgood 7-point scale from 'not familiar at all' to 'very familiar') and whether they had already bought and consumed them in the last three months (yes / no).

#### **Ethical approval**

This study was ethically approved by the French National Cancer Institute (INCa). At the end of the survey, subjects were given information on the effect of alcohol consumption on young people through a video clip (the "don't drink too much" campaign launched by the French public health institute -INPES- in 2011), a quit line, and health awareness websites<sup>3</sup>.

#### **Analysis**

Statistical analysis was performed using Stata/SE 15.0 software. Pearson's chi-squared tests with Rao-Scott second-order correction (F statistic) for weighted data were used to examine differences in the proportion of participants selecting each alcohol ad. A series of binary logistic regression models were run to examine differences in perceptions of the different ads: (1) the neutral ads (NA) (coded 0 when

selected) vs the contextual ads without characters (CAwithoutC) and the contextual ads with characters (CAwithC) (coded 1 when selected); (2) the NA (coded 0) vs the CAwithoutC (coded 1); (3) the CAwithoutC (coded 0) vs the CAwithC (coded 1). Participants who answered “none” were excluded on a model-by-model basis. For each model, the dependent variables related to which ad was considered selected based on the reaction measures: (1) Attention: ‘the most attention-grabbing’; (2) Appeal: ‘the most attractive’; (3) Perceived product and alcohol consumption: ‘the tastiest / highest-quality / most enjoyable’; (4) Perceived image benefits: ‘the best for self-image / the coolest’; and (5) Perceived behavioral impact: ‘the most effective in increasing the desire to buy / to drink’. Gender, age (18–21 vs 22–25), occupation (student or not), drinking status (moderate-risk vs high-risk drinkers), and consumer (vs not) of the tested brands were entered as predictor variables in each of the models.

## RESULTS

### ***Sample characteristics***

Data were weighted for the population structure in France (taking year-2019 figures from the French Institute for Statistics and Economic Studies) according to gender, age, and regions, to be representative of the 18–25 age group. The sample includes about 50% of moderate-risk/high-risk drinkers (Table 1).

[Table 1 about here]

### ***Comparison of the neutral ads (NA) vs contextual ads without characters (CAwithoutC) and contextual ads with characters (CAwithC)***

For almost all ads, the Pearson Chi-square tests indicated that CAwithoutC and CAwithC were judged more influential than NA on the all-round persuasion process (more effective at Attention-grabbing, Appeal, Perceived product and alcohol consumption, Perceived image benefits, and Perceived behavioral impact) (Table 2). For example, for the Poliakov brand, 62% of participants said the CAwithC

was the most eye-catching, compared to only 21% for the CAwithoutC condition, and 14% for the NA condition (4% said none of the ads) ( $p<0.001$ ). Similarly, 73% of participants selected the CAwithC for perceived coolness for the Leffe brand, whereas only 13% selected the CAwithoutC and none the NA condition (13% said none) ( $p<0.001$ ). Contrary to expectations, for the Poliakov brand, the NA outscored (24%) both the CAwithoutC (14%) and the CAwithC (23%) (partying context) on perceived quality of the product ( $p<0.001$ ).

[Table 2 about here]

#### ***Comparison of NA vs CAwithoutC***

For a majority of ads, the Pearson Chi-square tests showed that the NA were evaluated as less persuasive than the CAwithoutC on all criteria (less effective on Attention-grabbing, Appeal, Perceived product and alcohol consumption, Perceived image benefits, and Perceived behavioral impact) ( $p<0.001$ ). For the Poliakov brand, the product was perceived higher in quality when displayed in the NA condition (24%) than the CAwithoutC condition (14%) ( $p<0.001$ ), and there was no CAwithoutC-vs-NA difference in perceived taste ( $p=0.25$ ).

#### ***Comparison of CAwithoutC vs CAwithC***

For the Poliakov and Kronenbourg ads, the Pearson Chi-square tests showed that the CAwithC were more persuasive than the CAwithoutC on all criteria ( $p<0.001$ ). Similar results were found for the Eristoff ads ( $p<0.001$ ), except on perceived quality and taste where there were no-between-ads differences (respectively  $p=0.37$  and  $p=0.79$ ). The Leffe ads had a different pattern: the CAwithoutC were judged more effective on Attention-grabbing ( $p=0.012$ ) and Appeal ( $p<0.001$ ) and more likely to increase Perceived behavioral impact (the desire to drink) ( $p<0.001$ ) compared to the CAwithC condition.

#### ***Perception of ads according to participant profile***

For all ads, the binary logistic regression models showed which ad was associated with gender, occupation (students), being a consumer of the brand, age, and level of risk for alcohol consumption across the range of reactions measured (respectively 41, 11, 9, 9 and 5 associations) (Table 3). The associations appeared largely consistent for the Poliakov, Lefte and Kronenbourg brands, whereas the Eristoff ads were less sensitive to participant profiles.

[Table 3 about here]

Except for Eristoff, females were more sensitive than men to contextual ads compared to neutral ads. They were significantly more likely than men to select CAwithoutC or CAwithC than NA (for the three brands; see row A in Table 3), to select CAwithoutC than NA (Poliakov, Kronenbourg; row B) and to select CAwithC than CAwithoutC (for all three brands; row C). We found brand-dependent associations on the all-round persuasion process, i.e. Attention, Appeal, Perceived product and alcohol consumption, Perceived image benefits, and Perceived behavioral impact.

To a lesser extent, non-students were more likely than students to select contextual ads than NA (Poliakov; A), CAwithoutC than NA (Poliakov; B) and CAwithC than CAwithoutC (Lefte, Kronenbourg; C) on specific mainly cognitive variables, i.e. Attention, Appeal, Perceived product and alcohol consumption. Students were more likely than non-students to select CAwithC than CAwithoutC for the tastiest product (Eristoff; C) and for the desire to buy it (Poliakov; C).

For the two beer brands but not the two vodka brands, there was a participant age effect on responses, with the younger segment being more sensitive to contextual ads. Participants aged 18–21 were significantly more likely than the older segment (22–25 years) to select contextual ads than NA as most effective on Attention and/or Appeal (both beer brands; A), CAwithoutC than NA on Appeal and desire to drink (Kronenbourg; B), CAwithC than CAwithoutC on Attention and Appeal (both beer brands; C).

Except for Eristoff and Kronenbourg, consumers of the tested brands were generally more likely to select the most attractive ads compared to non-consumers. Consumers significantly more often

selected CAwithoutC or CAwithC than NA on Perceived product (taste; Leffe; A), CAwithoutC than NA on Perceived product and Perceived behavioral impact (taste, desire to drink and to buy; Leffe; B), and CAwithC than CAwithoutC on Appeal and Perceived product quality (Poliakov; C).

Except for Leffe, there were slight young-drinker risk-level effects on reactions. High-risk consumers were more likely than moderate-risk drinkers to choose CAwithC than CAwithoutC on Appeal and Image benefits (Poliakov, Eristoff; C), but less likely than moderate-risk drinkers to select CAwithoutC than NA on Image benefits (Eristoff; B) and to select CAwithC than CAwithoutC on Appeal (Kronenbourg; C).

## DISCUSSION

This research extends understanding of marketing regulation by examining the potential effect and public-health benefits of restrictions on alcohol advertising content. Content regulation is an issue that has been under-investigated compared to media regulation. However, as many countries in the world have already adopted partial media bans, the next question to address is which content alcohol advertising regulation option is the most effective for protecting young people. Our research also adds to the literature by investigating the effectiveness of the French Evin law, which was one of the first marketing regulation laws in the world and is considered as a benchmark model (Babor et al., 2017). Only two studies have evaluated its impact (Cogordan et al., 2014; Gallopel-Morvan et al., 2017), but no research has dealt with the content regulation component.

The first aim of this research was to demonstrate the effect of general ad content regulations on young people and the consequences of not implementing such a measure. Our findings confirm the relevancy of the Evin law (or similar laws) for public health: ads containing attractive features with or without characters are perceived as more attractive and potentially more influential on alcohol-related behaviors than ads that show information in a neutral and objective manner, whereas there was less influence on perceived product taste and quality. This result is useful for three reasons. First, it can inform public authorities aiming to introduce or maintain content regulation measures by arming them

with arguments to use against alcohol-industry lobbying (Savell et al., 2016). Second, it shows that in countries where no content regulations exist, contextual ads used by alcohol companies and identified in the literature (e.g. humor, sports, sexual attraction, friendship, animals, partying or night-life; Lim et al., 2016; Noel & Babor, 2017; Pettigrew et al., 2020) may increase alcohol attractiveness and influence alcohol consumption in young people. Third, as the French Evin law is often flouted by illegal ad contents<sup>4</sup>, our research assesses the consequences of failing to enforce content regulation on young people's perceptions.

The second aim of our research was to analyze the effect of different content regulation options. Compared to neutral ads that only display a product and a brand logo, ads that featured a sport or a partying context with or without characters were judged more attention-grabbing, more attractive, more likely to convey alcohol consumption as enjoyable, enhance self-image ('coolness'), and increase perceived behavioral impact. This effect was stronger for the contextual ads that featured characters, indicating that banning the presence of persons is a particularly relevant measure for public health. This conclusion is consistent with the marketing literature. Van Laer et al. (2014) reported that the presence of characters in advertising increases persuasion, and other authors have explained the added-value of this marketing tactic: (i) it increases immersion in a commercial story via identification and personification of the target audience (Hoffner & Buchanan, 2005; Delbaere et al., 2011; Van Laer et al., 2014; Dessart, 2018); (ii) exemplification theory posits that using exemplars and showing characters in ads induces more attention, comprehension, recall, positive emotional responses, and greater engagement with the message (Zillmann, 2006; Kim et al., 2016). Here, showing people attending parties or engaging in sport, which are activities that young people perceive positively, may have increased their likelihood to engage in the behavior promoted in the ads (drinking). These results are useful for countries that are considering various options for content regulations. Our research reveals that strict content regulations that only authorize product-oriented and neutral ads are the most effective for protecting young people, and so banning the presence of characters and attractive contextual elements is the best option for achieving public health outcomes. Our findings suggest that

the re-introduction of characters in alcohol ads in France in 2005 may have undermined the effectiveness of the Evin law.

The third aim of our research was to investigate how different profiles of young people react when exposed to various advertising regulation options. For some brands, particularly for Poliakov and Kronenbourg, women were particularly sensitive to contextual ads compared to men. To a lesser extent, the younger segment (18–21 years) were more sensitive to contextual ads compared to the older segment (22–25 years). Students were found to be less influenced by contextual ads compared to non-students, whereas drinking status (high vs moderate risk) was not associated with reactions to different formats, after controlling for other key aspects of participant profile.

The strongest differences come from gender. This result is consistent with marketing literature that shows that men and women respond differently to advertising messages (Wolin, 2003; Putrevu, 2001). Women are a crucial target for alcohol companies, as they drink less than men. This is why the alcohol industry has launched specific female-oriented ads that portray themes such as slimness, female friendship and sexiness (Jones & Reid, 2010; Purves et al., 2018). Our findings reveal that women also positively react to non-gendered contextual ads. The main aim of marketing laws is to protect the youngest and therefore more vulnerable segment of the population. However, it is unknown whether content regulations differentially affects young people in different age-brackets (McClure et al., 2013; Kelly & Edwards, 1998). Our research showed that the youngest segment of the sample (18–21) was the most susceptible to sport and partying contents, presumably because they are more preoccupied with their social and peer image and thus more sensitive to ads that emphasize this self-image factor. Based on these findings, we strongly advocate implementing strict content advertising regulations in order to protect women and younger adults.

Despite the contributions of this research for public health, it does carry certain limitations. First, a fairly high percentage of participants chose the 'none' responses on some items (quality, taste, self-image, and desire to buy in response to sport-context ads; see table 2 for full details), which decreased the size of the sample available for analysis in some of the regression models (Table 3). These non-responses may be explained by the fact that the tested ads cannot infer specific tastes and quality for familiar brands. Similar research should be conducted on new or less-familiar alcohol products. Furthermore, 'self-image' may not be an appropriate item for exploring the effect of sports-oriented

contexts. 'Virility' or 'experiencing fun', for instance, could have been more relevant items. Concerning desire to buy, we observed a substantial amount of missing responses for the Kronenbourg and Eristoff brands. This may be due to the fact that these are the less popular brands purchased by the sample (only 26% had bought Kronenbourg and 16% had bought Eristoff in the previous 3 months) compared to the other two brands (56.1% for Leffe and 32.3% for Poliakov), and so it would be more difficult for their advertising to change perceived behavioral impacts, irrespective of context. Second, as participants were shown all three conditions (within-subjects design), we cannot rule out the possibility of some bias. While this design has advantages (large sample on each dependent variable, possibility of removing the effect of participant differences that can affect outcomes), it also carries disadvantages: it is easier for participants to guess the aim of the research, which could create an expectancy bias, and the order of the presented stimuli may have affected participants' responses. Further research based on randomized between-group experiments would be of value. Third, we only compared ads that promoted two categories of alcohol products (beer and vodka) and that featured only two contexts (partying and sports). Future research should explore other categories of alcohol (wine, other spirits) and other contexts used in advertising by the alcohol industry (e.g. humor, animals, friendship, value for money, sexual attraction). Fourth, all the participants included were drinkers. Future research could be conducted on nondrinkers and minors and analyze whether contextual vs neutral ads influence their desire to start drinking.

Despite these limitations, the findings of this research strongly suggest that regulating advertising content is a crucial step for countries that have partially restricted media advertising for alcohol. The best practice to protect young people would be to ban contextual ads and ads that feature characters.

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**Commented [A4]:** CrossRef returns an apparently incorrect page number: "Lim, Hare, Carrotte, Dietze, 2016"

**Commented [A5]:** CrossRef reports the year should be "2012", not "2011". (Ref. "Ou, Luo, Sun, Hu, Chen, Guan, et al., 2011")

**Commented [A6]:** eXtyles has not updated the authors because of a name mismatch. Please compare "Luo" with "Ronnier Luo". The CrossRef authors are **Ou, L.-C., Ronnier Luo, M., Sun, P.-L., Hu, N.-C., Chen, H.-S., Guan, S.-S., et al.** (Ref. "Ou, Luo, Sun, Hu, Chen, Guan, et al., 2011")

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**Commented [A9]:** CrossRef reports the last page should be "130", not "129". (Ref. "Wolin, 2003")

**Commented [A10]:** CrossRef reports the first page should be "S221", not "221". (Ref. "Zillmann, 2006")

## TABLES

**Table 1. Sample characteristics stratified by drinking status (unweighted and weighted data)**

|                            | Moderate-risk drinkers<br>(n=1,031) |            | High-risk drinkers<br>(n=1,132) |            | Total<br>(n=2,163) |            |
|----------------------------|-------------------------------------|------------|---------------------------------|------------|--------------------|------------|
|                            | unweighted %                        | weighted % | unweighted %                    | weighted % | unweighted %       | weighted % |
| <b>Age<sup>1</sup></b>     |                                     |            |                                 |            |                    |            |
| 18                         | 11.1                                | 15.5       | 8.8                             | 12.6       | 9.9                | 14.0       |
| 19                         | 10.7                                | 11.4       | 13.9                            | 14.5       | 12.3               | 13.0       |
| 20                         | 13.0                                | 13.6       | 12.1                            | 12.5       | 12.5               | 13.0       |
| 21                         | 15.7                                | 12.1       | 15.2                            | 11.9       | 15.4               | 12.0       |
| 22                         | 10.9                                | 12.0       | 11.3                            | 12.0       | 11.1               | 12.0       |
| 23                         | 12.0                                | 11.6       | 12.7                            | 12.4       | 12.4               | 12.0       |
| 24                         | 14.7                                | 12.9       | 12.5                            | 11.1       | 13.5               | 12.0       |
| 25                         | 12.0                                | 10.9       | 13.6                            | 13.1       | 12.9               | 12.0       |
| <b>Gender<sup>2</sup></b>  |                                     |            |                                 |            |                    |            |
| Male                       | 48.9                                | 49.3       | 52.3                            | 52.3       | 50.7               | 50.8       |
| Female                     | 51.1                                | 50.8       | 47.7                            | 47.7       | 49.3               | 49.2       |
| <b>Student<sup>3</sup></b> |                                     |            |                                 |            |                    |            |
| No                         | 45.0                                | 42.6       | 40.8                            | 39.9       | 42.8               | 41.2       |
| Yes                        | 55.0                                | 57.4       | 59.2                            | 60.1       | 57.2               | 58.8       |

<sup>1</sup> No age differences according to drinking status (p=0.1546)

<sup>2</sup> No gender differences according to drinking status (p=0.1797)

<sup>3</sup> No occupation differences according to drinking status (p=0.2101)

**Table 2. Perceptions of NA, CAwithoutC and CAwithC (%) (weighted data)**

| Brands<br>Context type              | Ad type <sup>a</sup>            | (1)<br>Attention | (2)<br>Appeal | (3) Product and alcohol<br>consumption |       |           | (4) Image<br>benefits |      | (5)<br>Perceived behavioral<br>impact |                  |
|-------------------------------------|---------------------------------|------------------|---------------|----------------------------------------|-------|-----------|-----------------------|------|---------------------------------------|------------------|
|                                     |                                 |                  |               | quality                                | taste | enjoyable | self-<br>image        | cool | desire to<br>drink                    | desire<br>to buy |
| <b>Poliakov</b><br><i>Partying</i>  | NA                              | 14               | 14            | 24                                     | 8     | 1         | 1                     | 1    | 4                                     | 9                |
|                                     | CAwithoutC                      | 21               | 19            | 14                                     | 9     | 5         | 3                     | 9    | 10                                    | 14               |
|                                     | CAwithC                         | 62               | 59            | 23                                     | 37    | 90        | 73                    | 77   | 59                                    | 58               |
|                                     | None <sup>b</sup>               | 4                | 8             | 40                                     | 45    | 5         | 23                    | 14   | 28                                    | 19               |
| p-value <sup>c</sup>                | NA vs<br>CAwithoutC/<br>CAwithC | ***              | ***           | ***                                    | ***   | ***       | ***                   | ***  | ***                                   | ***              |
|                                     | NA vs<br>CAwithoutC             | ***              | ***           | ***                                    | ns    | ***       | ***                   | ***  | ***                                   | ***              |
|                                     | CAwithoutC vs<br>CAwithC        | ***              | ***           | ***                                    | ***   | ***       | ***                   | ***  | ***                                   | ***              |
| <b>Leffe</b><br><i>Partying</i>     | NA                              | 6                | 5             | 9                                      | 3     | 1         | 0                     | 0    | 3                                     | 1                |
|                                     | CAwithoutC                      | 48               | 54            | 51                                     | 43    | 11        | 3                     | 13   | 52                                    | 30               |
|                                     | CAwithC                         | 43               | 36            | 11                                     | 21    | 82        | 74                    | 73   | 34                                    | 47               |
|                                     | None <sup>b</sup>               | 2                | 5             | 30                                     | 32    | 7         | 23                    | 13   | 11                                    | 22               |
| p-value                             | NA vs<br>CAwithoutC/<br>CAwithC | ***              | ***           | ***                                    | ***   | ***       | ***                   | ***  | ***                                   | ***              |
|                                     | NA vs<br>CAwithoutC             | ***              | ***           | ***                                    | ***   | ***       | ***                   | ***  | ***                                   | ***              |
|                                     | CAwithoutC vs<br>CAwithC        | *                | ***           | ***                                    | ***   | ***       | ***                   | ***  | ***                                   | ***              |
| <b>Eristoff</b><br><i>Sports</i>    | NA                              | 3                | 2             | 8                                      | 3     | 1         | 1                     | 1    | 2                                     | 2                |
|                                     | CAwithoutC                      | 37               | 37            | 27                                     | 23    | 14        | 6                     | 10   | 30                                    | 22               |
|                                     | CAwithC                         | 56               | 55            | 26                                     | 23    | 58        | 32                    | 57   | 46                                    | 35               |
|                                     | None <sup>b</sup>               | 5                | 7             | 39                                     | 51    | 28        | 61                    | 32   | 21                                    | 40               |
| p-value                             | NA vs<br>CAwithoutC/<br>CAwithC | ***              | ***           | ***                                    | ***   | ***       | ***                   | ***  | ***                                   | ***              |
|                                     | NA vs<br>CAwithoutC             | ***              | ***           | ***                                    | ***   | ***       | ***                   | ***  | ***                                   | ***              |
|                                     | CAwithoutC vs<br>CAwithC        | ***              | ***           | ns                                     | ns    | ***       | ***                   | ***  | ***                                   | ***              |
| <b>Kronenbourg</b><br><i>Sports</i> | NA                              | 4                | 4             | 5                                      | 3     | 1         | 1                     | 1    | 3                                     | 2                |
|                                     | CAwithoutC                      | 25               | 27            | 19                                     | 16    | 11        | 7                     | 12   | 24                                    | 17               |
|                                     | CAwithC                         | 61               | 51            | 25                                     | 22    | 54        | 43                    | 49   | 41                                    | 37               |
|                                     | None <sup>b</sup>               | 10               | 18            | 51                                     | 59    | 34        | 50                    | 38   | 32                                    | 43               |
| p-value                             | NA vs<br>CAwithoutC/<br>CAwithC | ***              | ***           | ***                                    | ***   | ***       | ***                   | ***  | ***                                   | ***              |
|                                     | NA vs<br>CAwithoutC             | ***              | ***           | ***                                    | ***   | ***       | ***                   | ***  | ***                                   | ***              |
|                                     | CAwithoutC vs<br>CAwithC        | ***              | ***           | ***                                    | ***   | ***       | ***                   | ***  | ***                                   | ***              |

<sup>a</sup> NA: neutral ads; CAwithoutC: contextual ads without characters; CAwithC: contextual ads featuring characters.

<sup>b</sup> These responses were removed from the Wald-test analysis.

<sup>c</sup> ns: not significant; \*\*\* p<0.001; \*\* p<0.01; \* p<0.05

**Table 3. Binary logistic regression: odds-ratios for the selection of i) NA vs CAwithoutC and CAwithC, ii) NA vs CAwithoutC, and iii) CAwithoutC vs CAwithC stratified by gender (reference = male), age (reference = 18–21), student status (reference = no), AUDIT-C score (reference = moderate-risk level), and consumer/non-consumer of the tested brand (reference = non-consumer)**

|                     |                        | (1)<br>Attention | (2)<br>Appeal  | (3) Product and alcohol<br>consumption |                  |               | (4) Image<br>benefits |              | (5)<br>Perceived behavioral<br>impact |                     |
|---------------------|------------------------|------------------|----------------|----------------------------------------|------------------|---------------|-----------------------|--------------|---------------------------------------|---------------------|
|                     |                        |                  |                | quality                                | taste            | enjoyable     | self-<br>image        | cool         | desire<br>to<br>drink                 | desire<br>to<br>buy |
|                     |                        |                  |                |                                        |                  |               |                       |              |                                       |                     |
| POLIAKOV            | Women                  | 1.19             | <b>1.59***</b> | <b>1.43**</b>                          | <b>2.24***</b>   | 1.16          | <b>3.53*</b>          | <b>5.58*</b> | <b>2.64***</b>                        | <b>1.94***</b>      |
|                     | 22–25 yrs              | .89              | .81            | .95                                    | .81              | .34           | 1.05                  | 2.59         | 1.58                                  | 1.07                |
|                     | Student                | .84              | <b>.73*</b>    | <b>.76*</b>                            | .98              | .53           | 1.99                  | 2.82         | 1.5                                   | .92                 |
|                     | (A) High risk level    | .94              | 1.01           | 1.08                                   | 1.08             | .95           | 1.11                  | 1.05         | 1.34                                  | 1.33                |
|                     | Consumer               | 1.04             | 1.28           | .88                                    | .98              | .89           | .59                   | .4           | .98                                   | 1.09                |
|                     | <i>n</i> <sup>ii</sup> | 2,077            | 1,989          | 1,280                                  | 1,164            | 2,061         | 1,655                 | 1,853        | 1,557                                 | 1,753               |
|                     | Women                  | 1.09             | <b>1.46*</b>   | <b>1.45*</b>                           | <b>1.65*</b>     | .7            | 3.34                  | <b>6.26*</b> | <b>2.22**</b>                         | <b>1.94**</b>       |
|                     | 22–25 yrs              | .79              | .73            | .88                                    | .89              | .32           | .47                   | 1.81         | 1.43                                  | .82                 |
|                     | Student                | .74              | <b>.65*</b>    | .75                                    | 1.29             | .50           | 2.43                  | 3.02         | 1.19                                  | .68                 |
|                     | (B) High risk level    | .83              | .79            | 1.12                                   | 1.18             | .8            | .45                   | 1.17         | 1.22                                  | 1.14                |
|                     | Consumer               | .94              | 1.05           | <b>.68*</b>                            | .75              | .81           | .5                    | .35          | .84                                   | .86                 |
|                     | <i>n</i>               | 735              | 719            | 797                                    | 376              | 111           | 76                    | 200          | 286                                   | 498                 |
|                     | Women                  | 1.12             | 1.1            | .96                                    | <b>1.51*</b>     | <b>1.63*</b>  | 1.65                  | .95          | 1.18                                  | 1                   |
|                     | 22–25 yrs              | 1.13             | 1.04           | 1.15                                   | .85              | 1.1           | 1.4                   | 1.26         | 1.11                                  | 1.23                |
|                     | Student                | 1.14             | 1.14           | 1                                      | .7               | .99           | .97                   | .88          | 1.28                                  | <b>1.41*</b>        |
| (C) High risk level | 1.16                   | <b>1.36*</b>     | .95            | .91                                    | 1.08             | <b>2.21**</b> | .95                   | 1.01         | 1.15                                  |                     |
| Consumer            | 1.15                   | <b>1.29*</b>     | <b>1.44*</b>   | 1.38                                   | 1.32             | .73           | 1.12                  | 1.23         | <b>1.35*</b>                          |                     |
| <i>n</i>            | 1,784                  | 1,678            | 775            | 985                                    | 2,045            | 1,638         | 1,841                 | 1,476        | 1,560                                 |                     |
| Women               | 1.36                   | <b>1.95**</b>    | .97            | <b>1.77*</b>                           | - <sup>iii</sup> | 1.59          | 3.85                  | <b>1.74*</b> | <b>2.68*</b>                          |                     |
| 22–25 yrs           | <b>.61*</b>            | .84              | .77            | .96                                    | .93              | .93           | .42                   | .76          | .74                                   |                     |
| Student             | .87                    | .87              | .75            | .99                                    | .72              | 1.88          | .28                   | .59          | .54                                   |                     |
| (A) High risk level | .93                    | 1.5              | 1.05           | .89                                    | 1.7              | .16           | .45                   | .97          | 1.29                                  |                     |
| Consumer            | 1.09                   | 1.16             | 1.25           | <b>2.27**</b>                          | 1.91             | 1.92          | 1.9                   | 1.56         | 2.01                                  |                     |
| <i>n</i>            | 2,114                  | 2,063            | 1,505          | 1,450                                  | 1,004            | 1,664         | 1,868                 | 1,934        | 1,695                                 |                     |
| Women               | 1.25                   | <b>1.82**</b>    | .96            | 1.44                                   | -                | .58           | 3.27                  | 1.59         | 2.21                                  |                     |
| 22–25 yrs           | .67                    | .94              | .79            | 1.03                                   | 1.44             | .72           | .39                   | .78          | .82                                   |                     |
| Student             | .96                    | .97              | .81            | 1.1                                    | 1.16             | 1.68          | .34                   | .64          | .57                                   |                     |
| (B) High risk level | .95                    | 1.42             | 1.1            | .94                                    | 1.86             | .13           | .44                   | .89          | 1.17                                  |                     |
| Consumer            | 1.17                   | 1.17             | 1.29           | <b>2.56**</b>                          | 2.59             | 6.18          | 1.57                  | <b>1.7*</b>  | <b>2.37*</b>                          |                     |
| <i>n</i>            | 1,187                  | 1,298            | 1,273          | 996                                    | 163              | 78            | 273                   | 1,206        | 677                                   |                     |
| Women               | <b>1.25*</b>           | 1.18             | 1.07           | <b>1.85***</b>                         | <b>1.77***</b>   | <b>2**</b>    | <b>1.39*</b>          | <b>1.28*</b> | <b>1.45***</b>                        |                     |
| 22–25 yrs           | <b>.79*</b>            | <b>.75**</b>     | .86            | .82                                    | .74              | 1.23          | .92                   | .84          | .82                                   |                     |
| Student             | <b>.8*</b>             | <b>.79*</b>      | <b>.6**</b>    | <b>.73*</b>                            | .8               | .97           | .78                   | .81          | .87                                   |                     |
| (C) High risk level | .94                    | 1.09             | .77            | .96                                    | .89              | .9            | .85                   | 1.2          | 1.16                                  |                     |
| Consumer            | .86                    | 1.01             | .84            | <b>.67**</b>                           | .74              | .56           | 1.12                  | .83          | .84                                   |                     |
| <i>n</i>            | 1,977                  | 1,957            | 1,319          | 1,385                                  | 2,000            | 1,657         | 1,858                 | 1,864        | 1,668                                 |                     |
| ERISTOFF            | (A) Women              | .92              | 1.02           | 1.2                                    | 1.66             | 3.07          | 2.87                  | -            | .94                                   | 1.11                |
|                     | 22–25 yrs              | .62              | .88            | 1.02                                   | 1.05             | 2.06          | .49                   | .89          | .98                                   | 1.46                |

|     |                 |              |               |               |               |                |              |               |             |              |
|-----|-----------------|--------------|---------------|---------------|---------------|----------------|--------------|---------------|-------------|--------------|
|     | Student         | .86          | 1.42          | 1             | 1.01          | 1.5            | 1.1          | 2.34          | 1.09        | 1.66         |
|     | High risk level | 1.03         | 1.1           | 1.28          | 1.24          | 1.4            | .38          | 3.6           | .97         | .8           |
|     | Consumer        | .92          | 1.07          | 1.17          | .76           | .42            | .84          | .32           | .94         | .94          |
|     | <i>n</i>        | 2,064        | 2,013         | 1,298         | 1,035         | 1,56           | 835          | 753           | 1,687       | 1,28         |
|     | Women           | .99          | 1.05          | 1.28          | 1.63          | 2.71           | 3.07         | -             | .96         | 1            |
|     | 22–25 yrs       | .59          | .84           | .98           | 1.02          | 2.1            | .44          | .67           | .97         | 1.75         |
|     | Student         | .81          | 1.34          | .98           | .9            | 1.69           | .82          | 2.37          | 1.04        | 1.83         |
| (B) | High risk level | 1.09         | 1.05          | 1.29          | 1.18          | 1.08           | <b>.28*</b>  | 2.34          | .94         | .7           |
|     | Consumer        | .9           | 1.02          | 1.08          | .71           | .47            | .83          | .22           | .88         | 1.05         |
|     | <i>n</i>        | 857          | 836           | 751           | 545           | 315            | 134          | 116           | 698         | 533          |
|     | Women           | .87          | .95           | .88           | 1.04          | 1.2            | 1.18         | .88           | .97         | 1.19         |
|     | 22–25 yrs       | 1.09         | 1.07          | 1.07          | 1             | .92            | .73          | 1.16          | 1.01        | .8           |
|     | Student         | 1.11         | 1.11          | 1.05          | <b>1.34*</b>  | .79            | 1.13         | 1.21          | 1.08        | .9           |
| (C) | High risk level | .92          | 1.07          | .99           | 1.11          | 1.21           | 1.12         | <b>1.52**</b> | 1.06        | 1.23         |
|     | Consumer        | 1.01         | 1.1           | 1.16          | 1.14          | .84            | .98          | 1.01          | 1.11        | .9           |
|     | <i>n</i>        | 2,005        | 1,971         | 1,135         | 979           | 1,548          | 819          | 1,453         | 1,646       | 1,234        |
|     | Women           | <b>1.64*</b> | <b>1.89**</b> | <b>1.81**</b> | <b>1.89*</b>  | <b>2.65*</b>   | <b>4.07*</b> | <b>4.21*</b>  | 1.63        | <b>2.07*</b> |
|     | 22–25 yrs       | <b>.48**</b> | <b>.58*</b>   | 1.02          | 1.26          | .91            | .62          | .91           | <b>.5*</b>  | .95          |
|     | Student         | .93          | .89           | .96           | 1.76          | .75            | 2.29         | 1.96          | .91         | .93          |
| (A) | High risk level | .82          | 1.27          | 1.23          | .72           | 1.19           | 2.21         | .91           | 1.04        | 1.25         |
|     | Consumer        | .99          | .88           | .89           | 1.19          | .71            | .45          | .8            | .91         | 1.07         |
|     | <i>n</i>        | 1,931        | 1,772         | 1,032         | 874           | 1,413          | 1,079        | 1,313         | 1,449       | 1,215        |
|     | Women           | 1.49         | <b>1.82**</b> | <b>1.78**</b> | 1.59          | 1.54           | 3.17         | <b>3.53*</b>  | 1.62        | <b>1.87*</b> |
|     | 22–25 yrs       | <b>.5*</b>   | .65           | 1.1           | 1.46          | 1.25           | 1.12         | 1.04          | <b>.49*</b> | .9           |
|     | Student         | .93          | .93           | 1.11          | <b>1.97*</b>  | .93            | 3.29         | 1.71          | .93         | .84          |
| (B) | High risk level | .78          | 1.41          | 1.22          | .71           | 1.21           | 2.49         | .76           | 1.04        | 1.29         |
|     | Consumer        | 1.03         | .87           | .78           | 1.15          | .78            | .66          | .91           | .89         | .97          |
|     | <i>n</i>        | 624          | 686           | 506           | 406           | 265            | 150          | 267           | 569         | 428          |
|     | Women           | 1.16         | 1.07          | 1.06          | <b>1.49**</b> | <b>1.91***</b> | 1.29         | 1.26          | 1.01        | 1.13         |
|     | 22–25 yrs       | .96          | .91           | .91           | .76           | <b>.67*</b>    | .77          | .82           | 1.04        | 1.03         |
|     | Student         | 1.07         | .99           | .81           | .84           | <b>.72*</b>    | .81          | 1.15          | .93         | 1.11         |
| (C) | High risk level | 1.05         | <b>.79*</b>   | 1.02          | 1.02          | 1.02           | .94          | 1.06          | .92         | .9           |
|     | Consumer        | .96          | 1.1           | 1.22          | 1.12          | .9             | .73          | .83           | 1.1         | 1.14         |
|     | <i>n</i>        | 1,853        | 1,677         | 920           | 813           | 1,386          | 1,063        | 1,295         | 1,384       | 1,163        |

(A) Likelihood to select CAwithoutC or CAwithC (1) rather than NA (0)

(B) Likelihood to select CAwithoutC (1) rather than the NA (0)

(C) Likelihood to select CAwithC (1) rather than CAwithoutC (0)

(i) \*\*\*  $p < 0.001$ ; \*\*  $p < 0.01$ ; \*  $p < 0.05$

(ii) Sample size for each regression

(iii) No women selected this option

## FIGURE

Figure 1 – The 12 purpose-created ads tested in this research

| Neutral-context ads (NA)                                                           | Positive context without characters: parties (CAwithoutC)                           | Positive context featuring characters: parties (CAwithC)                             |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|    |    |    |
|    |    |    |
| Neutral-contexts ads (NA)                                                          | Positive context without characters : sport (CAwithoutC)                            | Positive context featuring characters: sport (CAwithC)                               |
|  |  |  |
|  |  |  |

N.B.: These images were created by an advertising agency solely for the purposes of the study. They are mock ads that use real brands and characters. Neither the brands nor the characters participated in or endorsed the study, and there is no suggestion that the persons depicted endorse or sponsor these products.

<sup>1</sup> [www.panelabs.com/notre-panel-de-consommateurs-online](http://www.panelabs.com/notre-panel-de-consommateurs-online)

<sup>2</sup> 25 cl of beer (5°), 10 cl of wine (12°), 2.5 cl of spirits (40°), etc.

<sup>3</sup> [www.jeunes.alcoolinfoservice.fr](http://www.jeunes.alcoolinfoservice.fr); [www.filsantejeunes.com](http://www.filsantejeunes.com), 0 980 980 930

<sup>4</sup> See <https://addictions-france.org/presentation/respect-loi-evin/>