






Promoting Adolescents' Moral Advertising Literacy in Secondary Education

Fomentando la alfabetización ética de los adolescentes en publicidad en Educación Secundaria

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ABSTRACT

Minors are daily confronted with advertisements, which are occasionally controversial. In order to promote adolescents' moral advertising literacy, this intervention study explores how to stimulate secondary education students' knowledge on advertising law and their moral judgement of advertisements. Because a lot of new –especially online– advertising formats have arisen during the last years, 191 students from 12 classes were randomly assigned to either a no tablet condition or a tablet condition (to raise authenticity of learning material). The results show that students who use tablet devices perform less well on a post-test about advertising law. Regarding adolescents' moral judgement of advertisements, thematic analyses reveal that especially the use of nudity and feminine beauty are labelled as contentious in both conditions, because of, inter alia, the negative effects for adolescent girls' self-image and the desire to lose weight. After the intervention, the tablet condition has proven to be more effective in promoting critical thinking about nudity/feminine beauty in advertisements. However, none of the conditions did provide evidence that a critical attitude towards alcohol advertising is encouraged. In this regard, implications for future research in the context of advertising literacy education are discussed.

RESUMEN

Los menores de edad se enfrentan diariamente a anuncios que pueden resultar polémicos. Con el fin de promover la alfabetización ética en publicidad en los adolescentes, este estudio explora cómo estimular el conocimiento de los estudiantes de Educación Secundaria acerca de la ley de publicidad y su juicio moral hacia los anuncios. A raíz de los formatos de publicidad –especialmente online– que han surgido en los últimos años, 191 estudiantes de 12 clases fueron asignados aleatoriamente a una de estas condiciones: uso o no uso de tablets (para aumentar la autenticidad del material de aprendizaje). Los resultados muestran que el desempeño en el post-test sobre la ley de publicidad de los estudiantes que usaron tablet es peor. En cuanto al juicio moral de los adolescentes sobre los anuncios, el análisis temático revela que especialmente el uso de la desnudez y la belleza femenina resultan polémicos en ambas condiciones, debido, entre otros motivos, a los efectos negativos para la autoestima de las adolescentes y al deseo de perder peso. Tras la intervención, el uso de tablets ha demostrado ser más eficaz para promover el pensamiento crítico hacia la desnudez y la belleza femenina en los anuncios. Sin embargo, no se hallaron evidencias de que alguna de las dos condiciones favorezca el desarrollo de una actitud crítica hacia la publicidad del alcohol. En este sentido, se plantean futuras líneas de investigación en el contexto de la alfabetización publicitaria.

KEYWORDS | PALABRAS CLAVE

Moral literacy, advertising, advertising formats, secondary education, adolescence, qualitative techniques, quantitative techniques, tablet devices.

Alfabetización ética, publicidad, formatos publicitarios, Educación Secundaria, adolescencia, técnicas cualitativas, técnicas cuantitativas, tablets.



1. Introduction

These days, children and youngsters are exposed to countless advertisements through various media (Hudders & al., 2015). Due to technological developments, a lot of new (mainly online) advertising formats have been established, such as social media advertising (e.g., brand pages on Facebook) (Daems & De-Pelsmacker, 2015). Because of these changes in the advertising landscape, the importance of promoting minors' advertising literacy increases (Hudders & al., 2015). The confrontation with new forms of media requires a new set of skills to access, analyse and evaluate images, sound and text (Aguaded, 2013). In general, advertising literacy can therefore be defined as "the skills of analysing, evaluating, and creating persuasive messages across a variety of contexts and media" (Livingstone & Helsper, 2006: 562). More concretely, as depicted in Figure 1, three dimensions of advertising literacy can be distinguished.

As Aguaded (2011: 7) stated, "The citizenship should take part in associations and organizations with the aim to build a responsible and critic society in which the power of the media is increasingly pervasive". For this reason, the role of education has been repeatedly stressed to instil minors' advertising literacy (Calvert, 2008; Livingstone & Helsper, 2006). Although some advertising literacy programmes have already been developed during the past decades (e.g., Media Smart), Rozendaal, Lapierre, Van-Reijmersdal and Buijzen (2011) advocate for reformulating their focus since especially the cognitive dimension is emphasized in the past (Figure 1). Yet, there is a lack of evidence that cognitive advertising literacy is sufficient to decrease minors' susceptibility to advertising effects (Rozendaal & al., 2011).

1.1. Moral advertising literacy: law versus ethics?

As shown in Figure 1, it is expected that the regulatory framework of a country –including standards for advertisers– implicitly impact one's perceptions about the appropriateness of advertising (Hudders & al., 2015; Martinson, 2001). In Flanders, a Media Decree with both general and product-specific (e.g., alcohol or medicinal products) requirements concerning advertising (towards minors) has been drawn up (Flemish Regulator for the Media, 2009; Verdoodt, Lievens, & Hellemans, 2015). In addition to law-related knowledge, "in ethics,

the question isn't whether one can do something or whether the law allows one to do it. Ethics assumes that, within the individual, there is a potential capacity for judging right from wrong" (Martinson, 2001: 132). A challenge for education is to alert students about the importance of ethics in their everyday life since it affects our behaviour and attitudes (Martinson, 2001). As De-Pelsmacker (2016) specified, there are several categories regarding ethical concerns in advertising. Next to insult and deception, another example is the use of sexist stereotypes. For instance, the contemporary norm of feminine beauty (i.e., tall, moderately breasted, and extremely thin) is fostered by the ideal bodies of ad models (Lavine, Sweeney, & Wagner, 1999). Not only advertisements spread via traditional channels as television and magazines contain gender-stereotypic images (Lavine & al., 1999), but this trend is perpetuated in Internet advertising, even on websites for adolescents (Slater, Tiggemann, Hawkins, & Werchon, 2012). Consequently, as adolescents copy ad models in their pictures on social networking sites, Tortajada, Araña and Martinez (2013) refer to the internalization of socially constructed representations of femininity. Moreover, previous research (Grabe, Ward, & Hyde, 2008; Levine & Murnen, 2009) uncovered that stereotypical images in advertisements are correlated with drive for thinness, body dissatisfaction and disordered eating patterns in adolescent girls. Furthermore, the importance of advertising literacy education is

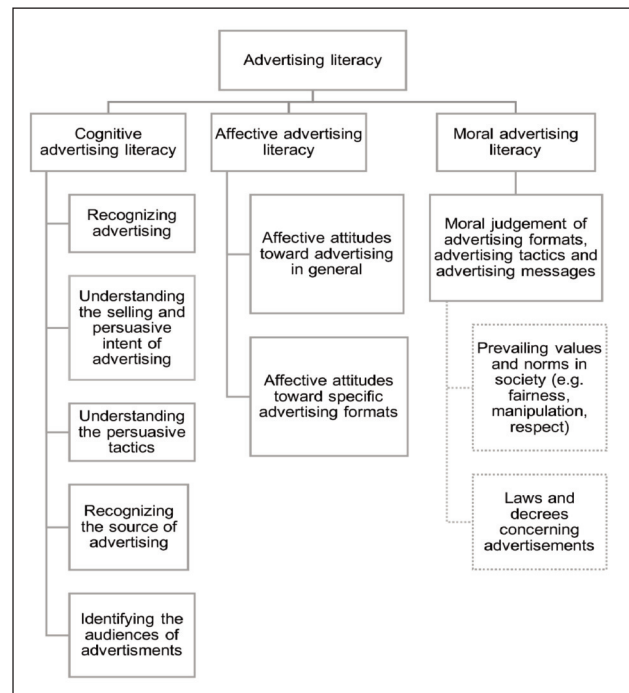


Figure 1. Three dimensions of advertising literacy (Hudders & al., 2015).

demonstrated by McLean, Paxton and Wertheim (2016), who found that adolescents with low critical thinking skills are more negatively affected by viewing a feminine beauty ideal in advertisements.

Besides, there are ethical issues about product-specific advertisements, such as alcohol advertising (Anderson, de-Brujin, Angus, Gordon, & Hastings, 2009; Ellickson, Collins, Hambarsoomians, & McCaffrey, 2005). Anderson and colleagues (2009) revealed that confrontation with alcohol advertising is associated with both the onset of adolescents' alcohol consumption and increased levels of drinking among adolescents who already drank alcohol. Additionally, because of alcohol advertising, adolescents perceive alcohol-drinking peers as more favourably and consider alcohol use as more normative (Martino, Kovalchik, Collins, Becker, Shadel, & D'Amico, 2016). About this matter, advertising literacy education is also recommended because critical thinking and alcohol advertising deconstruction skills decrease not only adolescents' intention to drink alcohol, but also their susceptibility to the persuasive appeals of alcohol advertising (Ellickson & al., 2005; Scull, Kupersmidt, Parker, Elmore, & Benson, 2010).

In recent years, ethical questions arise over new advertising formats which increasingly expect active involvement of consumers (e.g., a Facebook like Button on brand pages) and often integrate commercial content into media content. The latter is noticeable in advertising formats as product placement, i.e., the integration of brands in films, television series, etc. (De-Pelsmacker, 2016). These characteristics of new advertising formats make it more difficult for children and youngsters to detect commercial messages (Hudders & al., 2015).

1.2. Constructivism as basis

To enhance adolescents' moral advertising literacy, learning material is developed in the context of this study. For this, constructivism – a learning theory that became well-known in the last decades – was taken as a starting point. The rationale behind constructivism is that meaningful learning can be seen as an active process of constructing knowledge. It is assumed that knowledge is the result of personal interpretations, influenced by learners' gender, age, prior knowledge, ethnic background, etc. By sharing multiple perspectives, individuals can adapt their personal views (Duffy & Cunningham, 1996; Karagiorgi & Symeou, 2005). In this intervention, attention is paid to constructivist principles as collaborative learning, authentic learning and active learning. According to the first principle, the learning material includes opportunities to discuss multiple perspectives about controversial advertisements. Additionally, the principles of active learning and authentic learning assume that students receive meaningful learning activities in a realistic context allowing them to think about what they are doing, instead of passively receiving information from their teacher. To ensure authenticity, technology is used in this intervention because of the growing number of new (online) advertising formats.

1.3. Purpose of the current study

Until now, advertising literacy education primarily focuses on cognitive advertising literacy (Rozendaal & al., 2011) and traditional advertising formats (Meeus, Walrave, Van-Ouytsel, & Driesen, 2014). Therefore, the purpose of this explorative study is determining how adolescents' moral advertising literacy (i.e., moral judgement of advertising formats, advertising tactics and advertising messages) can be enhanced, which is becoming more important due to the growing number of new advertising formats.

The present study has two main research objectives. Firstly, we want to determine if advertising literacy education leads to better knowledge about advertising law. Secondly, this study provides an opportunity to advance knowledge of adolescents' moral judgement of controversial advertisements. Therefore, the second research objective is twofold, namely (1) revealing which advertisements are labelled as contentious by adolescents; (2) determining whether there is a difference between students' moral judgement about nudity/feminine beauty in advertisements and alcohol advertising on Facebook after an educational intervention.

2. Methodology

2.1. Study participants

An intervention study was set up in 12 classes (n=191) belonging to grades 9 and 10 of the Flemish education system. More concretely, the participating classes were part of general secondary education. This track was chosen based on an analysis of the curriculum standards (Adams, Schellens, & Valcke, 2015).

The students were between 14 and 18 years old (M=15.42; SD=0.67), and were primarily girls (81%). Although 12 classes were involved, only nine teachers participated because three of them were responsible for the

lesson in two classes of the same school. Informed consent was obtained from all teachers. Moreover, a letter –which included both information about the study and the option to refuse participation– was distributed to the adolescents' parents.

2.2. Design and procedure

Participating classes were randomly divided

into two conditions, one with and one without the use of tablet devices. Figure 2 shows a detailed overview of the learning material used in the tablet (TC) and no tablet condition (NTC).

As Vanderhoven and colleagues (2014) show that a one-hour media literacy course could be effective, we consciously chose for a short-term intervention. To assure external validity, the intervention took place in an authentic classroom setting. Since the regular teacher gave the lesson, a manual was developed, including background information about advertising and detailed step-by-step instructions about how to teach the lesson. The first author of this paper verified if the lesson was taught as prescribed.

2.3. Measurements and analyses

As depicted in Figure 2, a pre- and post-test were used to reveal effects of advertising literacy education on both students' knowledge about advertising law and their moral judgement of contentious advertisements. The pre- and post-test were given to the students a few days before and immediately after the intervention respectively, via an online link that they need to fill in at home. On the one hand, these tests included five true/false statements (Table 1) about law-related topics that were tackled during the lesson. On the other hand, students were confronted with two controversial advertisements to explore whether students' critical thinking can change through advertising literacy education (Figure 3).

The first image is a television advertisement of a Flemish chain store that was labelled as provocative in 2013, because of the naked/feminine beauty models. The second image was an alcohol advertisement of a new beer type on Facebook. In this message it is suggested to make a selfie that resembles the depicted image in order to win a ticket for "the party of your dreams" or a "Limited Edition pack" of this beer. Because there are strict rules concerning alcohol advertisements directed to minors in Flanders (Flemish Regulator for the Media, 2009), ethical questions arise regarding alcohol advertisements on Facebook, which is still the most widely used social networking site by Flemish adolescents (Apestaartjaren, 2016). Students' opinions were measured through the Inference of Manipulative Intent (IMI) Scale (Campbell, 1995) and an open-ended question. The IMI-scale originally consists of six items (Cronbach's alpha=0.93), which were –because of linguistic reasons– reduced to four in this study. For instance, one of the IMI-items is: "The advertiser tried to manipulate the audience in ways that I don't like". The items were rated on a 6-point Likert scale (1 completely disagree; 6 completely agree). Reliability analysis generated acceptable Cronbach alpha's (Nuditypre=0.85; Nuditypost=0.81; Alcoholpre=0.82; Alcoholpost=0.79). Quantitative data obtained by the pre- and post-test were analysed using the statistical software pro-

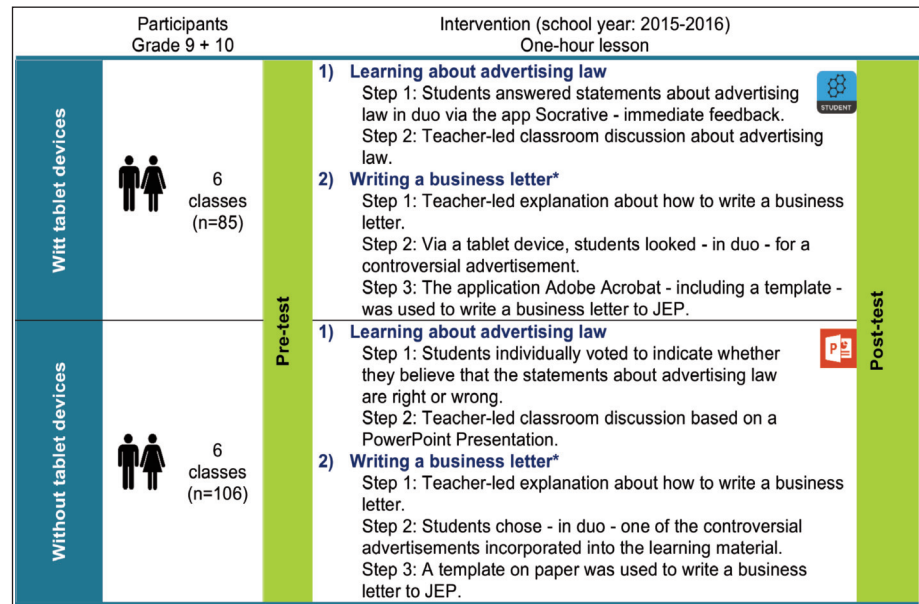


Figure 2. Design and procedure of the intervention study. *This exercise was integrated because it is a skill that students need to acquire according to the language curriculum standards. JEP (Jury for Ethical Practices in Advertising) = The Belgian organization that deals with complaints about advertisements.

gram SPSS. The data of the open question (i.e., “Why is this advertisement (not) acceptable for you?”) were processed through thematic analysis (see below). In the post-test, students also received questions related to their perceptions of the lesson (e.g., “I learned more in the lessons about advertisements than in other lessons because of the use of tablet devices”). Unfortunately, although several reminders were sent to the students, 148 students fully completed both pre- and post-test (TC: n=66; NTC: n=82). In other words, the dropout rate was 22.5% of the students (n=43).

As presented in Figure 2, students were expected to write a business letter to JEP during the lesson. In the context of the second research objective, these letters were used as measurement instrument. Therefore, the process of writing the business letters is made as standardized as possible. Students were, namely, given instructions about how to write a business letter (Figure 2). Additionally, templates were developed for both conditions, as a consequence the structure of the letters was fixed making them comparable. Regarding the content, there were three requirements: (1) indicate which advertisement is seen as contentious; (2) give some underpinned arguments; and (3) give advice to JEP about prohibiting or modifying the advertisement. In total, 133 business letters were written (TC: n=54; NTC: n=79). Because of time constraints in some classes, students started with reflecting on ethical advertising issues as a duo task in classroom, but had to fulfil individually their letter at home. When the letters of students belonging to one group were quite different, we analysed them separately. Thematic analysis was used to identify categories in both controversial advertisements and main arguments. First, to become familiar with the data, the letters were read and reread by the first author. The process of rereading the business letters allows to determine preliminary themes. Next, important text passages were highlighted and initial codes were assigned to these units of analysis. Through this iterative and bottom-up process, more general themes and sub-themes were gradually unveiled by grouping the different codes (Howitt, 2010).

3. Results

3.1. Does advertising literacy education lead to better knowledge about advertising law?

To determine whether the knowledge of students about Flemish advertising law increase after the intervention, students had to respond on five statements. For both conditions, the results obtained from the pre- and post-test were compared in Table 1. In the pretest, the majority of the students already knew some basic rules about advertisements on cigarettes and alcohol. However, descriptive data shows that all five statements were answered more correctly after the lesson. Nevertheless, students in the no tablet condition, who individually reflected on law-related topics before the class discussion, perform better in the post-test compared with students in the tablet condition who examined the subject matter in duo. McNemar’s tests, moreover, revealed significant differences for two [toothbrush, Flemish Regulator for the Media] and three statements [toothbrush, Flemish Regulator for the Media, medicinal products] for the tablet and no tablet condition respectively.

From the data on students’ perceptions about the use of tablets, we can see that many students (89.4%) did not have any experience with tablet devices in an educational context. Although most students in the tablet condition (83.4%) argued that the lessons about advertising were better than other lessons due to the tablet devices, 60.6% of the students admitted that they have not learned as much as in other lessons.

3.2. Which advertisements were judged as controversial by adolescents?

3.2.1. Which advertisements are seen as controversial in the business letters of both conditions?

In the tablet condition, students actively searched for a contentious advertisement on the Internet. The chosen

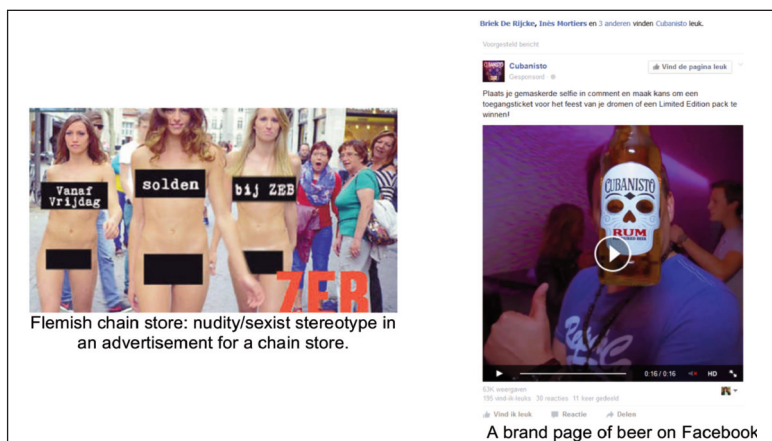


Figure 3. Two controversial advertisements incorporated into pre- and post-test.

advertisements can be divided into five main themes, namely (1) sexist images (e.g., nudity) (n=26), (2) sexual stereotypes (e.g., the stereotypical ideal of feminine beauty) (n=23), (3) discrimination (e.g., with respect to well-rounded persons, immigrants, etc.) (n=18), (4) violent (e.g., gunman) (n=5), and (5) unhealthy food (e.g., soft drinks) (n=8). An important remark is that 18 of the 54 letters belonged to more than one theme. The most common combination is 'sexually oriented – beauty ideal' (n=14).

In the no tablet condition, eight controversial advertisements –about which JEP or similar foreign organisations recently received complaints– were integrated into the learning material. Students generally considered the first advertisement of Appendix 1 (<https://doi.org/10.6084/m9.figshare.4789189>) –including a beauty ideal and nudity– as most controversial (n=24). In addition, 21 and 11 letters were respectively written about an advertisement of a Flemish clothing chain that promotes plastic surgery (Advertisement 2, Appendix 1) and an advertisement of a clothing brand in which an appeal is made to a very skinny model (Advertisement 4, Appendix 1). Both advertisements referred to beauty ideals. To a lesser extent, the remaining five advertisements were seen as contentious by students: Alcohol advertisement on Facebook (n=3), the use of Photoshop (n=6), deception in advertisements for smartphones (n=3), an unsafe situation – namely a model on a railway (n=7), and a sexually oriented advertisement of a perfume brand (n=4). Nevertheless, we surmise that students of the no tablet condition did not always find the advertisement they had in mind. Of the 82 students, 52 reported that the option to search for an advertisement via Internet would be interesting, instead of choosing one integrated in the learning material.

Across both conditions, as shown in Appendix 2 (<https://doi.org/10.6084/m9.figshare.4789405>), there are a number of recurrent arguments given for different advertisements. First, the argument that an advertisement is not suitable for children or youngsters was found in several business letters. Regarding a violent advertisement for an amusement park at Halloween time, a student group wrote down: "I find it too scary, certainly for an amusement park where children come. If children see this on television, they probably cannot sleep at night" (BL_Q1_TC). Closely related, in various letters, students stated that a bad role model was shown: "It is unjustifiable that a 14-year-old sits on a railway in a mournful mood. This is a bad example for other young people" (BL_W3_Advertisement 5, Appendix 1). In addition, students frequently referred to the consequences of advertisements. Because the use of stereotypical beauty ideals in advertisements was often seen as controversial, students repeatedly pointed to their possible effects on the self-image of especially adolescent girls or the desire to lose weight possibly resulting in eating disorders: "They use in this advertisement the quote "perfect body", however, there are not many people who can have such a body. [...] and therefore want to diet more and more, and will develop an eating disorder and receive health problems" (BL_M2_TC).

Thirdly, the reason that there is no link between the product and the advertisement was mentioned by the students. Neither do students tolerate too much nudity in advertisements. Both arguments are combined in the following quote: "Naked women really have nothing to do with sport shoes" (BL_C4_Advertisement 1, Appendix 1). Finally, the argument "insult" is frequently given by students in the tablet condition (TC: 31.5%; NTC: 10.1%),

Table 1. Students' knowledge about advertising law

	Tablet condition (n=66)			No tablet condition (n=82)		
	Pre-test	Post-test	McNemar	Pre-test	Post-test	McNemar
	N (%)	N (%)	p-value	N (%)	N (%)	p-value
1) Advertising for cigarettes and other tobacco products may be displayed on television, radio and/or Internet. Answer: wrong [Cigarettes]	50 (75.8%)	55 (83.3%)	.33	69 (84.1%)	75 (91.5%)	.24
2) Television advertising for sweets containing sugary should show a picture of a toothbrush during the advertisement. Answer: correct [Toothbrush]	12 (18.2%)	59 (89.4%)	<.001*	23 (28%)	78 (95.1%)	<.001*
3) If we had an ethical complaint about an advertisement, we would send it to the Flemish Regulator for the Media. Answer: wrong [Flemish Regulator for the Media]	3 (4.5%)	21 (31.8%)	<.001*	7 (8.5%)	47 (57.3%)	<.001*
4) Alcohol advertising is allowed. Answer: correct [Alcohol]	56 (84.8%)	58 (87.9%)	.75	66 (80.5%)	73 (89%)	.18
5) Advertisements for medicinal products that are available on prescription, is allowed. Answer: wrong [Medicinal products]	29 (43.9%)	37 (56.1%)	.13	38 (46.3%)	52 (63%)	.02*

Note. The students were given three response options: "Right", "Wrong", and "I don't know". The table shows a comparison of the students who correct answered the statements.

and the argument “deception” is more found in letters of student groups in the no tablet condition (TC: 1.5%; NTC: 22%). In only one business letter of the tablet condition (category: unhealthy food), the argument “deception” is mentioned: “These hamburgers look delicious and large at the picture, until you see them in real” (BL_K2_TC).

3.2.2. What are students’ opinions about nudity in advertisements and alcohol advertising before and after the lesson?

To explore whether students’ critical thinking can change through advertising literacy education, two controversial advertisements (Figure 3) were integrated into the pre- and post-test. In general, as presented in Figure 4, students are more critical about nudity in advertisements than alcohol advertising on Facebook.

Regarding students’ answers on the IMI-scale for the advertisement that includes naked models, the paired sample t-test showed a significant difference between the pre- and post-test results of students in the tablet condition [$t(65)=2.36$, $p=.02$, Cohen’s $d=0.29$], and not for the no tablet condition [$t(81)=0.34$, $p=.73$]. To explain this significant effect, students’ reactions on the open question of the post-test “Why is this advertisement (not) acceptable for you?” were analysed. On average, it is remarkable that students in the no tablet condition wrote down more arguments ($M=1.26$; $SD=0.66$) compared to students in the tablet condition ($M=1.18$; $SD=0.58$). However, whereas students in the no tablet condition gave more general answers as “too naked” (TC=36.4%; NTC=40.2%), the arguments of students in the tablet condition were more underpinned. They labelled the advertisement more as unacceptable for reasons as “no link between the advertisement and clothing store” (TC=25.8%; NTC=19.5%), “not suitable for children and youngsters” (TC=16.7%; NTC=13.4%), and “models with an ideal female body” (TC=15.2%; NTC=9.8%). Furthermore, more students in the no tablet condition agreed with this advertisement, predominantly because the main parts are shielded through black cubes (TC=4.5%; NTC=13.4%).

As illustrated in Figure 4, most students accepted the Facebook advertisement about alcohol. Although descriptive data uncovered, especially for the no tablet condition, a more critical attitude towards this specific advertisement after the lesson, the paired sample t-test did not show significant differences between the pre- and post-test results of students in the tablet condition [$t(65)=0.16$, $p=.87$] and no tablet condition [$t(81)=1.59$, $p=.12$]. In the post-test, proponents often generally answered the open question with reactions as “I find this advertisement acceptable, there is nothing wrong shown” (TC=33.3%; NTC: 31.7%). In addition, the argument that it is a humorous and smart

idea of advertisers to integrate a competitive element was regularly given (TC=22.7%; NTC=23.2%). Nevertheless, the latter was also seen as negative by opponents (TC=3%; NTC=9.8%): “I find this advertisement a form of blackmail because they can only win if they buy the drink” (Student 17_NTC). Other arguments of students who find the advertisement unacceptable are: (1) encouragement to drink alcohol (TC=21.2%; NTC=17.1%); (2) not suitable for children and youngsters

(TC=13.6%; NTC=14.6%), including one explicit reference to the display of this advertisement on Facebook that is frequently used by youngsters, and (3) disagreement with alcohol advertising (TC=7.6%; NTC=11%). Besides, students learned during the lesson that alcohol advertising is only allowed under strict conditions. For example, neither a direct address to minors nor a link between using alcohol and improved performances or a calming effect

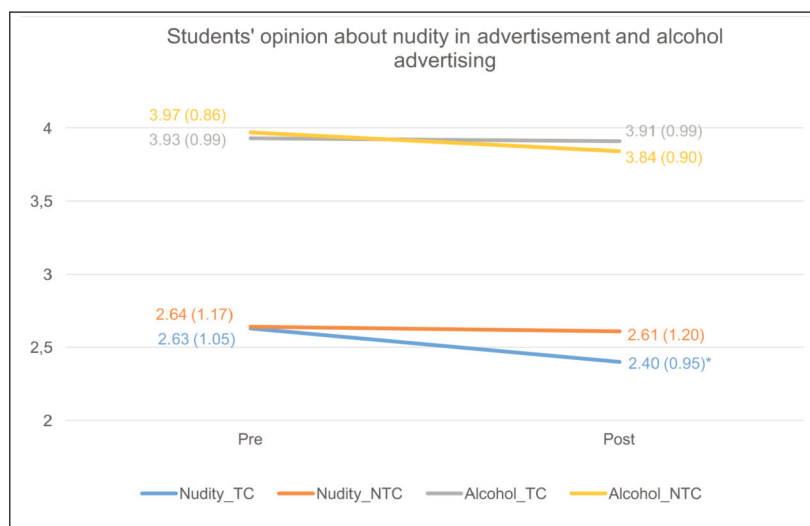


Figure 4. Students' opinion about nudity in advertisements and alcohol advertising. TC = tablet condition; NTC = no tablet condition. The numbers represent M(SD), measured on a 6-point Likert scale (1 completely disagree - 6 completely agree). * $p < .05$.

is permissible. Despite the integration of this subject matter, only four students (TC: $n=2$; NTC: $n=2$) explicitly referred to law aspects in the post-test. A clarifying quote: “Only adults take part in this commercial and nobody drives with a car. I think it is an appropriate advertisement” (Student 92_TC).

4. Discussion and conclusion

Nowadays, enhancing minors’ advertising literacy is becoming more important due to the growing number of new advertising formats (Daems & De-Pelsmacker, 2015). During the past decades, advertising literacy programmes have already been developed (Meeus & al., 2014). However, Rozendaal and colleagues (2011) indicated that existing educational programmes mainly emphasize the cognitive dimension (i.e., recognizing several advertising formats, understanding persuasive tactics, etc.). In the context of this study, learning material aimed at enhancing adolescents’ moral advertising literacy (i.e., moral judgement of advertising formats, tactics and messages) is developed. In line with research of Martinson (2001), who refers to the difference between advertising law and ethical issues in advertisements, this learning material is divided into two parts. The first part is about Flemish advertising law (Flemish Regulator for the Media, 2009), from the perspective that its (implicitly) influencing one’s perceptions about the appropriateness of advertising (Hudders & al., 2015; Martinson, 2001). In the second part, attention is paid to ethical advertising concerns (De-Pelsmacker, 2016).

An initial objective of this intervention study is identifying whether advertising literacy education leads to better knowledge about advertising law. The results show that students know more about advertising law after the lesson. Nevertheless, students in the no tablet condition, who individually reflected on law-related topics before the class discussion led by the teacher, seem to learn more than students in the tablet condition who processed the learning content in duo via a tablet application. A possible explanation is found in data about students’ perceptions on using tablet devices in education. Although most students in the tablet condition perceived the advertising lesson more enjoyable than other lessons, they realize that it had a negative effect on their learning performances. This result is in accord with a study of Montrieux and colleagues (2015) indicating that students, aside from recognizing the added value of using tablet devices in an educational setting, also admit that their learning capacity has not increased as well as that tablet devices cause distractions.

The second research objective is twofold, namely (a) revealing which advertisements are labelled as contentious by adolescents, and (b) uncovering adolescents’ moral judgement of nudity/feminine beauty in advertisements and alcohol advertisements before and after the course. Regarding the first part (RO2a), we analysed students’ fictive business letters to the Jury for Ethical Practices in Advertising (JEP) about a self-chosen controversial advertisement. In both conditions, advertisements containing sexual stereotypes and nudity are especially selected. Because of a significant effect, we can assume that students of the tablet condition have a more critical attitude towards feminine beauty/nudity in advertisements after the intervention (RO2b). The significant effect could be attributed to the way students choose a controversial advertisement. As observed in classrooms, the student groups in this condition immediately talked about nudity and feminine beauty in advertisements after hearing the task (i.e. collaborative learning). They actively looked for such advertisements, confronting them probably with a number of examples and (newspaper) articles including arguments against such advertisements (i.e. active and authentic learning). Next to feminine beauty and nudity in advertisements, students of the tablet condition do not tolerate discrimination and violent as well as advertisements about unhealthy food. In the no tablet condition, elements as using Photoshop and depicting an unsafe situation are also seen as contentious. Notwithstanding, we can surmise that students in the no tablet condition did not always find the advertisement they had in mind, because most of them reported that the option to search for an advertisement via Internet would be interesting.

Across the various controversial advertisements, students in both conditions justify their choice with similar arguments in their business letters. To start with, there is repeatedly referred to consequences of advertisements. In case of sexual stereotypes in advertisements, students often refer to the possible negative effects for adolescent girls’ self-image and the desire to lose weight. Consequently, adolescents are aware of these effects which are also confirmed by prior studies (e.g., Grabe, Ward, & Hyde, 2008; Levine & Murnen, 2009). More than once, students also refer to the following arguments: (1) not suitable for children or youngsters, (2) no link between the product and the advertisement, (3) nudity, and (4) insult and deception. Insult is more mentioned by students in the tablet condition, especially in business letters written about discriminatory advertisements. Deception is particularly raised in the no tablet condition, probably because more examples of misleading advertisements were provided in the learning material of this condition. Hence, students select misleading advertisements when it is offered, but they are not

consciously looking for it. Therefore, an important issue for future research is providing different categories of controversial advertisements and their consequences, allowing students to get acquainted with and to think critically about a variety of ethical matters in advertisements. For example, it is advisable to pay more attention to alcohol advertising. As indicated by Martino and colleagues (2016), adolescents seem to be accustomed to the presence of alcohol advertisements. Despite the incorporation of learning content about this matter, students in both conditions scarcely refer to alcohol advertising in their business letters (RO2a). Based on pre- and post-test findings (RO2b), this study does not show any significant increase in adolescents' critical attitudes towards alcohol advertising. Since previous research (Ellickson & al., 2005; Scull & al., 2010) demonstrated that a critical attitude and alcohol advertising deconstruction skills decrease negative effects of such advertisements, further research is required to explore educational interventions that can anticipate on this. The same applies to critical thinking about new hidden and interactive advertising formats. In other words, in contrast to judging an advertisement because of the format, students chose advertisements based on substantive issues.

A note of caution is necessary, because of the gender bias of the sample. Since the participating classes predominantly include female students, future research needs to be conducted in gender-balanced classes to discover whether the same advertisements were seen as contentious and whether the same underpinned arguments were provided. In addition, the findings of this study may be somewhat limited by measuring students' opinion through both business letters and a pre- and post-test. Unfortunately, some student responses are rather superficial. For that reason, it can be suggested that additional in-depth interviews with students would be a good alternative to get more insight into their moral judgement of unethical advertisements before and after the lessons.

As a conclusion, it can be stated that the lesson aimed at enhancing youngsters' moral advertising literacy is effective in raising knowledge about advertising law. In addition, students were challenged to think critically about contentious advertisements, and to provide underpinned arguments for these advertisements. Nevertheless, this study shows that more research is needed to reveal appropriate class exercises to encourage students' moral judgement of various unethical themes in advertisements.

Until now, advertising literacy education primarily focuses on cognitive advertising literacy and traditional advertising formats. Therefore, the purpose of this explorative study is determining how adolescents' moral advertising literacy (i.e., moral judgement of advertising formats, advertising tactics and advertising messages) can be enhanced, which is becoming more important due to the growing number of new advertising formats.

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