Advertising literacy and children. Literature review from Web of Science (WOS) and Scopus (2010-2022)

Alfabetización publicitaria y menores. Revisión bibliográfica a partir de la Web of Science (WOS) y Scopus (2010-2022)

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How to reference this article.

ABSTRACT

Introduction: Research on how children process advertising is still in its infancy. This article reviews the published academic literature on advertising literacy and children. The aim is to offer an updated view of how this subject has been studied in the last decade, a term used to refer to children's skills and abilities to deal with advertising. Methodology: 105 articles indexed in the Web of Science (WOS) and Scopus databases between 2010-2022 were analysed. Results: only three authors have published more than a dozen papers on this topic, with two European universities (one Belgian and one Dutch) concentrating their scientific production. The year in which the most papers were published was 2020 and the main journals that published these papers belong to the fields of communication, marketing and psychology. The main tool for this research was the survey. Discussion: the review yielded six
lines of research: advertising literacy programmes and minors facing new formats; influence of food advertising; influencer marketing and influencers; purchasing decisions; identification of advertising and privacy. **Conclusions:** the article provides proposals for future research on advertising literacy and children.

**Keywords:** Advertising literacy; Literacy; Minors; Children; Review; Scopus; Web of Science.

**RESUMEN**

**Introducción:** la investigación sobre cómo las y los menores (de aquí en adelante, los menores) procesan la publicidad es todavía incipiente. Este artículo realiza una revisión sobre la literatura académica publicada sobre alfabetización publicitaria y menores. Se persigue ofrecer una visión actualizada sobre cómo se ha estudiado esta temática en la última década, término empleado para referirse a las habilidades y capacidades del menor para hacer frente a la publicidad. **Metodología:** se han analizado 105 artículos indexados en las bases de datos Web of Science (WOS) y Scopus entre los años 2010-2022. **Resultados:** solo tres autores-as han publicado más de una decena de trabajos sobre esta temática; concentrando la producción científica dos universidades europeas (una belga y otra holandesa). El año en el que se han publicado más trabajos fue 2020 y las principales revistas que han recogido estos trabajos pertenecen al ámbito de la comunicación, el marketing y la psicología. La principal herramienta para abordar esta pesquisa fue la encuesta. **Discusión:** la revisión arrojó seis líneas de investigación: programas de alfabetización publicitaria y menores ante nuevos formatos; influencia de la publicidad de alimentos; marketing de influencia e influencers; decisiones de compra; identificación de la publicidad y privacidad. **Conclusiones:** el artículo aporta propuestas para abordar futuras investigaciones en materia de alfabetización publicitaria y menores.

**Palabras clave:** Alfabetización publicitaria; Alfabetización; Menores; Niños; Revisión; Scopus; Web of Science.

1. Introduction

We can go back to Boush et al. (1994) to define advertising literacy as an individual's abilities and skills to cope with advertising. We thus refer to the aptitude to recognize advertising, to understand its persuasive and selling purpose, as well as to employ this knowledge to evaluate product advertising (De Jans et al., 2017a).

For Rozendaal et al. (2013), advertising literacy consists of two dimensions: first, the conceptual dimension involving recognition of advertising, understanding of the commercial source and the persuasive intent and techniques of advertising, as well as the bias it introduces with respect to reality. Secondly, the attitudinal dimension, which is associated with critical attitudes towards advertising. So, advertising literacy comprises both knowledge about advertising and its techniques, as well as the ability to understand persuasive intentions (Daems et al., 2017).

Identifying and understanding advertising starts with differentiating the commercial message in a program or content (An et al., 2014). Advertising formats such as product placement or brand placement -inclusion of a product or commercial brand in a program-, advergames -information and entertainment content applied to the video game industry-, advertainment -advertising that informs and/or entertains- or more recently branded content -non-advertising content generated by a brand that provides value to the audience-, pose a challenge when it comes to recognizing this type of content as advertising when combined with entertainment. Hence, it is even more necessary in this area to include some kind of identifier that it is a commercial message.
The need to differentiate commercial content carries over to social networks, where minors follow influencers and where, despite regulations suggesting that sponsored content—in the form of ad tags or collaborations—be identified, many digital prescribers still do not adhere to the guidelines (Taillon et al., 2020; Fernández-Gómez et al., 2021; Segarra-Saavedra et al., 2022). However, it is the younger audience who demands content with blurred boundaries between entertainment, information and advertising, which makes it more difficult to recognize its persuasive intentionality (Feijoo et al., 2020).

Due to the autonomy of navigation and their ability to choose content, children take an active role in the advertising experiences to which they are exposed, a scenario that has provided an opportunity for the application of marketing and creative strategies. Likewise, given the growing use of new formats that combine advertising and entertainment that minors consume through different screens (Feijoo & Fernández-Gómez, 2021), the development of advertising literacy programs is even more necessary (Daems et al., 2017).

Advertising literacy programs at school aim to develop minors' persuasive knowledge about the purpose and process of advertising (Hudders et al., 2017). Increasing their understanding about advertising is considered to provide critical thinking and coping skills and mechanisms (Nelson & Kehr, 2016).

Given this scenario where advertising literacy is essential for the user to make a critical consumption of digital content, this academic review on advertising literacy and minors is proposed with the aim of providing an updated overview of the main findings in this area. It is a review that will also be key for brands and the approach of persuasive communications respectful of the educational level of minors.

1.1. Research on advertising literacy and minors

De Jans et al. (2017b) reviewed ten years of research (2006-2016) on advertising to minors and identified five areas of work: (1) advertising effects, (2) advertising processing, (3) advertising content and characteristics, (4) social influences, and (5) protection of minors and empowerment. In their exploration, they found that much of the research in the last decade has focused on food advertising and its effects, and also on the analysis of advertising processing of minors, with advances in advertising literacy. However, despite this, the body of research on how minors process advertising is still incipient. So, it is proposed as a necessary line of research to work on the critical competences of minors and, especially, in the digital environment (De Jans et al., 2017b, p. 23).

Likewise, they highlight the lack of attention by the academy to new formats, such as native or mobile advertising, with research focused on the television medium being predominant. Thus, there is a gap in the academic literature on how to help minors to activate their advertising literacy in the face of these embedded formats. Likewise, there were few studies focused on the analysis of tactics and effective factors in advertisements aimed at minors and on the social influences of advertising (De Jans et al., 2017b).

Indeed, television and its programming for children and young people has been one of the main objects of research by the scientific community. And among that programming is its advertising. Although it has been approached from different perspectives, as mentioned, the area that has experienced the greatest growth is that of food and its disorders (Moreno-Delgado et al., 2020).

Thus, this research is based on the study by De Jans et al. (2017b), who highlighted the incipient state of studies that address advertising literacy. As in the aforementioned work, a literature review is conducted, but the work presented below focuses on the ability of minors to discern persuasive content, thus addressing the studies on this topic published up to 2022 and with special emphasis on the digital medium.
Thus, this research is part of a project funded by the Ministry of Science and Innovation of the Government of Spain whose research aims to analyze the ability of children to deal with persuasive content.

2. Objectives and Methodology

In order to know the state of research on advertising literacy and minors, four specific objectives were proposed:

SO1. To obtain an academic overview of advertising literacy and minors.

SO2. To determine how the persuasive knowledge of minors has been studied.

SO3. To know the main topics addressed in relation to advertising literacy and minors.

SO4. To know the main conclusions on this line of research that will allow us to propose new studies.

Therefore, we seek to answer the following research questions:

RQ1. What trends -year of publication, authorship, journal in which the article is published, journal area- characterize the scientific production on advertising literacy and minors?

RQ2. What are the main research elements - methodology, tools used, media analyzed and sample population - that predominate in research on advertising literacy in children?

RQ3. What are the main areas of interest in advertising literacy and minors? The aim is to know the main topics addressed in relation to persuasive knowledge and minors.

RQ4. What are the main results obtained in the studies on advertising literacy and minors?

The first two research objectives are presented from a quantitative perspective of content analysis in which the main indicators have been quantified (Table 1). On the other hand, objectives 3 and 4 are approached with a qualitative analysis based on their subject matter and results. Following research such as that of Vrontis et al. (2020), the thematic analysis offers a comprehensive view of the academic works published on the object of study. So, the main topic of the reviewed articles has been classified to categorize them into the main areas of research about advertising literacy and minors. So, in this case, instead of proposing closed variables for coding, an inductive approach has been used, which favors that the themes emerge directly from the data (Cooke et al., 2019; Yang & Gabrielsson, 2018).

To conduct the literature review, a search was conducted in two of the most prestigious databases. Scopus was scanned on 12/13/2021 and Web of Science on 6/2/2022. The search was repeated in these databases on 31 May 2022 with the aim of incorporating possible new papers published to date. The search strategy used was "Advertising literacy" and "Children", the Boolean operator "and", filtering by the time period 2010-2022 and prioritizing the type of information source "article" in order to analyze the journals with the greatest international relevance. Emerging Sources Citation Index (ESCI) publications, books, chapters and editorials were also discarded.

The database with the highest number of indexed texts was WOS (111) compared to Scopus (59). Forty-nine duplicate records were detected and eliminated from the content analysis. The articles were reviewed to exclude those that did not meet the following predefined criteria: articles that did not work with minors or did not deal with advertising. All articles were inspected by reading titles and abstracts to determine whether they met the proposed inclusion criteria. Finally, the sample is composed of 105 articles with access to the entire document (open access).
The procedure used to select the articles in this summary is consistent with works that address a systematic review of the literature in communication fields (Segado-Boj et al., 2015; De Jans et al., 2017b; Vrontis et al. 2020; Segarra-Saavedra et al., 2021; Segado-Boj et al., 2022; Atarama-Rojas et al., 2022).

Table 1 shows the analysis sheet of the academic literature on advertising literacy and minors used in this study.

Table 1. Analysis sheet of the articles published on advertising literacy and minors.

<table>
<thead>
<tr>
<th>Article identification</th>
<th>Complete bibliographic reference according to APA 7th edition</th>
<th>Author</th>
<th>Year of publication of the article</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journal identification</td>
<td>Title of the journal Academic field of the journal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geographic area analyzed</td>
<td>Country</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main methodology used</td>
<td>Quantitative Qualitative Mixed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main research tools used in the study</td>
<td>Case study Content analysis Survey Interviews Focus group Experiment Others (including, for example, reviews of scientific production)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theme</td>
<td>Open variable. The main terms with which the article is most closely related to the topics under investigation for the present analysis were collected, establishing them by relevance.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main results of the article</td>
<td>Open variable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Own elaboration.
3. Results

3.1. Main quantitative indicators

As can be seen in Figure 1, scientific production on advertising literacy and minors experienced two major growth peaks in the last decade. The first, in 2016 with the publication of 17 papers. Precisely until this year they conducted research on the state of the art of advertising aimed at minors De Jans et al. (2017b), pointing to the incipient state of the thematic line on advertising literacy. The second occurred in 2020 reaching its maximum with 24 researches in indexed journals. Thus, it can be determined how, from the aforementioned study, the works on this line of research increased. However, the rate of production was not maintained, falling to 21 articles in 2021.

![Figure 1: Evolution of the scientific production on advertising literacy and minors](image)

The 105 research studies analyzed on advertising literacy were carried out by a total of 175 authors. Researchers in this area published an average of 1.88 articles. That is, almost two articles per author on this topic.

Table 2 lists the most productive authors. Research on advertising literacy and minors is concentrated at the European level in Belgium and the Netherlands. Thus, it is led by academics from the University of Ghent (four authors) and the Erasmus University of Rotterdam (two authors). Only one American researcher is included in this ranking.

A very small group of female academics lead the studies on this discipline. The first researcher, Hudders, concentrates the production (21 articles) in a period of five years (2017-2021), but with a high rate of co-authorship since the articles in which she does not appear as first author prevail, as she is the first author in only three works. Thus, some of her co-authors (such as De Jans or Cauberghe) are also the ones who have done the most research on advertising literacy and minors. Cauberghe is the second most prolific researcher with 16 articles in indexed journals. However, she...
is not listed as first author in any of them. In her case, research on advertising literacy began in 2013. The production of the third author with the most published papers, Rozendaal, dates back to 2011 and she has led the research in 5 of the 12 articles. Finally, the fourth most productive researcher, De Jans, did lead author on 8 of the 9 published papers (between 2017-2021).

Table 2. Most productive authors

<table>
<thead>
<tr>
<th>Order</th>
<th>Authorship</th>
<th>Nº articles</th>
<th>Published works</th>
</tr>
</thead>
</table>
| 1     | Hudders, Liselot (Ghent University) | 21 | De Jans & Hudders (2020)  
De Jans, Cauberghe & Hudders (2018)  
De Jans, Hudders & Cauberghe (2017)  
De Jans, Hudders & Cauberghe (2018)  
De Jans, Hudders & Cauberghe (2020)  
De Jans, Van de Sompel, De Veirman & Hudders (2020)  
De Pauw, Hudders & Cauberghe (2018)  
De Pauw, Cauberghe & Hudders (2019)  
De Veirman, Hudders, & Nelson (2019)  
Desimpelaere, Hudders & Van de Sompel (2020)  
Desimpelaere, Hudders & Van de Sompel (2021)  
Herrewijn, De Jans, Hudders & Cauberghe (2021)  
van Reijmersdal, Rozendaal, Hudders, Vanwesenbeeck, Cauberghe & van Berlo (2020)  
Vanwesenbeeck, Hudders & Ponnet (2020)  
Zarouali, de Pauw, Ponnet, Walrave, Poels, Cauberghe & Hudders (2019)  
**Hudders** & Cauberghe (2018)  
**Hudders**, Cauberghe & Panic (2016)  
**Hudders**, De Pauw, Cauberghe, Panic, Zarouali & Rozendaal (2017) |
| 2     | Cauberghe, Verolien (Ghent University) | 16 | De Jans, Cauberghe & Hudders (2018)  
De Jans, Hudders & Cauberghe (2017)  
De Jans, Hudders & Cauberghe (2018)  
De Jans, Hudders & Cauberghe (2020)  
De Pauw, Hudders & Cauberghe (2018)  
De Pauw, Cauberghe & Hudders (2019)  
Herrewijn, De Jans, Hudders & Cauberghe (2021)  
van Reijmersdal, Rozendaal, Hudders, Vanwesenbeeck, Cauberghe & van Berlo (2020)  
Zarouali, de Pauw, Ponnet, Walrave, Poels, Cauberghe & Hudders (2019)  
Hudders & Cauberghe (2018)  
Hudders, Cauberghe & Panic (2016)  
Panic, Cauberghe & De Pelsmacker (2013) |
<table>
<thead>
<tr>
<th></th>
<th>Name, Title (University)</th>
<th></th>
</tr>
</thead>
</table>
| 3 | Rozendaal, Esther (Erasmus University Rotterdam) | 12 | Boerman, van Reijmersdal, Rozendaal & Dima (2018)
|   |                         |   | Hoek, Rozendaal, van Schie & Buijzen (2020)
|   |                         |   | Hoek, Rozendaal, van Schie & Buijzen (2021)
|   |                         |   | Hoek, Rozendaal, van Schie, van Reijmersdal & Buijzen (2020)
|   |                         |   | Hudders, De Pauw, Cauberghe, Panic, Zarouali & Rozendaal (2017)
|   |                         |   | Opree, Petrova & Rozendaal (2020)
|   |                         |   | Rozendaal & Figner (2020)
|   |                         |   | Rozendaal, Buijs & van Reijmersdal (2016)
|   |                         |   | Rozendaal, Buijzen & Valkenburg (2008)
|   |                         |   | Rozendaal, Lapierre, van Reijmersdal & Buijzen (2011)
|   |                         |   | Rozendaal, Opree & Buijzen (2016)
|   |                         |   | van Reijmersdal, Rozendaal, Hudders, Vanwesenbeeck, Cauberghe & van Berlo (2020)
| 4 | De Jans, Stefli (Ghent University) | 9  | De Jans & Hudders (2020)
|   |                         |   | De Jans, Cauberghe & Hudders (2018)
|   |                         |   | De Jans, Hudders & Cauberghe (2017)
|   |                         |   | De Jans, Hudders & Cauberghe (2018)
|   |                         |   | De Jans, Hudders & Cauberghe (2020)
|   |                         |   | de Jans, Van de Sompel, De Veirman & Hudders (2020)
|   |                         |   | Herrewijn, De Jans, Hudders & Cauberghe (2021)
| 5 | Nelson, Michelle R. (University of Illinois Urbana- Champaign) | 9  | De Veirman, Hudders, & Nelson (2019)
|   |                         |   | Ferguson, Fiese, Nelson & Gardner (2019)
|   |                         |   | Ha, Killian, Davis, Lim, Bruce, Sotos, Nelson & Bruce (2020)
|   |                         |   | Ha, Killian, Davis, Lim, Bruce, Sotos, Nelson & Bruce (2020a)
|   |                         |   | Nelson & Kehr (2016)
|   |                         |   | Nelson (2016)
|   |                         |   | Nelson, Powell, Ferguson & Tian (2020)
|   |                         |   | Waiguny, Nelson & Terlutter (2014)
| 6 | van Reijmersdal, Eva A. (University of Amsterdam) | 8  | Boerman & van Reijmersdal (2020)
|   |                         |   | Boerman, van Reijmersdal, Rozendaal & Dima (2018)
|   |                         |   | Hoek, Rozendaal, van Schie, van Reijmersdal & Buijzen (2020)
|   |                         |   | Rozendaal, Buijs & van Reijmersdal (2016)
|   |                         |   | Rozendaal, Lapierre, van Reijmersdal & Buijzen (2011)
|   |                         |   | van Dam & van Reijmersdal (2019)
|   |                         |   | van Reijmersdal & van Dam (2020)
|   |                         |   | van Reijmersdal, Rozendaal, Hudders, Vanwesenbeeck, Cauberghe & Van Berlo (2020)
| 7 | Walrave, Michel (University of Antwerp) | 7  | Vanwesenbeeck, Ponnet & Walrave (2017)
|   |                         |   | Vanwesenbeeck, Walrave & Ponnet (2016)
|   |                         |   | Vanwesenbeeck, Walrave, & Ponnet (2015)
|   |                         |   | Zarouali, de Pauw, Ponnet, Walrave, Poels, Cauberghe & Hudders (2019)
|   |                         |   | Zarouali, Poels, Ponnet & Walrave (2021)
|   |                         |   | Zarouali, Verdoordt, Walrave, Poels, Ponnet & Lievens (2020)
|   |                         |   | Zarouali, Walrave, Poels, Ponnet & Vanwesenbeeck (2016)
The scientific production on advertising literacy has been published in a total of 49 different journals. These are indexed in an average of 1.71 areas. The predominant area is Communication (18 journals indexed in this area), followed by Marketing and Medicine (with 14 publications each) and, in fourth place, Psychology (11).

Table 3 includes the ranking of the main journals in which the largest number of researches on advertising literacy and minors have been published. Although the main productions on the subject come from European studies, it is the American Journal of Advertising (indexed in the areas of Communication and Marketing) that has published the most research on the subject analyzed. This ranking also highlights how 4 of the 9 journals belong to the field of Psychology and Medicine, since, as shown below, a large number of studies address the critical competence of minors in relation to food, children and health advertising.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Author(s)</th>
<th>Number of Publications</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Buijzen, Moniek (Erasmus University Rotterdam)</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Hoek, Rozendaal, van Schie &amp; Buijzen (2020)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hoek, Rozendaal, van Schie &amp; Buijzen (2021)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hoek, Rozendaal, van Schie, van Reijmersdal &amp; Buijzen (2020)</td>
<td></td>
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<tr>
<td></td>
<td>Rozendaal, Buijzen &amp; Valkenburg (2008)</td>
<td></td>
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<td></td>
<td>Rozendaal, Lapierre, van Reijmersdal &amp; Buijzen (2011)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rozendaal, Opree &amp; Buijzen (2016)</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Vanwesenbeeck, Ini (Tilburg University)</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>van Reijmersdal, Rozendaal, Hudders, Vanwesenbeeck, Cauberghe &amp; van Berlo (2020)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vanwesenbeeck, Hudders &amp; Ponnet (2020)</td>
<td></td>
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<td></td>
<td>Vanwesenbeeck, Ponnet &amp; Walrave (2017)</td>
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<td>Vanwesenbeeck, Walrave &amp; Ponnet (2016)</td>
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<td></td>
<td>Vanwesenbeeck, Walrave, &amp; Ponnet (2015)</td>
<td></td>
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<tr>
<td></td>
<td>Zarouali, Walrave, Poels, Ponnet &amp; Vanwesenbeeck (2016)</td>
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<tr>
<td>10</td>
<td>De Pauw, Pieter D. (Ghent University)</td>
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<td>De Pauw, Hudders &amp; Cauberghe (2018)</td>
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<td>De Pauw, Cauberghe &amp; Hudders (2019)</td>
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<tr>
<td></td>
<td>Hudders, De Pauw, Cauberghe, Panic, Zarouali &amp; Rozendaal (2017)</td>
<td></td>
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<td></td>
<td>Zarouali, de Pauw, Ponnet, Walrave, Poels, Cauberghe &amp; Hudders (2019)</td>
<td></td>
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</tbody>
</table>

Source: Own elaboration
Table 3. Ranking of journals concentrating production on advertising literacy and minors

<table>
<thead>
<tr>
<th>Order</th>
<th>Journal</th>
<th>Nº published articles</th>
<th>Areas (Scopus)</th>
<th>Country of the journal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Journal of Advertising</td>
<td>11</td>
<td>Social Sciences (Communication), Business, Management and Accounting (Marketing)</td>
<td>United States</td>
</tr>
<tr>
<td>2</td>
<td>Frontiers in Psychology</td>
<td>8</td>
<td>Psychology (Psychology (miscellaneous))</td>
<td>Switzerland</td>
</tr>
<tr>
<td>3</td>
<td>International Journal of Advertising</td>
<td>7</td>
<td>Social Sciences (Communication), Business, Management and Accounting (Marketing)</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>4</td>
<td>Young Consumers</td>
<td>6</td>
<td>Social Sciences (Life-span and Life-course Studies), Economics, Econometrics and Finance (Economics, Econometrics and Finance -miscellaneous)</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>5</td>
<td>Media Psychology</td>
<td></td>
<td>Social Sciences (Communication), Psychology (Applied Psychology), (Social Psychology)</td>
<td>United States</td>
</tr>
<tr>
<td>7</td>
<td>Tijdschrift Voor Communicatiewetenschap</td>
<td>4</td>
<td>Social Sciences (Communication)</td>
<td>Netherlands</td>
</tr>
<tr>
<td>8</td>
<td>Journal of Children and Media</td>
<td>4</td>
<td>Social Sciences (Communication), (Cultural Studies)</td>
<td>United Kingdom</td>
</tr>
</tbody>
</table>

Source: Own elaboration
### Table 4. Main indicators of the methodology used

<table>
<thead>
<tr>
<th>Medium analyzed</th>
<th>Methodology used</th>
<th>Tools</th>
<th>Study sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media</td>
<td>N° of articles</td>
<td>Approach</td>
<td>N° of articles</td>
</tr>
<tr>
<td>Film</td>
<td>1</td>
<td>Qualitative</td>
<td>38</td>
</tr>
<tr>
<td>TV</td>
<td>14</td>
<td></td>
<td></td>
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<tr>
<td>Digital</td>
<td>49</td>
<td>Quantitative</td>
<td>58</td>
</tr>
<tr>
<td>Digital and TV</td>
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<td></td>
<td></td>
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<tr>
<td>Print and exterior</td>
<td>1</td>
<td>Mixed</td>
<td>9</td>
</tr>
<tr>
<td>Various</td>
<td>35</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Experiment</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other</td>
<td>13</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>105</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Own elaboration

The medium that has elicited the most research in relation to the ability of minors to cope with advertising has been the digital format (Table 4). There is a proliferation of research on advergames, social networks, YouTube and blogs. These studies have been approached with a quantitative methodology using the survey as the main tool. Finally, the studies focus on a single population, with a gap in comparative studies, and Belgium and the Netherlands, which are also the countries of origin of the most productive researchers, being the main study sample.

As mentioned, one of the most analyzed media is digital, although it is also studied together with television (see Table 4). But studies of a comparative type are scarce, thus finding research such as that of Hudders et al. (2016) who compared the level of advertising literacy of minors for traditional advertising formats versus advergames. Or that of De Jans et al. (2020) who compared the response of minors to different formats including TV ads and digital formats such as banners, advergames or native advertising.

As for experiments, they are often also accompanied by surveys, as well as training and interventions in schools. This is the case of the work of Liao et al. (2016), with the aim of determining the contents that should be included in a program that increases advertising knowledge and criticism. To do so, they taught classes on three components of advertisements (content, grammar and structure) to two different age groups and passed them a questionnaire at two different stages (immediately after exposure and one year later).

The experiments also include the eye tracking tool for measuring advertising effectiveness. This is the case of the work by van Reijmersdal et al. (2020) applied to the ability of minors to discern videos that are sponsored.
Thus, only five studies of the total sample -including in the category other- have relied on previous literature review to know the state of the art. The oldest is that of Joung (2015\(^1\)), who describes some of the major findings and theories on advertising and its influence on minors. In addition to the aforementioned work by De Jans et al. (2017b) on advertising aimed at children under 12 years of age in the period 2006-2016, we find research on studies that address the vulnerability of minors in digital environments understanding that the online medium increases the trust of this audience in advertisers (Kennedy et al., 2019). Or research on the measurement methodologies used to assess the advertising literacy of minors (Zarouali et al., 2016), who also conclude how most of the studies published in this regard focus on food advertising and its effects. The rest of the papers address specific areas such as food advertising or school banking programs.

3.2. Main qualitative indicators

The main terms with which each of the analyzed articles is most closely related to the research topics of this article have been collected. In this way, six trends in advertising research on advertising literacy and minors can be identified for which the main findings are contemplated.

Table 5. Main issues addressed in the research on advertising literacy and minors

<table>
<thead>
<tr>
<th>Research subject</th>
<th>References</th>
<th>Nº of articles(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertising literacy programmes and minors in new formats</td>
<td>Adams, Schellens &amp; Valcke (2017); An &amp; Kang (2019); Borzekowski (2019); Cho &amp; Riddle (2021); Cornelis &amp; Peter (2017); Daems, De Pelsmacker &amp; Moons (2017); Daems, De Pelsmacker &amp; Moons (2019); Daems, Moons &amp; De Pelsmacker (2017); Darmawan, Xu &amp; Huh (2021); De Jans, Hudders &amp; Cauberghe (2017); De Jans, Hudders &amp; Cauberghe (2018); De Jans, Hudders &amp; Cauberghe (2020); De Jans, Hudders, Herrewijn, van Geit &amp; Cauberghe (2019); De Jans, Van de Sompel, De Veirman &amp; Hudders (2020); De Jans, Van de Sompel, Hudders &amp; Cauberghe (2019); De Pauw, Hudders &amp; Cauberghe (2018); De Pauw, Cauberghe &amp; Hudders (2019); De Pauw, De Wolf, Hudders &amp; Cauberghe (2018); Pámies, Ryan &amp; Valverde (2016); Pámies, Ryan &amp; Valverde (2016); Del Moral Perez, Villalustre Martinez &amp; del Rosario Neira Pireiro (2016): Falcon, Diaz-Aguado &amp; Nunez (2016); Feijoo &amp; Sádaba (2020); Feijoo, Bugueno, Sádaba &amp;, García-González (2021); Folkvord, Lupiáñez-Villanueva, Codagnone, Bogliacino, Veltrì &amp; Gaskell (2017); Gómez, Brunner, Ocaña &amp; Estables (2016); Herrewijn, De Jans, Hudders &amp; Cauberghe (2021); Hoek, Rozendaal, van Schie &amp; Buijzen (2020); Hoek, Rozendaal, van Schie &amp; Buijzen (2021); Hudders &amp; Cauberghe (2018); Hudders, Cauberghe &amp; Panic (2016); Hudders, De Pauw, Cauberghe, Panic, Zarouali &amp; Rozendaal (2017); Hoek, Rozendaal, van Schie &amp; Buijzen (2021); Hudders &amp; Cauberghe (2018); Hudders, Cauberghe &amp; Panic (2016) Hudders, De Pauw, Cauberghe, Panic, Zarouali &amp; Rozendaal (2017); Hwang, Yum &amp; Jeong (2018), Jihea Ahn (2021) Kennedy, Jones &amp; Williams (2019); Lai Yeung (2010); Lapière (2016); Lapière (2019); Lawlor, Dunne &amp; Rowley (2016)</td>
<td>78</td>
</tr>
</tbody>
</table>

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\(^1\) Article originally published in 1990 and retrieved online by the magazine in 2015.

\(^2\) It should be noted that some articles were classified in more than one subject area, so the total number of articles does not correspond to the sample analysed.
| Influence of food advertising | Austin, Austin, French & Cohen (2018); Beaufort (2018) Chang, Schulz, Schirato & Hall (2018); Coates, Hardman, Halford, Christiansen & Boyland (2019); Coates, Hardman, Halford, Christiansen & Boyland (2020); Ferguson, Fiese, Nelson & Gardner (2019); Folkvord, Lupiañez-Villanueva, Codagnone, Bogliacino, Veltri & Gaskell (2017); Ha, Killian, Bruce, Lim & Bruce (2018); Ha, Killian, Davis, Lim, Bruce, Sotos, Nelson & Bruce (2020); Ha, Killian, Davis, Lim, Bruce, Sotos, Nelson & Bruce (2020a); Liao, Lai, Chang & Lee (2016); Mas Manchon, Rodriguez Bravo, Montoya Vilar, Morales Morante, Lopes & Salgado (2016); Mehta, Coveney, Ward, Magarey, Spurrier & Udell (2010); Nelson, Atkinson, Rademacher, & Ahn, R. (2017); Nelson, Powell, Ferguson & Tian (2020); Núñez Gómez, Higuera Brunner, Lamelas Ocana & José Estables (2016); Núñez-Gómez; Sánchez-Herrera & Pintado-Blanco (2020); Opree, Petrova & Rozendaal (2020); Panic, Cauberghe & De Pelsmacker (2013) Pilgrim, H. & Bohnet-Joschkko, S (2022); Rageliene & Gronhjø (2021); Robayo-Pinzón, Rojas-Berrio, Núñez-Gómez, Miguélez-Juan & García-Béjar (2021); Rozendaal & Figner (2020) Rozendaal, Buijs & van Reijmersdal (2016); Rozendaal, Buijzen & Valkenburg (2008); Rozendaal, Lapierre, van Reijmersdal & Buijzen (2011); Rozendaal, Opree & Buijzen (2016), Sádaba & Feijoo (2022); Sekarasih, Scharrer, Olson, Onut & Lanthorn (2018); Spielvogel & Terlutter (2013); Spielvogel, Naderer & Matthes (2020); Stanley & Lawson (2020); Su & Tong (2020) Trehan (2017); van Reijmersdal, Rozendaal, Hudders; Vanwesenbeeck, Cauberghe & van Berlo (2020); Vanwesenbeeck, Hudders & Ponnet (2020); Vanwesenbeeck, Ponnet & Walrave (2017); Vanwesenbeeck, Walrave & Ponnet (2016) Vanwesenbeeck, Walrave & Ponnet (2015); Verdoordt (2019) Vijayalakshmi, Lin & Lacznia (2020); Waiguny, Nelson & Turlutter (2014); Walsh, Sekarasih & Scharrer (2014); Wang & Mizerski (2019); Young (1990) Zarouali, de Pauw, Ponnet, Walrave, Poels, Cauberghe & Hudders (2019) Zarouali, Poels, Ponnet & Walrave (2021); Zarouali, Verdoordt, Walrave, Poels, Ponnet & Lievens (2020); Zarouali, Walrave, Poels, Ponnet & Vanwesenbeeck (2016); Zimmermann, Noll, Graesser, Hugger, Braun, Nowak & Kaspar (2020) |
| Influencer and influencer marketing | Boerman & van Reijmersdal (2020); Chan (2021); Coates, Hardman, Halford, Christiansen & Boyland (2019); Coates, Hardman, Halford, Christiansen & Boyland (2020); De Jans & Hudders (2020); De Jans, Cauberghe & Hudders (2018) De Veirman, Hudders, & Nelson (2019) Hock, Rozendaal, van Schie, van Reijmersdal & Buijzen (2020); Jihea Ahn (2021); Pilgrim, H. & Bohnet-Joschkko, S (2022) Sádaba & Feijoo (2022); van Dam & van Reijmersdal (2019); van Reijmersdal & van Dam (2020) |
Purchasing decisions | Beaufort (2018); Hudders, Cauberghe & Panic (2016); Panic, Cauberghe & De Pelsmacker (2013); Vanwesenbeeck, Ponnet & Walrave (2017); Vanwesenbeeck, Walrave & Ponnet (2016); Opree, Petrova & Rozendaal (2020); Vijayalakshmi, Lin & Lacziak (2020); Lapierre (2016); Ha, Killian, Davis, Lim, Bruce, Sotos, Nelson & Bruce (2020a); del Mar Pàmies, Ryan & Valverde (2016); Nunez-Gomez, Sanchez-Herrera & Pintado-Blanco (2020); Lapierre (2019) | 14


Privacidad | Desimpelaere, Hudders & Van de Sompel (2020); Desimpelaere, Hudders & Van de Sompel (2021); Zarouali, Poels, Ponnet & Walrave (2021); Zarouali, Verdoodt, Walrave, Poels, Ponnet & Lievens (2020); Verdoodt (2019) | 5

Source: Own elaboration

• Advertising literacy programs and minors and new formats (cope with advertising)

How do minors process advertising? Do literacy programs allow them to have a better knowledge of the techniques used? Do they allow them to process the persuasive message? These are the main questions addressed by studies that address this line of research fundamentally through experiments based on exposing minors to literacy programs demonstrating their effectiveness in empowering them as consumers (Pàmies et al., 2016).

Likewise, although De Jans et al. (2017b) found in their review of the literature on advertising and minors the lack of studies appealing to new formats, the truth is that since five years later it has moved to the study of this type of advertising, a reality to which precisely these authors have contributed.

Thus, the sample of these articles includes advertisements in formats that combine information and entertainment such as product placement (De Jans et al., 2017b), brand placement (De Pauw et al., 2018), advergames (De Jans et al., 2019) as well as banners (De Jans et al., 2020) or interactive ads in social networks (De Pauw et al., 2018).

• Influence of food advertising

Just as research on advertising aimed at minors has focused on the food industry (De Jans, 2017b; Castelló-Martínez & Tur-Viñes, 2021), the review on works on advertising literacy and minors have also focused on food advertisements in the face of concerns about childhood obesity (17 articles).

In this case, two main analyzed medias are distinguished. The television line such as the studies by Ha (2018, 2020a, 2020b), or the digital one in which several media are analyzed, highlighting once again YouTube with studies such as those by Coates et al., (2019, 2020) who point to the need to reduce the exposure of minors to advertising of products and beverages with high concentration of sugar, salt and fat. This makes it necessary to promote the critical competence of minors, who do not have the ability to process persuasive content on such an important topic as health.

• Influencer and influencer marketing

The growing interest in studying influencer marketing and influencers has been transferred to the persuasive knowledge of minors. Thus, there are several articles in the sample (13) that already address...
the advertising literacy of minors with respect to these digital prescribers. An influencer is a person who has many followers and has an impact within the digital community (Riccio et al., 2022). Thus, influencers have aroused enormous social concern about the content consumed by minors and the overexposure to networks and the consequences that this is beginning to have. However, as De Veirman et al. (2019) point out, it is not clear how minors can be empowered to critically confront this new form of persuasion.

In this regard, the media that has been most analyzed are vlogs and YouTube, where the transparency of sponsored content is of concern as it is considered that it is not always clear when a video contains advertising (Chan, 2021). Thus, the study by Boerman and van Reijmersdal (2020), who found that the correct signaling of advertising can be an effective tool to achieve transparency, but also influences the results of influencer marketing, stands out.

- **Purchasing decisions**

In this area we also find comparative studies on the ability of digital and television media to influence purchasing decisions, with brands advertised in advergames being the most requested by minors compared to traditional ads (Hudders et al., 2016; Panic et al., 2013). Thus, advertising literacy mediates these effects (Opree et al., 2020). Studies such as Vanwesenbeeck et al. (2017) or Vanwesenbeeck et al. (2016) focused on social networks and found that the minors who are trained in advertising literacy have more capabilities to assess the intentions of brands and therefore a better predisposition towards them.

- **Advertising identification**

As we have seen in the case of influence marketing and privacy, research on advertising literacy of minors’ bets on the need to improve the identification processes of persuasive messages. A concern that includes the digital medium but also the television medium with common formats such as product and brand placement. Thus, eight articles have been classified on this specific topic. Highlighting those of Waiguny et al. (2014); Nelson et al. (2017) and Vanwesenbeeck et al. (2020) by comparing the two media. Research such as that of An et al. (2014) applied to video games has shown that advertising literacy programs allow minors to recognize the advertisements present in this support.

- **Privacy**

A small group of researchers have been concerned about the privacy of minors in relation to digital advertising. In the case of Desimpelaere et al. (2020, 2021), they advocate the need for data protection literacy. Thus, through an experiment carried out among minors aged 9 and 13, they show how educating minors about the commercial value of their data and the risks involved improves their understanding of this type of practices while generating a negative response to brands. Education in that matter is key considering that more literate minors find data practices fairer when a reward is provided, which in turn leads to greater data disclosure. On the other hand, Zarouali et al. (2020, 2021) have focused on social networks, proposing the creation of identifying tags for advertising on social networks to help improve the privacy of minors.

### 4. Conclusions

This research extends and updates the study by De Jans et al. (2017b) on research on advertising and minors in the last decade, based on the need to address the critical capacity of this group to discern persuasive content. Thus, the study, in addition to including articles published up to May 2022 and including papers indexed in two of the main databases (Scopus and WOS), focuses specifically on advertising literacy.
Thus, it is seen how 2020 saw the highest number of articles published on this line of research with a total of 24 papers. Only three authors (Hudders, Cauberghe and Rozendaal) published a dozen researches on this topic, with the study concentrating on Belgian and Dutch researchers. Finally, regarding the main trends in this field, the publications are in the field of Communication and Marketing, areas related to Advertising, but also from Psychology in which the aim is to know and study in depth the effects of commercial messages. Thus, the journals in which most have been published are Journal of Advertising (11 articles), Frontiers in Psychology (8) and International Journal of Advertising (7). In short, the field of study is concentrated in a few authors and journals, and advertising literacy is linked to the field of psychology.

In relation to the main research elements, the use of a quantitative methodology predominates (55.23%) as opposed to qualitative (36.19%) and with a few articles incorporating both approaches (8.57%), based mainly on the survey present in 34.28% of the research, as well as on the experiment, but in a lower number of occasions (12%). The analysis incorporates in a greater number of occasions the digital media (46.66%) to which the main researchers in the area have contributed by studying formats that combine information and entertainment and carried out, as mentioned, in Belgium and the Netherlands.

Thus, the study shows the need to take into consideration the following issues in future research on advertising literacy and minors.

- **Study of other advertising formats**
  A line of studies on TV, or television and digital (comparing media such as Hudders et al. (2016), which has given way to new online formats such as advergames, vlogs or YouTube. However, the advertising sector is changing and therefore new formats and tools that are successful among young people must be taken into account. Thus, there is a lack of studies on WhatsApp, Tik Tok or Instagram, social networks most used, for example, by the Alpha Generation in Spain (IAB Spain & Elogia, 2022).

- **Research focusing on the mobile device**
  Although many of the digital formats analyzed are viewed via cell phones, there are hardly any studies that specifically address this screen (we find in the study by Feijoo & Sádaba, 2020). Undoubtedly, cell phone consumption and the purposes of its use are issues of great interest to be addressed from the advertising literacy of minors, considering that in countries like Spain, the cell phone is the main device for accessing social networks (IAB Spain & Elogia, 2022).

- **Design of literacy programs with the advertising industry**
  Literacy tools that help minors need not be a drawback for the industry. Daems et al. (2019) demonstrated that when awareness of sales intent is triggered, the minor can perceive the presence of branded information, understands the persuasive and commercial purpose behind the ad, and considers this presence as natural and necessary. This has a positive impact on the advertiser.

  Scientific production includes in its research the school (e.g. Adams et al., 2017 or Pámies et al., 2016) or parents (such as Lapierrre, 2019) but an absence of industry and studies on other audiences of interest such as industry is detected. Thus, Daems et al. (2019) have provided the industry's point of view on how to advance advertising literacy. They also consider that, from the age of 12, minors recognize new advertising formats. Thus, it would be ethical to use this type of advertisements among this group. From their point of view, the development of advertising literacy is a combination of laws, self-regulation, as well as governmental and educational campaigns to raise awareness and develop on this matter.
Therefore, one of the main challenges, especially in formats that combine information and entertainment aimed at minors, is not only to identify advertising, but also to provide minors with the ability to identify commercial intent (Feijoo & Fernández-Gómez, 2021). Hence, literacy programs should work hand in hand with the different agents involved, among them, the advertising industry (Feijoo & Fernández-Gómez, 2021).

- Studies that allow to know the reality of different countries

Taking into account that few authors lead the research on advertising literacy and minors (Hudders, Cauberghe, Rozendaal, De Jans, Nelson among others) and that they investigate the Belgian or Dutch society, the need arises to know how minors in other countries, both inside and outside Europe, deal with the advertising they receive through different devices and in different formats.

- Studies on the preschool group

The review carried out shows the scarcity of studies on the preschool population, with a predominance of the school group up to the age of 12-13 years and adolescents up to 16 years. Despite their young age, children from 4 to 5 years old already have an adequate understanding of advertising, but lack a critical attitude (Vanwesenbeeck et al., 2020) so the role of parents is essential (Nelson et al., 2017). New research that considers this population is necessary in order to increase their critical capacity.

- Mixed research methodology

As can be seen from the results, only 8.57% of the works analyzed used a mixed approach. The use of a qualitative and quantitative methodology that combines a survey, experiment or in-depth interview, among others, can help to fill the gaps that still exist in terms of advertising literacy and advertising literacy for children and adolescents.

5. References


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