
Special Issue Nr. 43: Advertising Literacy. How Can Children and Adolescents Deal with Persuasive Messages in a Complex Media Environment?

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‘This might be advertising’

Perception, Understanding and Handling of Online Advertising by Children

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Abstract

Advertising is ubiquitous in children’s everyday life – and on the Internet. The manifestations of online advertising are not only diverse but also very dynamic, increasingly personalized and therefore challenging for young online users in multiple respects. The headline of this article directly addresses the problem, namely that the definition and operationalization of ‘online advertising’ in itself are crucial. From the perspectives of both a legislative view and media education, the central question arises whether children are able to identify online advertising as such and to understand its intention. A basic understanding of advertising and reliable labelling of advertising material is seen as fundamental requirements for children to identify advertising as such and to be able to handle it appropriately and competently. Concerning the question of advertising literacy, we present findings of an interdisciplinary study in which we investigate the concept of online advertising of primary school age and how they deal with advertising online. The results show how challenging online advertising is for children and at which points they have difficulties in transferring their concept of advertising to online content. Against the background of the study, we discuss the idea of advertising literacy and the methodological challenges about current and future forms of online advertising and persuasive messages.

«Das könnte Werbung sein». Wahrnehmung, Verständnis und Umgang mit Onlinewerbung durch Kinder

Zusammenfassung

Werbung ist im Alltag der Kinder allgegenwärtig – so auch im Internet. Die Erscheinungsformen der Online-Werbung sind nicht nur vielfältig, sondern auch sehr dynamisch, zunehmend personalisiert und entsprechend herausfordernd für junge Online-Nutzerinnen und -Nutzer. Mit der Überschrift dieses Aufsatzes ist unmittelbar die Problematik angesprochen, nämlich, dass bereits die Definition und Operationalisierung von «Onlinewerbung» ein kritisches Moment darstellt. Sowohl aus rechtlicher als auch aus medienpädagogischer Sicht stellt sich die Frage, ob Kinder in der Lage sind, Online-Werbung als solche zu erkennen und ihre Intention zu verstehen. Ein grundlegendes Verständnis von Werbung und eine zuverlässige Kennzeichnung von Werbemitteln werden als Grundvoraussetzung

dafür gesehen, dass Kinder Werbung als solche erkennen und angemessen und kompetent damit umgehen können. Im vorliegenden Beitrag stellen wir Ergebnisse einer interdisziplinären Studie vor, in der untersucht wurde, welches Werbeverständnis Kinder im Grundschulalter haben und wie sie Werbung im Internet begegnen. Die Ergebnisse zeigen, wie herausfordernd Online-Werbung für Kinder ist und an welchen Stellen sie Schwierigkeiten haben, ihr Werbekonzept auf Online-Inhalte zu übertragen. Vor dem Hintergrund der Studie diskutieren wir das Konzept der Werbekompetenz sowie die methodischen Herausforderungen im Hinblick auf aktuelle und künftige Formen der Online-Werbung und persuasiver Kommunikation.

1. Introduction

Advertising is ubiquitous in children's everyday life – and on the Internet. Online advertising can take many forms, such as banners, insertions on websites, as well as brand placements in movies or games (Radesky et al. 2020). Advertising usually does not occur sporadically, but rather frequently, and in part simultaneously (Hudders et al. 2017). Sometimes it can be skipped or clicked away; in other cases, it is inescapable and sometimes inhibits action. The manifestations are not only diverse but also very dynamic, increasingly personalized, and therefore present online users with a multitude of challenges (Hudders et al. 2017; Iske and Wilde 2017; Radesky et al. 2020; Zarouali et al. 2018). As a consequence, when children use online media, they have to process a lot of information simultaneously and thus, they need to differentiate, e.g., between commercial and non-commercial messages (Hudders et al. 2017). A critical reflection of commercial messages is even more challenging as they are often embedded in entertaining contexts (e.g., games) on which children's attention is focused (Hudders et al. 2017; Zarouali et al. 2019). Accordingly, the demands on children's advertising literacy are immense and online forms of advertising thus require a much higher orientational knowledge and reflectivity than traditional forms of advertising (e.g., in print or on television).

From the perspectives of both law and media education, the central question arises whether children are able to identify different forms of online advertising and to understand the intention of these messages. Even if there are different definitions and concepts of advertising literacy (Zarouali et al. 2018), a basic understanding of advertising and reliable labelling of advertising material is seen as fundamental requirements for children to identify advertising and to be able to deal with it adequately. Developments such as native advertising and influencer marketing, where advertising and editorial content are becoming increasingly blurred, pose further challenges for users. One question that arises is the extent to which the traditional understanding of advertising literacy “as the skills of analyzing, evaluating and

creating persuasive messages across a variety of contexts and media (Young 2003)” (Livingstone and Helsper 2006) still holds or needs to be expanded, e.g. concerning performative and attitudinal aspects (Hudders et al. 2017; Rozendaal 2011; Zarouali et al. 2018).

Already very young users are seen as relevant consumers (Buckingham 2011; Zarouali et al. 2019) and are therefore increasingly being confronted with advertising online, e.g. on journalistic-editorial websites, on pages of commercial or non-commercial providers as well as in videos or games (Radesky et al. 2020; Zarouali et al. 2019). Even if websites of public or non-profit institutions with media educational concerns or of private individuals are generally free of advertising, it is the website or service of commercial providers which dominate the usage habits of younger people (Berg 2019; Medienpädagogischer Forschungsverbund Südwest 2019). Consequently, they do not use only access child-appropriate, but also sites addressed to adolescents and/or adults and are therefore often confronted with challenging kinds of (commercial) content. The classification of online content is demanding in several respects: Children have to identify the communicative context of a website (e.g. children’s page, product page) and its intention (e.g. information, entertainment, persuasion) to classify different elements on a website accordingly. This classification is made more difficult by a high dynamic and the simultaneous appearance of various elements on one page. To be able to identify advertising reliably, children need to understand and know about websites with different intentions that address the user and thus themselves in various roles (e.g., as a consumer, an influencer of family purchasing decisions, an opinion leader, etc.). Besides, they need not only disclosures for advertising but specific characteristics or criteria by which they can identify websites (and website elements) with different intentions. The multitude of possible forms of advertising, the frequently changing and sometimes very short-term offers require the child to continually update, expand and adapt cognitive schemata and performance strategies. Because of increasing personalization strategies, users also need to understand how the display of advertising functions technically and which kind of (short and long-term) effects their own online actions have, e.g., on the on-screen advertising display or their consumer behavior.

2. Children and Online Advertising – Research Overview

In past research, studies on children and (online) advertising have often focused on the questions of whether children recognize advertising as such or whether they understand the persuasive intent of advertising (Aufenanger et al. 2008; Landeszentrale für Medien und Kommunikation Rheinland-Pfalz 2014; Schulze 2013). Concerning the cognitive requirements, the findings show that children from the age of five are able to recognize (certain) forms of advertising (Moore 2004; Zarouali et al. 2018). From

around eight years of age, the majority of children know that it is commercial communication. At eleven to twelve years, they have the cognitive prerequisites to understand the compelling character (Landeszentrale für Medien und Kommunikation Rheinland-Pfalz 2014; Livingstone and Helsper 2006; Radesky et al. 2020; Zarouali et al. 2018). However, this age-related differentiation is only an approximate orientation, as the competencies are also related to both the particular advertising requirements children are confronted with (John 1999) and accordingly the online context and product experiences they make (Moore 2004).

Also, the mere existence of the cognitive prerequisites does not mean that they are actually used (Hudders et al. 2017; Moore 2004) or that children are always able to recognize advertising as such. Especially forms like “camouflaged advertising” (Landeszentrale für Medien und Kommunikation Rheinland-Pfalz 2014) or native advertising are quite challenging to identify, not only for children (Landeszentrale für Medien und Kommunikation Rheinland-Pfalz 2014). Furthermore, recognition alone does not mean that children understand the commercial and persuasive intent of advertising (Andronikidis and Lambrianidou 2010; Roedder John 1999) or that they are immune to these advertising effects (Zarouali et al. 2018). Livingstone and Helsper (2006), as well as Schulze (2013), emphasize that also general media literacy is a relevant factor influencing the understanding of advertising. Based on existing studies, Livingstone and Helsper (2006) conclude, that children of all ages are more or less influenced by advertising, but that there are differences in the advertising features (e.g. celebrities, jingles, features of a product) that appeal to them.

At the time the study was carried out, only a few studies had considered the broad spectrum of online-specific forms of advertising (Aufenanger et al. 2008; Landeszentrale für Medien und Kommunikation Rheinland-Pfalz 2014; Schulze 2013). The findings showed which specific forms of advertising children are more likely to recognize and with which types they sometimes have problems. Besides, the studies indicate that models of advertising literacy, such as those developed and examined in various studies on television advertising (Aufenanger and Neuß 1999; Aufenanger et al. 1995), do not apply to online communication and forms of online advertising, as online advertising demands more complex cognitive skills from children (Schulze 2013).

Meanwhile, there are quite some adequate theoretical approaches and measurements on how children cope with contemporary, mostly embedded advertising formats directed at them. For example, Hudders et al. (2017) refer to a theoretically grounded conceptual framework, regarding automatic affect transfer mechanisms and coping skills such as dispositional and situational advertising literacy. Heterogeneous results on children’s advertising literacy are caused by different frames of references (e.g., TV programmes, websites, video games, influencer marketing) and measurements such as individual interviews, small focus groups and inclusion of proxy respondents (mainly studies with a focus on dispositional advertising literacy)

or standardized visual self-reports and interactive game-playing methods (Zarouali et al. 2018). So far, there have only been few studies that investigate how children perceive and cope with current, more native forms of advertising (e.g. de Pauw 2018).

The study presented here is a further attempt to look at the totality of all available online advertising forms and to examine how children of primary school age – an age at which advertising skills are not yet fully developed – meet these challenges. The study is part of a broader project on children and online advertising that also provided a content analysis of 100 favorite websites of children and a comprehensive presentation of the regulatory framework (Dreyer, Lampert, and Schulze 2014). In this article, we focus on the children’s advertising reception and present partial results of our study. Specifically, we focus on the following research questions: How do children deal with different forms of online advertising, what challenges do they have in dealing with these and what are relevant factors on which the handling of online advertising depends?

3. Theoretical Approach

The theoretical approach of our whole study combines legal and educational approaches. From normative goals concerning the developmental stages of the child and child-specific advertising competence, it is based on constitutional protection obligations that focus on personal rights and the protection of minors, consumer protection and data protection policy. This concept includes ensuring autonomy of action, informational self-determination and social competence. These objectives that should allow a literate media usage and correspond with common definitions of advertising literacy, defined as the ability to recognize, understand and critically reflect upon advertising at the moment of exposure (e.g., de Pauw 2018, with reference to Friestad and Wright 1994). These goals have been broken down into sub-goals (see Table 1).

Autonomy of action	Recognition of advertising
	Understanding the intention
	Reflective conduct (incl. the ability to withstand persuasion and pressure)
Individual self-determination	Self-awareness of the passive acquisition of data
	Awareness of the active data input
Social competence	Placidity
	Social interaction
	Respect
	Sexual-ethical orientation

Tab. 1.: Key goals concerning child development and advertising.

Not only for our research, the definition and operationalization of online advertising in itself are crucial. It is essential to decide whether a broad or narrow, economic, legal or subjective notion of advertising is being used. As the boundaries between commercial and non-commercial communication are increasingly blurring a definition that is too narrow corresponds neither to the user experience nor does it appear to be useful, e.g. in the context of content analysis. By contrast, a description that is too broad makes it impossible to distinguish between advertising and other content. To adequately capture the subject matter, we, therefore, chose an interpretation of advertising, which takes into account both examples that can be clearly identified as advertising and those that can be assumed to have a persuasive intention.¹

Due to increasingly personalized online communication, we also had to consider to what extent the study conditions and methodological decisions (e.g. combination of browser-related settings, search histories and the interactive user input) affect the results or have an influence on displayed advertising content. Besides, we also had to consider that websites often change their structure and even the embedding of advertising at short intervals. These specific challenges were relevant for the reception study presented here. The focus of our research was therefore on the question of how children deal with specific forms of advertising that are individually tailored to the context of use when they are online.

All challenges, mainly posed by the dynamic and multimodal subject matter, rose the question of how we could obtain comparability, reliability and validity, and at the same time take into account children's online practices.

4. Design of the Reception Study

In this text, we reflect selected findings of our reception study against the background of both current studies on advertising literacy and developments in online commercial communication.

In the following, we mainly refer to the findings of a quantitative and qualitative reception analysis with children aged six to eleven (Table 2). Data of the standardized parent surveys, peer-group and teacher interviews provide further information on advertising socialization and education. The different methodological approaches allow different perspectives and degrees of depth regarding the topic. While the representative survey offers an overview of frequencies and distributions of general advertising recognition features, the qualitative reception study allows a look into the handling of advertising in the specific individual case. Individual quotations reflect the children's point of view but only have an illustrative character.

¹ This approach served to broaden the view to potentially commercial forms of online communication but was not subject to the legal assessment.

Quantitative Reception Analysis	Qualitative Reception Analysis
<p>Survey on advertising perception and recognition Individual interviews with children aged 6-11, including information from a parent or guardian (n=633) Subjects</p> <ul style="list-style-type: none"> - Internet usage in general - Observation situation - Advertising on selected websites - General understanding of advertising - Communication about advertising at home and in school 	<p>Participating observations and interviews</p> <ul style="list-style-type: none"> - Standardized parent survey (n=100) - Group interviews/class discussions on the relevance of advertising and brands/products within the peer group (n=6) - Teacher interviews as contextual information on the importance of (online) advertising in schools (n=4)

Tab. 1.: Design of the reception studies

The representative survey was carried out between 11.11.2013 and 08.12.2013 as a CAPI survey with a total of 633 children between six and eleven years and their primary legal guardians.² The average age of the children surveyed is 8.5 years. 51 per cent of the children surveyed are girls, 49 per cent are boys. The questionnaire included questions on general Internet use, on advertising in general (e.g. knowledge of the term, experience with advertising) and online advertising (perception and characteristics of online advertising; identifiers). To survey child-appropriate, we further used screenshots of four selected websites, which represented different kinds of websites and were part of the media analysis. Two advertising and two non-advertising segments were marked on each of these, and the children were asked to classify these segments.

The qualitative reception study was composed of various partial surveys. The focus was on the questioning and observation of primary school children. A total of 100 children from four different primary schools and a daycare center in Hamburg and North Rhine-Westphalia took part in the study on the reception of advertising. The sample of the children participating in the study included 57 girls and 43 boys aged between six and ten years (average age: 8.7 years). Besides, we asked parents by a short questionnaire about the child's Internet equipment and use, their concerns regarding the child's online use, rules for dealing with online advertising, their view on children deal with online advertising, negative experiences with online advertising and their attitude towards online advertising. Besides, we conducted six group interviews (with seven to 18 children of the same class) and four interviews with teachers at the schools involved. The qualitative survey was conducted between September and December 2013. Consent was received from the school authorities in the respective states, the schools and the parents.

2 The population was specified for children between the ages of six and eleven who use the Internet at least occasionally. The prerequisite for participating in the interview with the six- and seven-year-olds was that they had already attended school. Furthermore, the sample was quoted with regard to the characteristics of age, gender, area and size of the town.

The large number of children recruited for the qualitative study seemed sensible and necessary to be able to draw a comprehensive picture of how children deal with advertising. The individual interviews with the elementary school students were carried out in school. In parallel, up to four children were interviewed or observed at the same time. For the survey, we used a flexible interview guideline. For the observation, we chose a selection of ten websites (out of the sample of the most favorite ones), which cover both different types of websites and gender-specific preferences. The sample included Toggo.de, lego.de, kicker.de, wasistwas.de, spielaffe.de, geolino.de, gmx.de, barbie.com, helles-koepfchen.de and youtube.com.³ The selected websites fulfilled two functions: Firstly, they served to observe the extent to which children perceive advertising on these sites. Secondly, they served as stimulus material to get into a conversation with the children about the criteria by which they recognize advertising and about their advertising concepts. Both the mouse movements and the children's comments were recorded with the software Camtasia and also as an audio file. For the analysis of the qualitative data, we used the software MaxQDA.

5. Reception of Online Advertising by 6 to 11 Years Old Children

The reception study focused on children's experiences with (online) advertising and their conceptual understanding. Furthermore, we were interested in the extent to which children of primary school age recognize online advertising on different types of websites and how they deal with it. The quantitative and qualitative findings on these topics are summarized below.

5.1 Experiences With (Online) Advertising

Primary school children have already had a variety of experiences with advertising. Specifically, they know advertising from various contexts – both offline and online. They perceive it in everyday life (e.g. advertising leaflets, offers in the supermarket or advertising pillars on their way to school) and also in traditional media. Almost all children are familiar with television advertising. In the representative survey, three-quarters of the children stated that they had seen advertising on the Internet. They use the Internet occasionally and mostly for entertainment or online research (e.g. about their hobbies or for school). If there are rules for online use, these primarily relate to agreements in terms of time and content. However, many children also mentioned that parents had advised them to avoid paid content or advertisements. Answers of the children showed that it does not always seem possible for them to

³ In the case of YouTube, we decided not to present the home page, but the result when entering "Harry Potter earwig song" to prevent the children from coming into contact with inappropriate content or being overwhelmed by content on the YouTube page.

follow the rules, e.g. when they accidentally click on advertising or when they do not understand why they should not click on it.

In our qualitative study it emerged that many children just internalized that a click on advertisements has negative consequences in any case: *“She [mother] also said, better be careful, don’t click on advertisements, who knows what might happen”* (Shirin, 7 years⁴)

5.2 Cognitive Concepts of Advertising

Almost all children (98%) stated in the representative study that they had heard the term *advertising* and know what advertising and its intent is. Only a small proportion of the children – particularly the younger ones – were unsure. Information, the offering of product purchase opportunities, and the enticement were attributions of the children mostly mentioned in the representative survey as indicators for advertising (*“[...] they show that you always know that you can buy this ...”* (Bente, 9 years old)

In our qualitative study, we found that in their own words, individual priorities and relations to the information aspect of advertising became evident. Some children also referred to the appellative character or the attention-generating function of advertising. However, not all children were able to define advertising, either because of the unfamiliarity or complexity of the subject. It also cannot be excluded that the question cognitively overstrained the children. Several children gave examples or referred to advertisements that they knew from other contexts (e.g. television). In contrast, other children described ads that they had previously identified as such during the interview.

The children surveyed qualitatively had a rather critical, but not undifferentiated attitude towards advertising. For several children, advertising was annoying, when it interrupted the current online use or even made the intended use (i.e. playing a game) impossible (*“Because it’s stupid to be distracted all the time. Because it’s always sort of, sort of swirling around and changing”*, Jette, 8 years old). Otherwise, even if advertisements are boring in terms of content, children seemed to tolerate or accept them as given (*“Yeah... then it gets annoying and then you just have to look at it and it’s annoying”*, Patrick, 8 years old). A quarter of the children rated advertising very positively, mainly if it promotes products that affect their interests.

5.3 Recognition of Online Advertising

At first glance, the children of primary school age seemed quite competent in dealing with online advertising. In the quantitative study, the children mentioned quite many criteria they use to identify advertising (see Table 3). A quarter of the children

4 The names cited here are pseudonyms. The original German quotations were translated by the authors.

said that they focus on the design and labelling (which is consistent with the findings from the qualitative study: “*You can also recognize advertising by the fact that it – because advertising usually also sometimes stands above it*”, Pia, 10 years old). One fifth was focused on price indications or their media or product experiences. Also, some children had structural knowledge, e.g. where advertising is usually placed or how to close a pop-up window.

18 per cent of the children identified all advertising segments considered in the quantitative survey. 84 per cent of the children identified more than half of the ads, 16 per cent identified less than half (none: 2%). The older the children, the more likely they were to recognize these explicit forms of advertising.

Criteria	%	Further explanation of the items
Layout/Design	27%	“... when it looks different from the rest of the page.”
Labelling	26%	“... when it is marked with ‘buy’, ‘advertisement’, ‘advertisement’ or when the price is indicated.”
Cross-media awareness	21%	“... when I know the product/brand [from other contexts].”
Price	21%	“... because sometimes there’s the price.”
Experience with the product	20%	“... because I already know the product.”
Closing option	15%	“... because there is an ‘x’ at the top right with which you can close the window.”
Structural knowledge	14%	“... because there’s always advertising at this point” (8%) “... because the advertising is always on the same place on a web page.” (6%)*

Tab. 1.: Distinction criteria (only items mentioned by more than 10%), Base: all children, n = 633; in per cent.

However, in the specific qualitative research setting, in which the children had to decide immediately in which cases advertising was involved, it became clear to what extent the children could apply their cognitive advertising concept to the visual forms of advertising (“*Mhm. Sometimes you can’t distinguish between these things*”, Marleen, 9 years old). The observation showed that children – even if they use an extensive portfolio of advertising features to assess potentially commercial content – were not able to identify all forms of advertising equally reliably (“*Now I’m not so sure if this is advertising exactly*”, Martin, 8 years old). These results might be related to the fact that the forms of advertising were not always separated clearly from the editorial content. Another explanation might be that the distinction criteria of the children did not apply. In the exercise of identifying advertisements on given web pages, we observed that the children were looking for clues that they could use to differentiate between different types of content. This strategy can lead to confusion or incorrect attributions because the children’s advertising distinction criteria sometimes also fit

with editorial content. Some children failed to recognize certain types of advertising, whereas they (mistakenly) identified editorial content as advertising.

Pop-ups and pre-rolls have often been recognized as advertising, which may be related to the fact that many children are familiar with this type from cinema or television programs. A lot of children found this type of advertising distracting, disturbing and annoying. It became clear that many, but by far not all children know how to skip or click away such advertising. However, when trying to close the pop-up during the observation session, several children accidentally ended up on other websites and did not know how to return to the previous site.

In summary, it became evident that the understanding of advertising is not only dependent on the age and cognitive development of the child. Based on the findings, we developed a multidimensional model on dealing with advertising (see Figure 1). According to this, the way children deal with online advertising depends on the portfolio of distinction criteria, the general knowledge on advertising and the ability to contextualize a website content according to the type of website (e.g., editorial versus product website). These aspects are in turn determined by the cognitive development, the overall online experience as well as the experience with specific online programs and services and finally the general media socialization, which includes both advertising and consumer socialization of children.

6. Conclusion

The results of the reception study confirm that children today face many challenges when it comes to recognizing commercial communication as such. Furthermore, the findings show that the way children deal with different forms of online advertising depends on several factors.

Dealing with online advertising is partly due to the recognition of advertisements: A more comprehensive portfolio of distinguishing features of advertising increases the probability that the advertising scheme will work in as many cases as possible. Wrong attributions can sometimes occur if the distinguishing features are transferred in a generalized and unreflected way (e.g., if all dynamic elements on a website are considered and classified as advertising).

The way children deal with advertising also depends on their understanding and conception of advertising: According to the child definition of advertising (e.g., advertising is informative, wants to seduce, is uninteresting or annoying), it attracts different attention and is evaluated differently.

Another important aspect is the contextual framing of an advertisement, e.g., whether the form of advertising itself appears in a commercial or (journalistic) editorial context. The context has an impact on user expectations, on user's evaluation

and (indirectly) on the recognizability of advertising.⁵ The qualitative reception study showed that some children were able to identify product and manufacturer websites as commercial because the entire website was framed and designed accordingly.

In turn, the recognition of advertising is determined by other factors: These include the child's cognitive development. The children interviewed in our study (6-11 years old) have the cognitive ability to take on a third-person perspective. Some children referred to this aspect in their advertising definition more than others, although no further age differences could be identified. On the other hand, the way children deal with online advertising and the development of cognitive schemes depend on which kind of website and, accordingly, which forms of advertising the children had already come into contact with. Children whose online experiences were based on only a few (mainly ad-free) websites showed a more limited advertising recognition on sites they were unfamiliar with than children who had more diverse online backgrounds. Based on their online experiences, children develop basic structural knowledge that helps to identify and also anticipate advertising (e.g., before games or at a specific place on the page, where advertising often appears). Advertising experiences are also relevant for the framing of online-content (e.g., as a game or as product information).

Finally, the overall media socialization has emerged as an essential factor (see also: Schulze 2013). This also includes aspects of advertising and consumer socialization, the attitudes of parents towards advertising, influences of parents and siblings on children's understanding of advertising, but also children's direct and indirect online experiences. Some children have seen online advertising in the context of parental online use. Others mentioned that their parents use the Internet to find out about products or to order something. Some parents were entrepreneurs themselves so that the children experienced online advertising from different perspectives. However, growing up in digitally connected and commercialized spaces does not automatically imply a critical reflection on online advertising (see also: Iske and Wilde 2017). Furthermore, our findings indicate that the parents neither gave their children any clues on how they could recognize advertising on the Internet nor explained why the children should be aware when surfing online. Consequently, some children had the relatively diffuse concept that even an accidental click can have per se negative consequences (*"Umh, yeah, because, umh, if I press the wrong button or if I accidentally press it, I think I bought something"*, Leila, 8 years old).

⁵ Hudders et al. (2017), as well as Hudders and Cauberghe (2018), make a quite similar distinction between dispositional and a "specific, situational advertising literacy that is triggered when children are exposed to a commercial message" (Hudders and Cauberghe 2018).

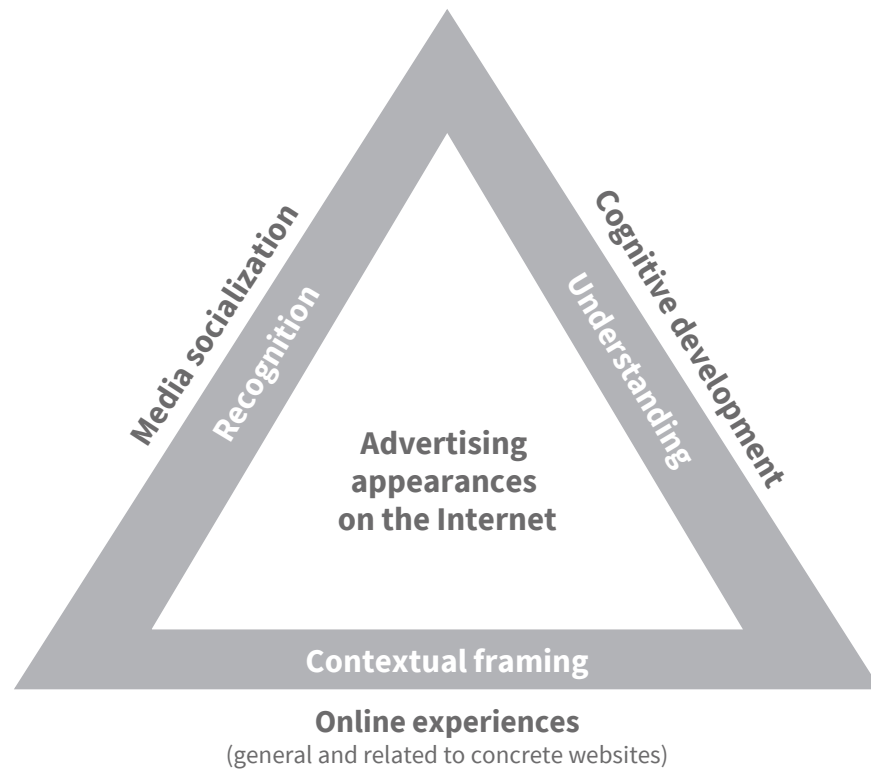


Fig. 1.: Model for dealing with advertising forms on the Internet (Dreyer, Lampert, and Schulze 2014, 328 [translated]).

Against the background of the model, different combinations of the factors are conceivable, which lead to very individual practices dealing with online advertising. The various facets of the model offer starting points for further discussions and also media education, e.g., concerning the promotion of both advertising and consumer literacy (Schlegel-Matthies 2016).

To develop reliable advertising skills, children need support from parents and teachers. Previous studies have shown that how parents deal with advertising has an influence on how brands are remembered (e.g. Hudders and Cauberghe 2018; Naderer and Matthes 2016). It also became evident that a restrictive approach to advertising stands in the way of effective consumer socialization and the development of appropriate ways of dealing with advertising. In this respect, our study showed that children often get confusing and sometimes conflicting signals from parents. On the one hand, they get parental warnings like “Don’t click on it!”; on the other hand, children observe that their parents use the Internet to inform themselves about products and to order products online. In our quantitative survey, 60 per cent of children stated that they have talked to their parents about advertising; 20 per cent of parents reported using advertising blockers, which is unfavorable when parents then

no longer communicate with their children about advertising. Since many parents also have difficulties on recognizing increasingly embedded forms of commercial communication as such, appropriate approaches are needed to improve parental advertising mediation (Hudders and Cauberghe 2018; Reijmersdal and Rozendaal 2020; Zarouali et al. 2019). Some resources for parents on children and online advertising have been developed in recent years but could be more widely disseminated and used (Bundesministerium für Familie, Senioren, Frauen und Jugend und Landesanstalt für Medien 2014; Klicksafe 2017; Radesky et al. 2020; see also Media Smart e. V. 2009). However, there is still a lack of studies investigating the effectiveness of parental mediation strategies (Hudders et al. 2017).

School is also a valuable player to foster advertising literacy (Hudders et al. 2017; Zarouali et al. 2019). But at the time of the study, online advertising was hardly an issue (at most advertising in general) and still not anchored in the curricula for primary schools in many States. Little is also even known about the effectiveness of advertising literacy programs in primary schools (Nelson 2016). Hudders et al. (2017) emphasize that future advertising literacy approaches should not only focus on the improvement of cognitive advertising literacy but also on affective and moral advertising literacy to enable children to deal better with embedded forms of advertising in particular. In this context, schools are also required to develop concepts that can be applied to newer and upcoming forms of (embedded) advertising (Reijmersdal and Rozendaal 2020).

Within our study, we also had to deal with the challenges and effects of tracking and profiling strategies, which we could only consider marginally since we were focusing on the online content. Given the increasing spread of personalized advertising, such techniques have to be considered even more in future studies. Parents also should be informed about these forms of commercial communication practices and possibilities to prevent negative consequences such as advertising with age-inappropriate content based on parents' profile data (Radesky et al. 2020). Setting up a separate profile for the child could be one useful and helpful option in this context. But Radesky et al. (2020, 4) also pointed to "measures in place in children's digital media environments to protect their needs".

7. Limitations and Further Research

Although the findings are consistent with results from other studies and have contributed to the development of the model shown above, some limitations should be mentioned. First of all, it is essential to note that in the study focusing on the recognizability of online advertisements, we only considered one facet of advertising literacy, which according to Hudders et al. (2017), can be assigned to the dimension of cognitive advertising literacy. Other dimensions, such as moral and attitudinal

advertising literacy played a subordinate role. On the one hand, this is because we oriented our design according to studies available at the time the study was planned, which were more grounded in communication science and pedagogy than psychology. On the other hand, of course, the funding by a State Media Authority and Ministry Family Affairs also influences the alignment of the study already through the call for applications, which in our case is reflected in a common concept of media literacy based on legal and educational perspectives. Moreover, the project period (2012-2014) must also be mentioned as a limitation. In the last years, the online forms of advertising with which children come into contact have become enormously differentiated. Nowadays, children are confronted with even more complex requirements (e.g., personalized forms of advertising, influencer marketing), which make it difficult for them to identify forms of commercial communication reliably. Future studies will have to take these changes and challenges into account.

Nevertheless, we see in our findings important indications for central and necessary skills of primary school children in dealing with forms of advertising they are confronted within the context of their online use. Furthermore, our approach to be as close as possible to the children's real online use also enabled us to take into account both the dispositional and the situational aspects of advertising literacy (Hudders et al. 2017), which – in addition to general aspects of socialization – have proven to be relevant in our model.

From a research perspective, we believe that due to personalization techniques, it will be more challenging in the future (methodologically) to conduct a comprehensive and comparative study on advertising perception and impact, which also covers children's online usage practices. As suggested by, e.g., Zarouli et al. (2018), qualitative research methods may be particularly suitable to explore more deeply how children cope with the respective complexity of advertising. Besides, future research projects should also consider the influence of advertising literacy, e.g., on consumer preferences and behavior (Dam and Reijmersdal 2019; Zarouali et al. 2019).

Finally, future discussions and research on advertising literacy have to consider both the changing media landscape and online usage of children (especially with regard to Instagram, YouTube, TikTok, and future social media services) as well as current and upcoming challenges about commercial communication like advertising in apps and mobile games, influencer marketing on social media and other forms of native, hybrid or embedded advertising (Reijmersdal and Rozendaal 2020; Zarouali et al. 2019). These changes pose significant new challenges not only for advertising and media education but also for advertising regulation and research.

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