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When mobile advertising is interesting: interaction of minors with ads and influencers' sponsored content on social media

Abstract

Social ads, along with apps, display and geolocation are the most used actions in the context of mobile marketing. Adolescents are also identified as the main target audience for mobile marketing because they are very active users, they have a sound command of technology and their role as prescribers, especially in social networks. For this reason, the interaction between advertising on social networks among minors (10–14 years) was studied, differentiating between those standard format ads and those commercial content published by influencers. To this avail, more than 2,400 ads were analyzed after monitoring for a week the commonly used device of a sample of minors from the Metropolitan Area of Santiago de Chile. Standard formats, despite being the most used, they hardly generated interaction, unlike commercial content by influencers, which achieved a higher level of interaction (visual and click interaction), although they were less employed. These results open the door to question the advertising management of a digital space which was created for dialogue such as social networks, in which advertisers prioritize selling products and services.

Keywords

Mobile phone, advertisement, social networks, influencers,

interaction.

1. Introduction

Minors' familiarity with digital environment is beyond question. The fact that mobile phones are minors' main access route, and the digital environment is the main media on which minors satisfy their social and entertainment needs has been widely studied (Garmendia *et al.*, 2016; Garmendia *et al.*, 2019; Mascheroni & Olafsson, 2014). The content on social networks and, as part of it, that generated by influencers, has particularly attracted minors. Advertising is always present in both celebrities' social networks and their public statements, which rises questions regarding possible implications derived from the intense relationship that is established between minor audiences and corporate commercial brands (Feijoo & Sádaba, 2021; Núñez-Gómez, Sánchez-Herrera & Pintado-Blanco, 2020; Tur-Viñes, Núñez-Gómez & Martínez-Pastor, 2019). This relationship becomes of utmost importance when two additional factors are taken into account: the ability this age group has to influence domestic purchases and their own as prospective direct consumers, which turns them into a target for brands (Ekström, 2007; McNeal, 1992). Thus, as the *Kaspersky Lab* 2018–19 reported, the percentage of

minors who visit online sales platforms increases yearly and in 2019, 14.18% of the website's hits came from children and teenagers. The fact that brands mainly use social networks to sell products and services is also revealing (IAB Spain, 2021).

This study seeks to shed light on how minors relate to the advertising content to which they are exposed on social networks, and focuses on conventional ads and those inserted in influencers' public statements. Additionally, digital media provide ways for minors to interact with content, a feature that is of great interest to advertisers, but which also raises questions about the impact on minors' brand knowledge and bond establishment (Tur-Viñes, Núñez-Gómez & González-Río, 2018).

The results presented here aim to reach beyond brands interests; the goal is to take the opportunity to reflect on the need to have advertising and media literacy programs designed to fit today's minors' content consumption patterns.

This study was conducted in Chile, a particularly interesting case study given this country's level of internet access and consumption through mobile phones. Approximately 85% of the population is connected, which is within the range of other OECD countries (Subtel, 2021). In Chile, internet is mainly accessed through mobile phones (84.2%) (Subtel, 2021), and 92% of children and teenagers have a smartphone (Cabello *et al.*, 2020). Socioeconomic differences in terms of technology and location (urban or rural) are present; however, mobile phone penetration is socially uniform (Cabello *et al.*, 2018; Feijoo, Fernández-Gómez & Sádaba, 2021).

Chilean connectivity features themselves highlight the relevance of this project which may shed light on the level of interaction between minors and both traditional advertisements and content generated by influencers, as well as on the content minors are exposed to on social networks and through their mobile phones.

2. Minors and advertising in the mobile context

The first scientific research project on children and the media dates back to the 1930s and was conducted in the United States (Wartella & Reeves, 1985; Singer & Singer, 2012). At that time researchers were interested in the relationship between children and cinema and radio. In the 1950s, interest shifted towards television, and in 1990s, with the emergence and development of ICT, this research field saw its most significant growth (Livingstone & Bovill, 1999). In the advertising field, as pointed out by De Jans *et al.* (2017), last decade's research mostly focused on food advertising and its effects (Castelló-Martínez & Tur-Viñes, 2021; Fernández-Gómez & Díaz del Campo, 2014; González-Díaz, 2014; Tur-Viñes & Castelló-Martínez, 2021). Little attention was paid to new formats, such as native or mobile advertising, as most research focused on television. As a consequence of the possible risks that advertising may have on this age group, some countries have adopted drastic measures, such as the prohibition of advertisements addressed to children, as is the case in Norway, or the enforcement of strict codes, such as the Child-Directed Food Advertising Self-Regulation (aka PAOS) in Spain which is applicable to food products advertising. This does not prevent minors in Western societies from growing up surrounded by brands and advertisements (John, 1999; Ji, 2002; López & Rodríguez, 2018).

Longitudinal studies have shown that early on child-brand contacts reflect on adult consumption habits (Guest, 1964), more so when children develop affective ties with brands (Ji, 2002). For this reason, it is worth paying special attention to some of the strategies developed by companies to address minors in the digital environment, which seek to create positive experiences using hybrid content (entertainment or information and advertising) with a high social component. These positive experiences may help create memories with long-term implications on future brand or product preferences (De Jans & Hudders, 2020; van-Dam & van-Reijmersdal, 2019).

Given the consolidation and penetration of mobile phones in Chile (Cabello *et al.*, 2020) and worldwide (Subtel, 2021), preteens and teens are mostly exposed to the aforementioned content through this screen.

The portability, immediacy and ubiquity of mobile devices (Duffett, 2015; Wang *et al.*, 2016) stimulate individualized consumption and encourage, de facto, autonomous use, and in doing so, hinder parental mediation (Feijoo, Sádaba & Bugueño, 2020a). The research project conducted by Feijoo, Sádaba and Bugueño (2020b) shows that exposure to advertising among minors while browsing the internet on their mobile phones is higher than that while watching other media such as television.

Therefore, the first research question that arises is:

RQ1. What type of advertisements –in terms of product type and format– are minors exposed to on their mobile phone while routinely browsing?

3. Social networks as advertising space

Browsing through social networks takes up a large part of the internet consumption time among minors, which explains why these platforms are highly attractive to advertising brands. According to recent studies (VTR, 2019), 96% of Chilean children mainly browse on YouTube, 85% WhatsApp, 54% Instagram, 36% TikTok and 16% Facebook. Additionally, social networks have become a significant and trustworthy source of consumer information when it comes to learning about products or brands (IAB Spain, 2021). Brands can easily establish target audience-brand dialogs and opportunities to increase sales and brand awareness without causing saturation on these platforms and in a scenario in which mobile phones, followed by the laptop and the tablet are the three main devices for accessing content on social networks (Ditrendia, 2020). Thus, mainstream social networks (Facebook or Instagram, to name some of the networks with the largest number of users) have optimized their advertising formats on smartphones as can be seen in this analysis.

Children are exposed to highly customized advertising content based on personal browsing preferences in the digital world. Along with this standard advertising, brands use other attractive ways to reach minors such as games, entertainment and emotional and social elements (Nairn & Fine, 2008) and, in recent years, agreements with influencers (Trivedi & Sama, 2020; Del Moral, Villalustre & Neira, 2016). An influencer is considered to be a person “who has a status of expertise in a specific area, who has cultivated a sizable number of captive followers by regularly producing valuable content via social media” (Lou & Yuan, 2019, p. 59). Influencers are capable of generating credibility among followers and creating an intimate and familiar atmosphere with them (Weiss, 2014) which makes it easier for them to persuade their audiences of an idea or even make them change their attitude or behavior (San Miguel, 2020; Lou, Tan & Chen, 2019).

Given this context, it seems logical to ask whether persuasive messages from brands on social networks, either through standard ads or influencers, arouse some kind of response in the mobile user. Therefore, the following research question is posed:

RQ2. Is the relationship between the different types of persuasive messages in social networks and the interaction variable defined to measure the response of the mobile user significant?

Minors' expectations and demands regarding the commercial content are high, as the AdReaction study by Kantar Millward Brown (2017) demonstrates. Their project surveyed more than 23,000 consumers in 40 countries and revealed that younger audiences consider digital advertising annoying, unpleasant and irritating (Livingstone *et al.*, 2014). This perception leads minors to tend to avoid advertisements (Martí-Pellón & Saunders, 2015; Martínez, Jarlbro & Sandberg, 2013), and in doing so minors pay a toll in terms of effort and emotional distress (Martínez, 2019) a situation which does not benefit brands (Valvi & West, 2015). This negative attitude can be softened when minors feel that they have some possibility

to control the content, either skipping it or closing it, which explains why children are especially annoyed by invasive advertising formats such as non-skippable pre-rolls or pop-up ads. Compared to previous generations, today's minors do not reject advertising or brands, instead, advertising content is chosen depending on the user's personal interests, and is viewed as positive when ads incorporate rewards, special effects, new immersive elements or celebrity endorsement (Martí-Parreño *et al.*, 2013).

In the web environment, ad format influences viewers response. For example, display advertising is well known to generate low responses compared to other formats such as native advertising (Maestro-Espínola, Córdón & Abuín, 2019), advertising on social networks (Duffet, 2015; Pintado & Sánchez, 2018), advergaming (An & Kang, 2014; Mallinckrodt & Mizerski, 2007; van Reijmersdal, Rozendaal & Buijzen, 2012; Vanwesenbeeck, Walrave & Ponnet, 2017) or influencer marketing (Feijoo & Sádaba, 2021; Lou, Tan & Chen, 2019; Lou & Yuan, 2019; Trivedi & Sama, 2020).

Likewise, the context in which internet advertising appears also affects audience response, hence advertisement placement is decisive in attracting the web users' attention (Greenberg, 2012) and the same seems to be true for mobile phone users (Feijoo & Sádaba, 2021). The fact that advertisements can be easily ignored when its placement is predictable is to be taken into consideration (Jessen & Rodway, 2010), and would explain why marketing strategies seek attractive placements such as social networks, and dialog support and user participation are increasingly present. In doing so, brands can hit micro targets by segmenting their messages and offering new and user-relevant types of communication (Pintado & Sánchez, 2018). Interestingly, it has been verified that the main use of social networks by advertisers is for selling purposes, ahead of others which could be regarded as more interactive in nature such as providing customer service or answering questions (IAB Spain, 2021).

Indeed, it is assumed that social networks are aimed at providing communicational bidirectionality between sender and receiver. Therefore, this research project assesses the level of interaction achieved by the standard ads on social networks and influencer commercial content on these platforms:

RQ3. What level of interaction do the following types of messages achieve on social networks

- a. standard advertising formats?
- b. the different commercial actions of influencers?

User interaction with digital advertising can be measured through mouse *clicks* (Greenberg, 2012). Several studies on web interaction have shown that a variety of mouse cursor gestures (movements, clicks, etc.) are correlated with eye movements and, by extension, with attention and intentionality (Huang, White & Dumais, 2011). Thus, in this research, clicks are considered as the highest level of interaction. Gaze dwell time is also another indicator of attention (Chen, Anderson & Sohn, 2001).

Users –minors included– especially value personalization in mobile advertising (Maseeh *et al.*, 2021), hence the type of product being advertised plays a key role in capturing the user's attention. Digital advertising segments its target by analyzing user available data; however, advertising on social networks allows for greater personalization, by incorporating sociodemographic (gender, age, social class), psychographic (interests) and behavioral (browsing habits) information, along with information on social interactions, all of which users themselves provide while creating a social network profile and browsing on the website. Consequently, it is within the scope of this research project to analyze the level of interaction achieved by advertisements for products most closely related to the user's profile and the type of social network on which they tend to appear:

RQ4. What relationship is there between the type of product advertised, the level of interaction and the type of social network in which persuasive messages are placed?

4. Research objectives

This exploratory research seeks to provide insights on the type of advertisements to which minors (aged 10 to 14) are exposed while browsing social networks on their mobile phones, taking into account standard formats and the persuasive content uploaded by influencers of their choice. The level of interaction with influencer-mediated commercial content among minors is analyzed. In short, this research project aims to provide evidence obtained from real contexts on the level of attention that mobile advertising receives.

Thus, in line with the research questions formulated, the following specific objectives were specified:

1. Register in a real context the type of advertisements (considering advertised product and advertising format) to which minors are exposed on the mobile phone they regularly use.
2. Check whether format types used in social networks (standard / by influencers) influence user response.
3. Analyze the level of interaction achieved by standard formats and commercial content published by influencers in social networks.
4. Assess the level of interaction reached by ads according to product advertised and social network on which it is hosted.

5. Methodology

In order to fulfill the objectives and provide answers to the research questions raised, more than 300 audiovisual records were obtained from one-week mobile phone browsing routines, which were then analyzed for their content. Forty-five minors living in the Metropolitan area of Santiago de Chile participated by sharing the aforementioned information recorded on their own or their parents' mobile phones. These minors had already participated in the first quantitative phase of this research project and were selected according to established analysis variables (age, gender and type of ownership of the device) and having a user profile on the mobile phone was a requirement. A combination of significant factors hampered sample collection among which were the need for voluntary participation, participants' commitment and perseverance, and the invasiveness of the method, all of which made it hard to bring sampling to a close.

Minors themselves recorded their mobile screens daily using a screen recorder as they browsed the internet and thus recorded their movements and the contents to which they were exposed. Audiovisual daily recordings were submitted digitally (via email, WhatsApp...) by participants or their guardian to researchers. Participants had committed to submitting recordings of a certain duration prior to starting sampling period to ensure methodological compliance. It was left to participants to choose the moment of the day at which browsing was recorded. Initially, researchers aimed to establish recording criteria and scheduling, however, very few children could meet them. Participants were provided with instructions which recommended providing samples recorded routinely, to ensure samples were as similar as possible to standard use. The non-participant nature of the sampling meant recordings were made without the supervision of researchers, which may represent a limitation to the research.

Fieldwork was conducted from May to September 2019. In total, 41 hours, 45 minutes and 39 seconds of recording were analyzed with a total count of 2,410 mobile advertisements. Regarding recording tools, participants were requested to download a free application for Android or use the screen recording option that the IOS system has by default. Systematization and subsequent statistical analysis were performed with SPSS.

Content analysis was performed on a matrix which comprised the following variables (Table 1):

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1. Level of interaction, measured on three criteria: (1) No interaction, meaning that the ad does not alter the user's browsing flow; (2) Visual Interaction, in which it is assumed that the receiver pays attention to the ad for some time; (3) Click, in which the user clicks on the ad. This variable was defined taking into account several previously cited studies on web interaction (Chen, Anderson & Sohn, 2001; Huang, White & Dumais, 2011), and incorporating particularities applicable to the mobile context to measure users' intention and attitude towards mobile advertising (Tsang, Ho & Liang, 2004; Feijoo & Sádaba, 2021).
2. The ad format, using the IAB Spain classification (2018) as a reference which has been endorsed by the advertising industry: (1) *Display*; (2) Social networks; (3) SEM/ASO; (4) SMS; (5) Proximity advertising; (6) *E-mailing*; (7) Content marketing, which included proprietary media and native advertising; (8) Commercial content created by influencers, whether marked as advertising or not.
3. Type of product advertised divided into (1) Fashion; (2) Toys; (3) Sport; (4) Food, drinks and sweets; (5) Electronics (devices, screens and video games); (6) Culture and Education; (7) Beauty and hygiene; (8) Automotive; (9) Transportation, travel and tourism; (10) Telecommunications and Internet services; (11) Entertainment (series, movies, VOD); (12) Entertainment (Music); (13) *Ecommerce*; (14) Social networks and applications; (15) Financial services; (16) Real estate; (17) Health; (18) Home; (19) Others.
4. Interruption level, presented as a binary variable, in which (0) no interruption registered; (1) interruption is registered.
5. Social network in which standard format ads were identified. Social networks were selected taking into account those most preferred and used by Generation Z (IAB Spain, 2021): (1) Instagram; (2) YouTube; (3) Facebook; (4) TikTok; (5) Others.
6. Standard formats per social network. Dimensions for Instagram and Facebook followed the Facebook *business ad guide references*¹; for YouTube, Google's help center which specifies available advertising formats²; for TikTok, those specified on its website.
 - (a) Instagram: (1) News on Instagram-Image; (2) News on Instagram-Video; (3) *Story*; (4) Sequence; (5) Collection.
 - (b) YouTube: (1) Skippable Video Ad; (2) Non-skippable video ad; (3) *Bumpers*; (4) Sponsored Card; (5) Discovery.
 - (c) Facebook: (1) News on Facebook-Image; (2) News on Facebook-Video; (3) Right Column; (4) Instant Items; (5) *Streaming* video; (6) *Market Place*; (7) *Story*; (8) Messenger; (9) Sequence; (10) Collection.
 - (d) TikTok: (1) Ad when opening *app*; (2) *Infeed video*; (3) *Hashtag challenge*; (4) Brand effects.
7. Social network in which influencer commercial content was observed, segmenting into (1) Instagram; (2) YouTube; (3) TikTok; (4) Others. Networks in which influencers are most followed were considered –Instagram and YouTube– and the network which grew most in 2020, TikTok (IAB Spain, 2021).
8. Role of the product or brand in the content: (1) Main; (2) Secondary (Feijoo & Pavez, 2019).
9. Advertising technique used by influencers: (1) Self-promoting channel; (2) Mention/Testimonial; (3) Active placement; (4) Passive placement; (5) *Haul/Unboxing*; (6) Lottery; (7) Other (Feijoo & Fernández-Gómez, 2021).
10. Signaling of commercial content by influencers, distinguishing three categories of analysis: (0) No; (1) Yes, but not very visible or ambiguous; (2) Yes, visible signage, understandable and in Spanish (Indecopi, 2019; Zozaya & Sádaba, 2022).

¹ <https://www.facebook.com/business/ads-guide>.

² <https://support.google.com/youtube/answer/2467968?hl=es>.

Table 1. Descriptive statistics of the analysis variables.

	N	min	max.	Average	DT
Level of interaction with the ad	2,411	1	3	1.29	.567
Ad format	2,410	1	8	2.25	2.062
Type of advertised product	2,384	1	19	7.26	4.892
Interruption	2,411	0	1		.422
Social network for standard ads	810	1	3	1.31	.565
Standard Formats - Instagram	600	1	5	2.69	.811
Standard Formats - YouTube	170	1	5	3.02	1.725
Standard Formats - Facebook	38	1	10	2.87	3.363
Standard Formats - TikTok	0				
Social network for commercial content, influencers	60	1	3	1.47	.623
Role of the brand/product in commercial content, influencers	60	1	2	1.27	.446
Advertising technique in commercial content, influencers	60	1	7	3.55	1.863
Signaling in commercial content by influencers	53	0	2	.42	.692

Source: Own elaboration.

Methodologically, one of key points of this study is the fact that daily standard routine browsing was recorded on the device commonly used by participants. This approach was chosen over others given that advertisement exposure is related to the user's browsing history, hence the importance of analyzing recordings collected from mobile phones regularly used by participants, rather than devices specifically acquired for the investigation.

The rights of the minors who participated in this study were protected by having their guardians sign an informed consent, which had been previously reviewed and validated by the Ethics Committee of the university which backed this research project. In this document, researchers undertook not to reveal the identity of the participating families and assured that results would be published anonymously and responsibly, solely used for scientific purposes. Participation was clearly described as voluntary and that minors and/or their guardians could request restrictions or to withdraw from the study at any time.

6. Results

6.1. Description of the type of advertising that minors are exposed to on their mobile phones

The samples collected were comprised of 2,410 ads which were obtained from 41 hours of recordings collected from mobile phone minors aged 10 to 14 regularly used. This is approximately equivalent to an average exposure of 1 ad per minute of use.

This article focuses on commercial messages to which minors were exposed on social networks; however, the global context for each type of ads recorded while monitoring (RQ1) is provided. Thus, 50.5% of the advertising pieces observed corresponded to display ads, on both on the web and on apps. The second most predominant type of advertising was the one placed standardly on social networks which represented 33.4% of the cases analyzed. Content marketing, understood as native advertising and publications in own media, reached 11.5% of the sample. The remaining 5% was distributed among commercial content published by influencers (2.5%), SEM (1.9%), emailing (0.1%) and mobile messaging (0.2%). Regarding user response to viewed advertisements, 23.4% produced an interaction (visual or click); 23.1% of the ads interrupted the user's browsing routine, most of them being displays (82.2%).

Regarding the type of products advertised, a great variety of categories was observed, with a considerable presence of electronic products (19.0%), food, beverages and sweets

(16.1%), fashion (13.8%) and entertainment (8.8%). Secondly, little presence of advertisements for products and services addressed to minors such as toys (1.2%), culture and education (2.7%) or social networks and applications (3.8%) were observed. Other items which could be considered further removed from minors' interests such as transport, travel and tourism (7.4%), beauty and hygiene (5.6%), e-commerce (5.1%), financial, management and insurance services (2%), automotive (1.4%), real estate (1.2%), health (0.8%) or home, decoration and cleaning (1.9%) were also present. This variety of categories could be justified by the fact that a percentage of participants (38%) were using their parents' mobile as they did not have one of their own, and were probably viewing advertisements which were originally generated by other users' routines.

Data analysis interestingly revealed that advertising format variable is related to the interaction variable $\chi^2(12, N= 2409)= 612.476, p <.05$ (PI2): thus, 72.2% of the ads with visual interaction were viewed on social networks, 6.5% of the messages which were clicked on were viewed on social networks, the latter hosting 26.5% of the ads which did not register viewer interaction. Influencer advertising hosted 10.1% of the ads that received clicks, representing 6.8% of the ads with visual interaction and 0.9% of those without interaction.

Likewise, it was also found that the variables of advertising format and type of product are not independent: $\chi^2(108, N= 2383)= 1259.232, p <.05$. In social networks, standard formats were present in a considerable proportion of ads for music entertainment (79.6%), beauty and hygiene (63.9%), home, decoration and cleaning (53.3%), health (50.0%) and automotive (45.5%). The percentage of commercial messages from influencers was sizeable the toy category, representing almost half (42.9%) of all ads for this type of product.

Further analysis of the ads placed on social networks and the commercial content published by influencers is presented.

6.2. Standard social media ads

Standard social media banner ads were found on Instagram (74.0%), YouTube (20.9%) and Facebook (5.1%). On Instagram, the most recurrent format was the story (66.2%), followed by those placed on the timeline –video or image format– (25.8%); the sequence type (7.7%) and collection (0.3%) were used anecdotally. On YouTube, use of formats was more equitable: discovery format ads (37.6%), skippable video ads (34.1%) and bumper ads (21.2%) were observed; non-skippable video ads were also used secondarily (6.5%). On Facebook, image format ads were mostly observed on the timeline (65.8%); and sequence ads (15.8%), timeline videos (13.2%) and the collection format (5.3%) were used less frequently.

The analysis of level of interaction generated by ads on social networks revealed that although such ads represented 6.5% of ads registering clicks, this is only equivalent to 1.1% (N=10) of all standard ads on social networks. More than half (60.8%; N=489) did not achieve interaction, while 38.1% achieved visual interaction (N=306).

The chi-square test was applied once more to verify the relationship between the interaction variable and the standard advertising format by platform, in order to respond to PI3a. Variable dependency was confirmed for the formats located on Instagram and YouTube ($\chi^2(8, N= 600)= 38,534, p <.05, \chi^2(8, N=170)= 56,352, p <.05$), but in the case of Facebook, the variables proved to be independent ($p >.05$). Despite there being a low click rate on social networks, half of the ads that achieved that level of interaction were placed on Instagram. In any case, these ads represent less than 1% of the standard ads on Instagram. The highest percentage of ads without interaction (76.9%) were viewed on YouTube. These data are presented in Table 2.

Analysis of formats per platform, on Instagram, stories get more visual attention, and the sequence format registered the highest number of clicks. On YouTube, where there was hardly any interaction, the discovery format generated the most clicks.

Table 2. Standard format ads according to their level of interaction.

		Level of interaction with the ad			
		No interaction	Visual interaction	Click	Total
Social Network	Instagram	343	252	5	600
	YouTube	131	37	2	170
	Facebook	19	18	3	40
	Total	493	307	10	810
Standard Formats – Instagram	News on Instagram-Image	60	20	1	81
	News on Instagram-Video	33	41	0	74
	<i>Stories</i>	224	172	1	397
	Sequence	26	17	3	46
	Collection	0	2	0	2
	Total	343	252	5	600
Standard Formats - YouTube	Skippable video ad	27	31	0	58
	Non-skippable video ad	9	2	0	11
	Bumper	36	0	0	36
	Discovery	59	4	2	65
	Total	131	37	2	170
Standard Formats - Facebook	News on Fb-Image	14	12	1	27
	News on Fb-Video	2	3	0	5
	Sequence	2	2	2	6
	Collection	1	1	0	2
	Total	19	18	3	40

Source: Own elaboration.

It was also interesting to see that almost 88% of the standard social media ads analyzed (N=707) did not interrupt browsing. Those that did interfere with the user's routine were preferably located on YouTube (skippable video ads N=50; non-skippable video ads N=11; bumper N=33; discovery N=2).

Analysis of standard ads confirmed that there is an association between the type of product advertised and the level of interaction ($\chi^2(36, N= 802)= 86.077, p <.05$). As can be seen in Table 3, the categories that reach the highest level of interaction (visual or *click*) are fashion, electronics, food, drinks and sweets, and telecommunications and Internet services. The product type variable is related to the level of interaction as well as to the type of platform $\chi^2(36, N=808)= 192.786, p <.05$ (RQ4), thus, Instagram tends to place a higher proportion fashion, beauty and hygiene, entertainment, home, decoration and cleaning products ads; YouTube stands out especially in food, drinks and sweets and advertisements for transport, travel and tourism, and Facebook stands out in food, drinks and sweets, e-commerce and health (clinics, opticians and health plans).

Table 3. Types of products advertised according to level of interaction and social network in which ads were inserted.

	Level of interaction with the ad				Social network platform			
	No Interaction	Visual interaction	Click	Total	Instagram	YouTube	Facebook	Total
Fashion	56	51	2	109	104	4	6	114
Toys	5	4	0	9	5	2	2	9
Sport	15	13	1	29	27	2	0	29
Food, drinks and sweets	104	33	2	139	83	47	9	139
Electronics	39	19	1	59	41	15	2	58
Culture and Education	14	11	0	25	24	1	0	25
Beauty and Hygiene	56	29	0	85	75	9	1	85
Automotive	9	6	0	15	11	3	1	15
Transport, Travel and Tourism	41	13	0	54	25	26	3	54
Telecommunications and Internet svcs	15	5	2	22	13	8	1	22
Entertainment (series, movies, VOD)	21	29	1	42	26	15	1	42
Entertainment (Music)	30	56	0	86	75	11	0	86
E-commerce	5	10	0	15	5	6	4	15
Social networks and apps	6	6	0	12	4	8	1	13
Financial, management and insurance services	12	1	0	13	11	2	0	13
Real estate	5	3	0	8	7	0	1	8
Health	6	4	0	10	4	1	5	10
Other	31	15	0	46	41	3	3	47
Home, decoration and cleaning	18	6	0	24	17	6	1	24
Total	488	305	9	802	598	169	41	808

Source: Own elaboration.

6.3. Commercial content from influencers

In this section, social networks are analyzed for advertising placement; however attention is paid to those commercial messages inserted in the narrative content published by influencers on these platforms. This type of commercial content only represents 2.5% of the total advertisements (N=60) recorded in this sample; however, a higher level of interaction was registered compared to standard format advertisements.

60% of this persuasive content from influencers was uploaded on Instagram, 33.3% on YouTube and 6.7% on TikTok; In almost 75% (N=44) of the cases, the promoted product had a main role within the contents, resorting mainly to active placement techniques (43.3%), mention/testimonial (2.7%), channel self-promotion (6.7%), haul and unboxing (6.7%) and others (18.3%) such as trials, vlogs in stores, promotions and discounts. Regarding the level of signage of this commercial content, in this context of hybrid advertising, interestingly more than half (69.8%) did not have any kind of warning or signage, 18.9% of the ads had some type of ambiguous or inconspicuous indication and in 11.3% visible, understandable signage in Spanish was present.

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Unlike what happened with standard formats, most of this commercial content did achieve some type of interaction: 48.3% visual interaction, 23.3% in the form of a click. Here, for obvious reasons, no messages interrupted the user's browsing routine.

As in the case of the previous analysis, there is also an association between the interaction variable and the platform variable: $\chi^2(4, N= 60)= 30.819, p <.05$. As shown in Table 4, and in response to PI3b, the highest percentage of clicks is registered on YouTube with 65.9% of the commercial content located on this platform, which is equivalent to practically 100% of those on which minors clicked. On Instagram and TikTok, greater visual interaction is observed. Regarding advertising techniques, placement (passive and active), doing haul and unboxing, as well as others (trials, vlogs in stores, promotions and discounts) also showed notable click rates.

Table 4. Commercial content published by influencers categorized by social network placement, advertising technique used, type of signage and level of interaction.

		Level of interaction with the ad			
		No interaction	Visual interaction	Click	Total
Social network	Instagram	15	20	1	36
	Youtube	1	6	13	20
	TikTok	1	3	0	4
	Total	17	29	14	60
Advertising technique in commercial content, influencers	Self-promotion channel	2	2	0	4
	Mention / Testimonial	4	8	1	13
	Active placement	11	11	4	26
	Passive placement	0	0	2	2
	Haul/unboxing	0	3	1	4
	Others	0	5	6	11
	Total	17	29	14	60
Signaling in commercial content, influencers	No	8	17	12	37
	Yes, not very visible or ambiguous	8	2	0	10
	Yes, visible signage, understandable in Spanish	1	5	0	6
	Total	17	24	12	53

Source: Own elaboration.

Similarly, the signaling of the insertion of these sponsored messages is related to their level of interaction $\chi^2(4, N= 53)= 17,388, p <.05$: 100% of the content on which minors clicked was not identified as promotional content; ambiguous looking promotional content achieved almost no interaction, and content perfectly identified as advertising preferably led to visual interaction.

Unlike the standard formats in which the product type does influence the level of interaction (PI4), in the context of influencers the variables product category and interaction are independent ($p >.05$). However, the variables type of platform (Instagram, YouTube, TikTok) is associated to the variable product category $\chi^2(20, N= 60)= 53,833, p <.05$. As shown in Table 5, commercial content such as fashion, sports, food, drinks and sweets, beauty and hygiene, transport, travel and tourism is preferably placed on Instagram; persuasive messages on toys and electronics are located on YouTube and content on social networks and applications, on TikTok.

Table 5. Types of products promoted by influencers categorized by the social network.

	Influencer commercial content platform			Total
	Instagram	YouTube	TikTok	
Fashion	8	3	0	11
Toys	3	9	0	12
Sport	2	0	0	2
Food, drinks and sweets	5	0	0	5
Electronics	3	5	1	9
Beauty and hygiene	10	0	1	11
Transport, travel and tourism	1	0	0	1
Social networks and apps	0	0	2	2
Financial, management and insurance services	1	0	0	1
Other	2	2	0	4
Home, decoration and cleaning	1	1	0	2
Total	36	20	4	60

Source: Own elaboration.

7. Discussion

In the advertising context, the notion of social networks as a space for interconnection and meeting between people competes with other purposes such as the sale of products and services. Advertisers use social networks preferably for sale purposes, a fact that does not go unnoticed by users, who increasingly follow fewer brands and influencers on social networks (IAB Spain, 2021) given the impossibility of communication. Minors expect brands to offer opportunities for communication and not merely display products on social media.

One of the purposes of this research was to analyze the level of interaction generated by advertising viewed on mobile phones in a real setting, hence data collection could only come from the device regularly used and within a user's browsing routine. First, the fact that minors interact with commercial content through mobile devices is confirmed, which highlights the idea that consolidated spaces for autonomous and individualized use (Duffett, 2015; Wang *et al.*, 2016) which hinder parental mediation are present. In this exploratory study, it was also found that in the mobile environment interaction depends both on the advertising format of advertisements and the type of product being advertised, as has been previously reported for other screens (Maestro-Espínola, Cordón & Abuín, 2019; Pintado & Sánchez, 2018).

Even though standard social media formats were especially prevalent in the analysis, these achieve low click rates. Therefore, one of the most extended forms of advertising in mobile marketing arouses little or no interest among minors' user profiles. The opposite proves true for commercial content published by influencers: in the analyzed sample, commercial content published by influencers only represented 2.5%, however, it achieved a click response rate above 20%. This finding consolidates data presented in previous studies that pointed to the attractiveness of content by influencers among minors (Feijoo & Sádaba, 2021; Núñez-Gómez, Sánchez-Herrera & Pintado-Blanco, 2020; Tur-Viñes, Núñez-Gómez & Martínez-Pastor, 2019). This study seems to confirm, therefore, that persuasive messages appearing to be less commercial and embedded in an entertaining context achieve greater interaction among minors, as previous research had concluded (De Jans & Hudders, 2020; van-Dam & van-Reijmersdal, 2019; Nairn & Fine, 2008). Commercial content published by influencers turns out to be an advertising format that does not interrupt the user's navigation,

which hallmarks the achieved clicks as of a higher “quality” given that it is assumed that this behavior responds to true interest rather than an action to close the advertising message (Feijoo & Sádaba, 2022).

In addition to the advertising format, the type of product advertised also influences the level of interaction registered in standard ads, except for commercial content published by influencers. This finding is revealing and may indicate that personalization becomes essential in standard formats, while the key in content promoted by influencers, is the influencers themselves and how they stage their content (Weiss, 2014; Lou, Tan & Chen, 2019).

The role played by the type of social network in the level of interaction also deserves reflection. Interestingly, among standard ads, Instagram achieves higher levels of response, while among commercial content from influencers, YouTube was more successful. It would seem that highly audiovisual environments as in influencer marketing attract more user attention. Thus, the notion that platforms also play a relevant role in the user's response in the mobile context is an idea that had already been pointed out previously (Feijoo, Sádaba & Bugueño, 2020b; Feijoo & Fernández-Gómez, 2021).

Although it is not the direct object of this research, data analysis revealed that explicit indications that content has a commercial purpose generated lower click rates than those publications promoted without any warning. This opens the question of whether signaling in hybrid formats influences the interaction with this type of content (Zozaya & Sádaba, 2022).

One of the methodological limitations of this research is that it does not allow for delving into the reasons behind users' behavior, which prevents researchers from objectively assessing the quality of the interactions recorded. This line of research could be expanded by conducting qualitative research projects that allow for researchers to know the reasons behind minors' response towards viewed advertising.

It is reasonable to think that in spite of the similarities in internet accessibility between Chile and other advanced countries, sociocultural differences may lead to differences in behavior that would be worth investigating. It would therefore be interesting to replicate this study in other countries to confirm or nuance this exploratory study has revealed.

8. Conclusions

This study confirms previous work and that open up new avenues of research and work. The notion that digitization and massive internet access by mobile phones (Garmendia *et al.*, 2016; Garmendia *et al.*, 2019; Mascheroni & Olafsson, 2014) modifies advertising strategies aimed at reaching a variety of audiences, particularly when trying to reach minors. Social networks occupy a large part of internet consumption time on mobile phones among minors, therefore, these platforms have become very attractive for advertisers.

Display ads inserted in social networks are widely used in mobile marketing; however, this analysis shows that they generate a low level of interaction among minors. Conversely, commercial content created by influencers, which a lower presence in social networks, arouses more interest among minors, especially in the form of clicks.

These results highlight that advertising format choices on social networks can affect the level of interaction generated by an advertisement which would initially seem appropriate for reaching a certain audience. Thus, it may be suggested to brands to question the strategic use made of a space conceived as open to stable and long-lasting communication, exchange and connection with users.

Although the research points to and confirms a preference for non-standard advertising formats, and specifically for those created by influencers, brands must be aware of the responsibility using these platforms properly entails when targeting minors.

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