Neuromarketing and the effectiveness of influencers’ promoted content on teenagers

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Abstract
Influencer marketing is an advertising format regarded as highly effective in both business and academic contexts. Consumers perceive influencers’ recommendations as more trustworthy, less commercial, and more natural than traditional digital advertising. An experiment was carried out employing the Sociograph neuromarketing technique to assess its effectiveness on teenagers. This instrument measured the electrodermal level of the sample watching videos. Traditional spots and other types of influencers’ advertising content were compared to measure the attention and emotional levels in a sample of 19 girls aged from 11 to 16. The experiment was conducted in a laboratory at the Complutense University of Madrid in June 2019 and was followed up by a post-visualisation survey. The results show that the videos showing influencers’ content are those generating the most attention peaks. One of the influencers’ branded content was also the video creating the greatest peak of emotion and perceived as the most exciting video out of all those analysed. This exploratory study also revealed that influencers’ credibility and prior brand-awareness knowledge could also have an influence in positive perception of the videos and the brand.

Keywords
Advertisement Effectiveness; Influencers; Sociograph; Neuromarketing; Branded Content; Covert Advertising.

Resumen
La publicidad de influencers es un formato publicitario que se considera muy eficaz en la práctica empresarial y académica. El consumidor la percibe como un contenido más creíble, menos publicitario y más natural que un formato publicitario tradicional. Para medir su efectividad en adolescentes se ha realizado un experimento exploratorio a través de la herramienta de neuromarketing Sociograph que mide la actividad electrodérmica. Se comparó diferentes tipos de contenidos publicitarios protagonizados por influencers con spots publicitarios tradicionales midiendo el nivel de atención y emoción que provocaban al ser visualizados. Se combinó con una encuesta post visualización. La muestra constaba de 19 niñas de 11 a 16 años. Se realizó en un laboratorio de la Universidad Complutense de Madrid en Junio de 2019. De los diferentes tipos de estímulos analizados, los contenidos protagonizados por influencers son los que más picos de atención generaron. Uno de los branded content de influencers también fue el video que mayor pico de emoción generó y el video que más emocionó a la muestra de todos los visualizados. Este estudio exploratorio parece indicar que la credibilidad de los influencers y el conocimiento previo de la marca también podrían afectar a la percepción positiva del anuncio.

Palabras clave
Efectividad publicitaria; Influencers; Sociograph; Neuromarketing; Branded content; Publicidad encubierta.
1. Introduction

In recent years digital advertising has evolved in leaps and bounds and encouraged the apparition of new advertising formats. Within these new formats we can find influencer advertising or marketing, which has surged since professionals consider it to be more effective. It has been calculated that investment in influencers in 2019 was 100 million euros, three times more than in 2018 (Marketing Directo, 2019) and growth perspectives for 2020 show investment will grow to 170 million euros (ElConfidencial.com, 2019).

1.1. Background to the influencer phenomenon: definition of opinion leader concept

The term “influencer” originated in the opinion leader. Although in the first half of the XX century the media was deemed to have a directly influence on individuals, Katz and Lazarfeld discovered that it wasn’t actually direct, but that opinion leaders really moulded messages from mass media and conveyed them to the general public by word of mouth (Sandoval, 2013). In the sixties, in sociology and social psychology, the motivations and characteristics of those individuals who were able to influence others began to be analysed. Rogers and Cartano (1962: 435) defined opinion leaders as “individuals who have a disproportionate amount of influence on the decisions of others”. The social psychologist Edwin Hollander (1961, cited in Huffaker, 2010) deemed opinion leaders to be people capable of influencing the attitudes and behaviour of others and gaining a great following who believed all what they were being told. In the last few decades, studies on opinion leaders have also analysed how they influenced decision taking or how they broaden acceptance of new products (Casaló, Flavián and Ibáñez Sánchez, 2018).

The dawn of the Internet age brought new tools for multiplying the influencer network, which gave rise to new types of digital opinion leaders with their own characteristics. Huffaker (2010) explains that digital opinion leaders have a much greater role within the community of other individuals, are more credible, receive more attention on the Internet, use affection and assertion and manipulate the language in their messages in order to engage better with other individuals. This author states that to make up for the lack of body language, other cues were added such as frequency of contribution within the online community. Others such as Lyons and Henderson (2005) consider a lasting involvement or enthusiasm in the community is an important factor in the credibility of the opinion leader in this environment. A highly interconnected and broad network of connections are other key features, since this way, they manage to disseminate their message to a wide-ranging number of people (Weimann, 1994; Goldenberg, Lehmann, Shidlovski and Barak, 2006).

1.2. Influencers: Definitions and features

Influencers share the same features as opinion leaders although they have others too, since they have sprung from a completely digital environment and focus on endorsing products or services. The International Advertising Bureau (IAB), defines them thus:

Influencers are those people considered to have the potential to create engagement, drive conversations and/or influence the decisions of targets to purchase products/services. These individuals may vary from celebrities to those who are less well-known by the public in general, but who are recognised in their own more specialized niches (2019a: 6).

One of the differentiating elements of influencers is they act as a reference group which can be understood as “an individual or group of people which act as a reference to an individual in the formation of values and attitudes, and on doing so, also becomes a reference in their purchasing decisions” (Schiffman, Hansen and Kanuk, 2012, cited in Djafarova and Rushworth, 2017: 2).

Influencers are not only able to influence a certain message or product, but they also become role models themselves for their fans to follow, especially the youngest ones. In this respect, influencers resemble celebrities in so far as both are role models and brands use them to convey the positive attributes of their products (Brison, Byron and Baker, 2016).

Another feature, which most sets influencers apart, is they are digital natives. They have grown up with social networks, although subsequently some of them have become public figures. They are not known for any previous trade, but became famous by sharing their experiences on these channels and, the most famous of them changed trade due to their fame as influencers. They are classified according to the main social networks on which they carry out their activity (although they are on other social networks too, they will always define themselves by their main one). Influencers can be bloggers (blogs), Twitterers (Twitter), Instagrammers (Instagram), Youtubers (Youtube) or Tiktokers (Tik Tok) (IAB, 2019a). Likewise, they
are also classified by the number of followers they have on their channel and this range goes from top influencers, macro influencers, average influencers, microinfluencers or nanoinfluencers (IAB, 2019a).

Lastly, another feature of influencers is their specialization in a field of knowledge, with which they stand out as experts and leaders on these topics. In this respect, we can find influencers specialized in video games, gastronomy, beauty, gardening or ecology. In any field you can find influencers for different channels (e.g. within the beauty category, there can be Instagrammers or Youtubers).

1.3. The advertising effectiveness of influencers

The effectiveness of advertising consists in the capacity of the advertisement to create or produce a change in attitude in the consumer towards the advertised product in order for him or her to consider buying it (Sánchez, 2017). According to this author, if the advertisement is effective, the advertising message will have two types of effects: mediating and final effects. Mediating effects are those that give rise to changes in attitudes in consumers towards the product such as in their perception of it or whether they have a positive opinion about the product or not. The final effects produce a more direct response to the purchase, such as trying out this product, finally choosing the brand or repeatedly purchasing it. Although the body of knowledge on influencers is still limited in this field, we can find a more extensive one about the effectiveness of social networks. In these studies, advertising effectiveness is understood to be when social networks positively affect the product purchasing process, whether this is with mediating effects or the previously stated final effects. In the theoretical review by Alalwan, Rana, Dwivedi, and Algharabat (2017) various studies have been analysed in which the advertising effectiveness of the social networks was demonstrated to be more effective at publicising new products, and to have greater capacity for changing opinions, perceptions or eliciting positive attitudes about a product, or they could change the purchasing intention of the consumer (Djafarova and Rushworth, 2017; Brison et al., 2016; Taylor, Lewin and Strutton, 2011; Chang, Chen and Tan, 2012). Advertising is so effective on social networks because it is far more believable than traditional advertising (Saxena and Khanna, 2013) and has a more profound effect on the consumer as a greater connection or engagement with the brand is created, whether this is because the consumer considers the people or entities who endorse the product to be much more believable than those in traditional advertising or because the user can identify more with these brands when this more innovative type of advertising is used (Lee, Hosanagar, and Nair, 2018; Wang and Hung, 2018; Kumar, Bezawada, Rishika, Janakiraman and Kannan, 2016). As for recommendations from influencers, in recent studies this type of advertising was deemed to be more effective as consumers found it more engaging because with influencer endorsements, contents were seen as being more authentic and original (Tur Viñes, Núñez Gómez and González Río, 2018; Casaló et al., 2018) or because they could convey the advertising message in a way that was more natural and believable in comparison to that by celebrities (Casaló et al., 2018).

Another branch of the body of knowledge on this topic analyses advertising efficiency from the perspective of the message and the elements which make consumers change their attitude, perception, opinion or purchasing intention after having seen an advertisement. The most used variables are the creativity of the advertisement, the capacity of informing or entertaining and how emotionally attractive it is (Lee and Hong, 2016; Taylor et al., 2011; Ducoffe, 1996). Lee and Hong (2016) described emotional attraction as the capacity of creating an emotional response in the consumer who views the advertisement. Emotion (whether it is positive or negative) makes processing the advertising message more superficial and our brain internalises the persuasive message, putting up fewer cognitive barriers against it (Petty and Cacioppo, 1986). Lee and Hong (2016) reviewed the body of knowledge on this topic and confirmed that advertisements with high emotional attraction were shared more online, and elicited greater word of mouth as well as a more positive attitude towards them. The capacity an advertisement has to inform has also been demonstrated to be an important factor in gaining the attention of consumers and motivating them to see the product in a positive light (Taylor et al., 2011; Lee and Hong, 2016). In this respect, if the advertisement is capable of attracting the attention of the consumer and/or creating an emotion in the subject, it will be more likely be effective in terms of creating a positive image and opinion about the product. In the field of influencer advertising, some new studies on neuromarketing and influencers have also identified advertising effectiveness as being the capacity to capture more attention, or according to its emotional intensity. Moreover, a recent study by the neuromarketing consultancy, Neuroinsight (2019, cited in Drosesch, 2019) demonstrated that influencer advertising created 277% more emotional intensity than television advertising and 87% more memories of the advertisement. These influencer advertisements were also compared with advertising of other types of contents on Facebook and Youtube and also confirmed that influencer advertising was the most effective.
1.4. Influencer advertising as covert advertising

Influencers arose from the need to make more sincere communications and engage with the consumer in a more natural way. At first, they called themselves impartial endorsers who were just guided by their tastes or personal criteria (Díaz, 2017). For instance, if a brand treated them to a trip or gave them a product, they were under no obligation to talk about it, and they only did so if the product or brand was in tune with their lifestyle. However, influencers nowadays are professionals and the vast majority of their recommendations are paid for with money and/or in kind. The study made by the influencer agency Brand Manic (2018) showed that in 2018, 69.4% of the activities of influencers were paid for and 30.6% of them were given packs of products or samples. Even in such regulated sectors as child advertising there are clear indications that endorsements by Youtubers for toys (Tur Viñes, Núñez Gómez and Martínez Pastor, 2019) or even unboxing in which children open toys and explain their contents (Craig and Cunningham, 2017) are advertising partnerships which have not been identified as such.

Therefore, is influencer advertising in reality covert advertising? It is only covert advertising when contents are not identified as advertising. When an influencer or celebrity does work for a brand and explicitly identifies it as advertising, this is called promoted content (IAB, 2015) although other authors call this native advertising (Campbell, 2016). This concept resembles brand placement if we look at its definition: “the intentional incorporation of a brand within a vehicle for entertainment” (Russell and Belch, 2005: 74) or it may be considered as the adaptation of televsional product placement to digital product placement or as a category of branded content, which is defined as “the creation of important, entertaining or interesting content, with a non-commercial appearance, created by a brand to create a following and to engage with them” (IAB, 2009b).

Branded content as such is not defined on a regulatory level in our country. For this reason, IAB (2019b) considers other regulated formats such as product placements or contents promoted by influencers as types of branded content. Therefore, influencer advertising can be identified as a category of branded content when a brand pays for it.

For advertising to be considered covert, article 26 in the Spanish law on unfair competition, defines it as such:

Unfair as in deceitful includes information in the media, communications for promoting a good or service, paying the business owner or professional for this promotion, without any clear specification in the contents or sounds and pictures which are clearly identifiable to the consumer or user that it is advertising contents (IAB 2015: 7).

Only those recommendations from influencers who receive payment and which are not clearly identified as advertising can be considered as covert advertising. Even so, this is typical in Spain and it has been estimated that 36% of influencers in Spain make covert advertising and over 60% of them think it does not irritate their followers (Solís, 2020).

There are two fundamental reasons as to why brands and influencers prefer to hide the advertising purpose behind these types of contents:

a) Negative impact on the perception of the brand: various studies have shown there to be a negative impact when the business relationship between the influencer and brand is revealed (Wojdynski, Evans and Hoy, 2016; Boerman, Van Reijmersdal and Neijens, 2012; Evans, Phua, Lim and Jun, 2017). The success of covert formats is precisely because they reduce the cues people identify as being advertising from their previous experiences with other formats and thereby increase the persuasive capacity of their messages, since people interiorise them, put up fewer rational barriers and process information by a peripheral route (Petty and Cacioppo, 1986).

b) Believability of message and/or author: the believability of advertising is defined as “the scope to which consumers perceive a stimulus about a brand as true and believable” (MacKenzie and Lutz, 1989: 51).

In various studies, credibility on social networks is considered to be crucial to making messages go viral (Roy, Huh, Pfeuffer and Srivastava, 2017). Both confidence in the advertised brand (Bleier and Eisenbeiss, 2015) and the credibility of the person who transmits or spreads the message are important for it to be effective (Cho, Huh and Faber, 2014). If the follower of an influencer discovers any trick or insincerity in the endorsement, not only will there be a negative effect on the brand perception but also on the credibility of the influencer.
1.5. Neuromarketing as a study technique

The most used methodologies in research on social networks, influencers and covert advertising on an international scale are surveys or questionnaires but also remarkable in recent years are experimental designs linked to a follow up survey (Alalwan, 2018) since the experiments enable the real conditions in which the user visualizes and perceives the contents to be simulated. In the United States experimental designs are a typical technique in social sciences, although in Spain they represent just 2.6% of the methodologies used in the last 25 years (Martínez Nicolás, Saperas and Carrasco, 2019).

As we saw previously, emotion is a key element for determining the possible effectiveness of advertising contents (Lee and Hong, 2016). More specifically, Torreblanca, Juárez, Sempere and Mengual (2012) established that the three fundamental variables of the cognitive process of a person who views an advertisement are attention, emotion and memory. These authors determined that if these variables could be measured, then the advertising efficiency of contents could be enhanced. Therefore, a neuromarketing technique was specifically chosen for measuring electrodermal activity. Bioelectric activity from the skin is highly sensitive to emotional and cognitive stimuli such as anxiety or stress and as a result it is one of the most used techniques in social sciences, thanks to the reliability and precision there is when measuring levels of attention and emotion with a given stimulus. This technique is used both for analysing advertising and communication (Tapia Frade, Martín Guerra and Puente, 2016; Martínez Herrador, Monge Benito and Valdunquillo Carlón, 2012) and, in the field of psychiatry, for measuring anxiety or affectivity (Davidson, 2002).

In this study, a technology known as the Sociograph was used, which was patented by the University of Salamanca, to gauge electrodermic activity which measures the subconscious reactions of a group of people who are exposed to a spot or audiovisual content and thereby determines how effective the stimulus is in terms of the impact it has had on attention or the emotion produced. Sociograph registers the electrodermal activity of the group on tonic and phasic levels (EDLg – EDRg), Thanks to the constant current method (Kiloohms measurements), this enables the level of cortical activity to be measured as well as emotional responses while subjects are viewing contents. Sociograph uses the exosomatic method for registering electrodermic activity, which has been contrasted in other studies (Aiger, Palacín and Cornejo, 2013) with which changes in the skin are measured when a small electrical current passes through it from the outside. With this the activity of subjects as a group can be measured. That is, the attention and emotional response of the group is integrated as the experimental activity is performed. This makes the tool very useful in social sciences for measuring the reaction of a group of individuals to different stimuli (Aiger et al., 2013).

Using some wireless devices, the responses of the group of people exposed to the same stimulus can be measured. At the start of the experiment, a numbered bracelet was placed on each subject with a sensor on the finger to measure the responses. As seen in graphic 1, this is a fairly unintrusive device, which is comfortable for the subject, which increases its ecological validity.

Graphic 1: Image shows Sociograph technology

Source: Sociograph
Electrodermic activity is classified with three variables:

Tonic activity or EDL (electrodermal level): As indicated by (Tapia Frade et al., 2016: 77) “EDL shows us base levels of activity with significant implication in attention processes. High levels of EDL indicate greater levels of activation-attention and, therefore, greater inclination to receiving, analysing and responding to information”. According to these authors, EDL is one of the variables which is most helpful for approximations for measuring the attention concept since what this tool is measuring is agitation or any change in the users with the stimuli given (which would be their level of attention) and how the subjects react to these stimuli. Tonic activity (EDL) is measured using the sum of the electrodermic resistance in kiloohms for all participants. The less resistance there is in the exposed subject, the greater level of attention the subject will have. EDL is a series with a trend (strong correlation) and therefore, to calculate attention for any given spot, we will need to find the rate it changes between one spot and another. It is an absolute measurement because we measure the attention response of the group as a whole. Sociograph discerns the individual data, which is not shared by the whole group that the sample is made up of.

Phasic activity or EDR (electrodermal response): phasic activity occurs when a triggering stimulus (here the audiovisual contents seen) produces a swift psychophysiological response in the subject. According to Martínez Herrador et al. (2012: 55) “It is fundamentally based on the well known orientation reflex. It is a good predictor of change after exposure to a stimulus and, therefore, it is one of the most used indications”.

It must be clarified that phasic activity does not distinguish whether emotion is positive or negative, but just shows physiological changes with the comparison of contents the subject sees. The EDR just tells us if the stimulus has caused an emotional impact. However, as we saw in Lee and Hong (2016), an increase in the emotional impact on the subject may help improve the effectiveness of the spot. To control this variable and any possible side effects, stimuli similar to those in the visualisation were used (in this case, advertising contents for the same type of product). Phasic activity (EDR) is a stationary or constant measurement which is calculated by taking the average of the registries for every second of the spot. The arithmetic average of dermoelectric resistance in kiloohms was used for all participants. The greater the measurement, the more emotion the subject felt.

Spontaneous activity: NSA (non specific activity) is “that non-specific psychophysiological activity which is not possible to attribute to a known trigger as its presentation is not controlled” (Tapia Frade et al., 2016:78).

People react to stimuli to different psychophysiological degrees. “They are situational responses which represent the rate or degree of activity of the subject, so the greater the NSA response, the greater the spontaneous activity of the subject. This may be considered as the noise in the data obtained” (Tapia Frade et al., 2016: 78).

NSA is an intrinsic variable for each individual. As it is a subjective variable, other studies have made up for it with the global arithmetic average in order to subsequently discern it and disregard it. The Sociograph neuromarketing tool measures these parameters with a frequency of 36 inputs per second. However, to simplify both the information and the analysis process, just one data is provided per second, which is the result of focusing these 36 data per second by means of this arithmetitic average.

1.6. Objectives and hypothesis

In the theoretical review it was seen that although influencer advertising is a regulated activity, a high percentage of influencers do not disclose it is advertising or do so in a more subtle way. However, studies show its advertising effectiveness is precisely due to it being a less commercial and therefore a more believable format.

The difficulty of measuring influencer advertising is there are a multitude of ways of endorsing products and services. We can find posts from influencers who identify advertising contents with the hashtag #publi or also advertising spots which use influencers as actors. In these cases, the characteristics of the contents themselves (music, production, insertion of logotype and slogan, etc.) clearly show that it is advertising content. However, an influencer can also be the protagonist in branded content, such as a public report or video interview. In this case, there are certain elements which identify it as advertising content, but as we saw in its definition, it is not intended to look like advertising and therefore its persuasive character may be kept hidden, although this is legal. Among the most covert formats used by influencers are those which are not identified as advertising which have a more home-made look and are integrated into their channels. Even other types of contents such as live help videos for a party, competitions in which the
prizes are brand products, etc. are ones in which it is difficult to establish the business relationship of the influencer with the brand. Therefore, the objective of this study is to analyse different types of influencer advertising and compare them in order to see how effective this type of advertising is for teenagers. For this purpose, two objectives were set:

1. Objective 1: to identify whether influencer-advertising contents are more effective (in terms of attracting the attention of the subject or eliciting a more intense emotional response) than other digital advertising contents such as advertising spots.

In order to test this objective, we set out two hypotheses:

a) Contents protagonised by influencers are those which attract most attention in comparison with traditional advertising spots without them.

b) Contents protagonised by influencers are those which elicit most emotion in respect to traditional advertising spots without them.

2. Objective 2: to find out whether there are significant differences between the advertising formats of the influencers.

The hypothesis set for this second objective were:

a) Covert advertising formats (branded content or advertising unidentified as influencer advertising) are those which attract most attention in comparison with an advertising spot protagonised by an influencer.

b) Covert advertising formats are those which create most emotion in comparison with an advertising spot protagonised by an influencer.

2. Methodology

An experimental design for neuromarketing measuring electrodermal activity was carried out together with a post visualisation survey. The experimental design provided data on the physiological reactions of the user when viewing, and thus gave us very accurate information about the real experience of a subject outside a laboratory. As this technique can only measure physical responses with stimuli, it was supplemented with a survey for corroborating the findings and by measuring other types of variables such as the perception of the advertisement or the degree of believability of the influencers.

2.1. Selection of the analysed contents

To demonstrate the hypothesis set in this project, a laboratory session was made in which the participants were exposed to a sequence of videos on digital advertising contents while their physical responses for attention and emotion while viewing were measured with the Sociograph tool, after which they were given a follow up survey on the contents viewed.

As the phasic activity cannot distinguish if the reaction of the subject is a positive or negative emotion, a sequence of advertisements on the same topic was used to offset this effect. A sector of the perfume industry was selected as being one of those most used by the influencers, due to their endorsements and as it is an industry which has traditionally used celebrities to sell their products. This selection was carried out in three phases:

- An initial search was made with 60 campaigns protagonised by influencers for different types of perfumes over the previous year and a half before the experiment began and they were categorised by types of content. This period was established due to the difficulty of finding influencer campaigns since some formats were momentary or influencers deleted advertising contents when their contract expired. In order to gather contents these parameters were established: (1) that they were contents advertised on Youtube or Instagram, which are the most used social networks in the beauty sector, (2) contents for children’s perfumes were excluded (eg Perfume Frozen) since they are very minority and not representative of the sector and (3) only contents from top influencers were selected who were well known in the sample selected, since the impact of the influencer on the perception or emotion of the user may vary significantly according to whether they are known or not. All the contents were recorded with a Quicktime screen recorder from a computer screen.
- For the final selection of brands in the study, 10 marketing experts in the perfume sector were consulted for them to select from the sample those brands that targeted young people and to help identify if the contents were covert or not. In this way, an even sample would be obtained, undesirable side effects would be controlled and we would be ensured that they were sufficiently important brands in the Spanish market.

The maximum duration of the advertising videos sequence was around 12 minutes so that the subjects would not lose concentration, so, final selection was conditioned by this time restriction. The definitive sample consisted of 16 audiovisual contents with duration of 12 minutes and 22 seconds: 8 contents protagonised by influencers (with different degrees of advertising identification) and 8 contents with a traditional digital advertising format in order to make a comparison.

- 8 advertising spots, shared on social networks protagonised by actors (traditional advertising format).
- 2 advertising spots protagonised by influencers and shared on social networks (influencer format identified as advertising).
- 2 branded contents protagonised by influencers (covert advertising content).
- 4 contents without any express advertising intention identified protagonised by influencers: two from YouTube and two from Instagram Stories (format with more direct covert intention because there are no cues identifying advertising although there are clear signs of paid collaboration). These have a more home-made feel, according to the style of the influencer channel).

All these contents contained elements which enabled them to be recognised as YouTube or Instagram videos, such as logotype, typography, icons, etc. etc. In graphics 2 to 5 an example of each type of content can be seen.

**Graphic 2: Spot perfume Amor Amor - Spot without influencer or celebrity**

![Graphic 2: Spot perfume Amor Amor](source: Youtube)

**Graphic 3: Spot perfume Halloween Sweet California - Spot with influencer**

![Graphic 3: Spot perfume Halloween](source: Instagram)
2.2. Justification for sample

The experiment was made with a sample of 19 girls between 11 and 16 years old. Due to the novelty of the technique and the purpose of the research, an exploratory study was made to identify the most important elements of the phenomenon. Although the number of subjects in the experimental designs was far fewer than in the surveys, the exploratory nature of the experiment justified the number chosen.

The company Focus Castelló was hired to select the participants. In the initial selection, criteria for validity and scientific quality were combined with exploratory questions in order to choose a group of teenagers who were fans of the influencers in the study, since to explore the degree of influence a celebrity had, the subject needed to be aware that the appearing person was someone famous. In order to make sure these exploratory questions did not have an indirect effect on the subsequent responses in the survey, the adolescents were asked if they knew the influencers and related celebrities which appeared in the advertisements, but no questions were asked about the brands shown so as not to influence their perception about them.

This age range was chosen because they were digital natives who consumed a great deal of contents from influencers and they were an audience which was far more vulnerable to the effects of influencers and covert advertising (Tur Viñes et al., 2018). Nobody under 11 years old was selected as the contents in perfume advertisements contain certain topics and codes which may be incomprehensible to a very young audience. From 11 to 16 years old, this group starts to project their aspirations onto brands and role models, so the endorsement of an influencer may have a bearing on their purchasing process. The sample was totally female for two reasons: (1) to delimit the variables studied in the experiment and (2) to adapt the analysed contents, since perfume advertisements are mainly consumed by women.
2.3. Execution of study

The study was developed on 20th of June 2019 in a laboratory in the Faculty of Information Sciences at the Complutense University of Madrid in the afternoon so teenagers could attend.

The sample was gathered in a room that was specially prepared for performing the study correctly. As they came into the room, the Sociograph technicians put a bracelet around their non-dominant hand (bracelet and electrodermic activity meter on the finger to measure responses). 5 minutes were allocated for giving the participants instructions. Then, selection was carried out in various phases:

a) It started with a preview to prepare them for the study. 7 minutes of contents were watched which were similar to the ones that would be analysed subsequently, but these preliminary measurements were not included in the analysis, since in the first few minutes, attention levels are unstable and the sample needed to relax and become used to the laboratory setting.

b) Next, without the sample noticing the difference between one block and another, the selected contents were viewed for the experiment, which had a total duration of around 12 minutes. Whilst the activity was underway, using Sociograph technology, the electrodermic activity of the participants was monitored to register the impact the contents had on them.

c) Subsequently, a questionnaire was made on the videos watched. The bracelet number was registered to identify the Sociograph data with the questionnaire responses, but not the name or surname.

d) As the participants finished, the Sociograph technicians took the bracelets off the participants one by one and gave them their incentive before they were collected by their parents.

3. Results

3.1. Analysis of attention or EDL (electrodermal level)

On the electrodermic level (EDL) lower levels of resistance are associated with a greater degree of attention and greater levels of resistance are associated with a lower degree of attention. Therefore, in order to show this data graphically and to better interpret them, the EDL series were inverted in the Excel graphs; in this way when the line rose with EDL graph time, it meant the attention level also rose and when it fell it meant there was a decrease in attention.

As we can see in graphic 6, there were several significant results:

1. The highest peaks in attention corresponded to three contents which were protagonised by influencers. These showed a higher level of attention than those registered for traditional spots. These contents were: branded content from the group Sweet California (perfume Halloween), content from the Youtuber Rebeca Stones (for the perfume Amor Amor) and content from the Instagrammer Angine Corine (perfume Halloween).

2. It must be stressed that these contents were covert advertising (branded content, and two posts with no express identification that it was advertising), in comparison with two spots protagonised by influencers or traditional spots. In the branded content of Sweet California, the influencers set a challenge by decorating Halloween bottles while they encourage their fans to join them in decorating and they talk
about their childhood and tastes; the video by Rebeca Stones responds to 10 questions about love, and at the end of the Vblog she talks about her participation in an activity with the perfume Amor Amor by San Valentín and says what she likes about this perfume without mentioning advertising; the third content concerns some recommendations about Christmas gifts in which the influencer explains different Halloween perfumes and for which occasions she uses them, without mentioning these are paid for and so these endorsements are not purely altruistic.

3.2. Rate of change in attention

Even if there was a very high peak in attention with the content, perhaps the advertisement as a whole may not have managed to keep the attention of the user in comparison with other contents. In order to compare the audiovisual contents and see which captures attention the most, the rate of change for each spot had to be calculated. Attention is a highly sensitive variable and average attention per spot could not be calculated but, rather, the trend in the level was observed. That is, whether during an advertisement it rose, fell, or remained constant. The advertisements which ended with a greater degree of attention than when they began were ones which were capable of engaging the users and, therefore, they were the most effective ones.

In order to calculate the rate of change, the following formula was used and calculated for each content viewed.

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\text{EDL Average rate of change} = \frac{\text{EDL final} - \text{EDL initial}}{\text{EDL initial} \times \text{Length}} \times -100
\]

Although we could not establish a meaningful pattern about what type of video most captured attention, we can see that in graph 7 two out of the three contents with the greatest rise in attention were protagonised by influencers.

**Graphic 7: Average rate of change in EDL**

The content which most raised attention was the branded content from the group Sweet California, just like for the peaks in attention. The second most engaging content was an advertising spot protagonised by influencers. Here too, it was Sweet California with the perfume Halloween. The third content concerned a spot with perfume models Zadig & Voltaire, with many changes in shots, great speed, catchy music and modern female models. In this spot, although there was no significant peak in attention during viewing, when we calculated the rate of change we saw the sample began with a low level of
attention when the spot started, but the engaging quality of the advertisement meant this level gradually rose. Therefore, the rate of change was positive.

3.3. Emotional level or EDR (electrodermal response)

Emotion was another of the key elements for measuring the influence of advertising contents on the consumer. As we can also see in graphic 8, 2 out of the three contents with the greatest peaks in attention were branded content from influencers.

The branded content by María Pedraza for Yes I am, in which she is interviewed about her tastes and ends up showing the perfume at the end of the interview, is that which has the highest peak in emotion. The second concerns a traditional spot from the brand Benetton with many contrasting shots, very powerful music and vivid colours and the third content is, once again, the branded content of the influencers, Sweet California decorating bottles.

3.4. Rate of change in emotion

In order to measure the emotional impact of each content viewed, we needed to calculate average EDR, with this formula:

\[
\text{EDR Average} = \frac{\sum_{t}^{\text{Final}} \text{EDR}_{t}}{\text{Length}}
\]

Here, we can see in graphic 9 that the content which created the most emotional response was branded content from the interview with María Pedraza for the perfume Yes I am, although the next two most emotional contents were two traditional spots (from the Benetton and Zadig & Voltaire perfumes). However, it must be pointed out that branded content with less editing and narrative intensity than a television spot was that which created the most emotional response.
3.5. Post experiment survey

After viewing, the subjects answered a brief survey on the contents watched and their perception of them and the protagonists in them.

In the question “Out of all the videos you have seen, which ones have you liked the most?” we found some responses which clashed with those obtained in the first part of the study. The two most liked contents did not stand out for the high level of attention given to them nor for the emotional response they received in the experiment (the spots by Amor Amor spot and Aitana perfumes). However, the third, fourth and fifth most liked contents were those which received the most emotional responses or peaks in emotion (the branded content of María Pedraza for Yes I Am was the one which created the greatest amount of emotion, the Benetton spot came second and Yes I am was the fourth).

<table>
<thead>
<tr>
<th>Audiovisual contents</th>
<th>Percentage of preferred contents from the total sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amor Amor - SPOT</td>
<td>73.7%</td>
</tr>
<tr>
<td>Aitana - SPOT</td>
<td>63.2%</td>
</tr>
<tr>
<td>María Pedraza (Yes I am) – BRANDED CONTENT</td>
<td>47.4%</td>
</tr>
<tr>
<td>Yes I Am - SPOT</td>
<td>47.4%</td>
</tr>
<tr>
<td>Benetton - SPOT</td>
<td>47.4%</td>
</tr>
<tr>
<td>Paula Gonu – INFLUENCER CONTENT</td>
<td>42.1%</td>
</tr>
<tr>
<td>Rebeca Stones (Amor Amor) – INFLUENCER CONTENT</td>
<td>42.1%</td>
</tr>
<tr>
<td>Sweet California (Halloween) - SPOT</td>
<td>31.6%</td>
</tr>
<tr>
<td>Zadig &amp; Voltaire - SPOT</td>
<td>26.3%</td>
</tr>
<tr>
<td>Hollister - SPOT</td>
<td>26.3%</td>
</tr>
<tr>
<td>Nina Ricci - SPOT</td>
<td>21.1%</td>
</tr>
<tr>
<td>Angie Corine (Halloween) – INFLUENCER CONTENT</td>
<td>15.8%</td>
</tr>
<tr>
<td>Sweet C. (Halloween) - INFLUENCER CONTENT</td>
<td>10.5%</td>
</tr>
<tr>
<td>Tous - SPOT</td>
<td>5.3%</td>
</tr>
<tr>
<td>Escada - SPOT</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

These results were explained on analysing the following responses from the survey:

a) Credibility of the influencer: In the survey the subjects were asked to evaluate on a scale from 1 to 10 how believable they found the influencers who appeared in the videos. The data obtained in this question shows Aitana as being the most believable influencer. This may explain why the Aitana spot appears in first place of preference in the surveys despite not being an attractive advertisement in terms of attention captured or emotional response.
We even saw that there was also a certain correlation between the believability of the influencer and the order of the most liked videos by the respondents. If we compare the order of believability from graphic 11 with the most liked videos from graphic 10, we can see that the order in which the influencers appear is exactly the same. Although this phenomenon could be mere chance, it might also shed light on how important the believability of the influencers is for the perception of a brand to change to a positive one, so in future more in-depth studies must be made in order to see whether there was a direct correlation or not.

![Graphic 11: Degree of believability of influencer](image)

Source: Created by the author

b) Knowledge of a brand prior to the study: The subjects were asked which brands they knew before the study began, since, due to previous research, we know that this can be a factor which influences perception of the brand (Göbel, Meyer, Ramaseshan and Bartsch, 2017). As we can see in graphic 12, the most well-known brand in the survey was Amor Amor, one which also coincided with the most liked brand spot in graphic 10. Although the second most known brand (Tous Perfumes), did not score highly in terms of attention attracted, emotion responses or preferences in the study, it can be seen that the following brands that were most known by the respondents were related to the contents the sample most liked (the third most well known brand was the spot for Aitana perfumes and the fourth was the perfume Yes I am, which were the two most preferred contents.

![Graphic 12: Percentage of previous knowledge about brand before the study](image)

Source: Created by the author

Although the data was not consistent enough to establish a correlation, there were possible signs that there may have been some sort of relationship between previous knowledge of a brand and the positive attitude displayed towards these visualised brands. For Tous and Hollister brands (whose contents do not stand out for grabbing the attention or emotion of the spectators) this may be explained by the fact that it bore no relationship with the preference for the perfume video, since the “parent” brand is very well-known which might have lead the subjects to evaluate the fame of the jewellery or clothing brand, but not specifically the perfume. In this respect, it might be said that great knowledge about these two brands did not affect the preference of the videos for their perfumes. However we did see a relationship between knowledge of the brand Amor Amor or Yes I am or Aitana perfumes with the fact that these were the most liked videos by the teenagers.
4. Discussion

The first objective set in this exploratory study was to identify whether the advertising contents of influencers were more effective (in terms of attracting the attention of the subject, creating an emotional response or producing a more positive perception in the subject) than other digital advertising contents such as advertising spots. To test this, the first hypothesis set was that the contents protagonised by influencers drew more attention than advertising spots without them. The data obtained in the exploratory experiment were indicative that contents from influencers were indeed those which created more peaks in attention with a young audience. When we observed each content as a unit of analysis and compared them, we could also see that the two which drew most attention were ones from influencers. In this respect, we could validate the first hypothesis. Although not all contents from influencers were those which drew most attention, we could see that those with most peaks in and greater rates of attention were ones they protagonised.

The second hypothesis was that the contents protagonised by influencers were those which elicited the most emotional response in respect to advertising spots without them. In this case, the data obtained were not as categorical as those for attention, but we did find that two out of the first three contents with the highest peaks in emotion were from influencers. On comparing the contents viewed, the one which elicited most emotion was also protagonised by an influencer. In this respect, we could say the second hypothesis was partially validated, since the results were less categorical than those for attention.

The second objective of this exploratory study was to discover if there were significant differences between the alternative advertising formats of influencers. The first hypothesis set was to discover if covert advertising formats were those which received most attention in comparison with an advertising spot protagonised by an influencer. Here, we saw that the three most covert contents (branded content and two covert contents from influencers) were those which drew most attention in the whole sample analysed.

On comparing the different videos, we saw that the two contents, which attracted most attention, were branded content and a spot from influencers. These data seemed to indicate that the most covert contents did indeed generate greater levels of attention, thereby validating the hypothesis, but the data were not as robust as desired, so these findings would need to be revalidated in future studies.

The second hypothesis for objective 2 to be tested was whether the covert advertising formats were those which elicited most emotion in comparison with advertising spots by influencers. In this respect, the two branded contents of influencers were among the first three contents with peaks in emotion. When we compared the visualized contents, the one which elicited the most emotional response was the branded content from María Pedraza for Yes I am, although the two following ones were traditional spots. In this respect, the hypothesis was validated. We were even able to take this a step further and discerned certain signs that the branded content of influencers elicited more emotion than did the posts of covert advertising by the influencers. However, these findings must be considered with caution, as this was merely an exploratory study.

It is highly striking that the contents with most peaks in attention and emotion were from influencers and were less commercial in nature (two of them were home-made by the influencers themselves) when execution and production of traditional spots is far more elaborate, expensive and designed to have a greater effect on the consumer. An advertising spot might be expected to capture attention or create emotion far more intensively than branded content or home-made posts by an influencer. However, the data seems to indicate that using these influencers and knowing how to integrate brands into their videos resonates more with teenagers. The three contents by influencers which created the greatest peaks in attention were some videos which were much longer than the spots, which belied the market trend in making ever shorter videos since young people supposedly have ever shorter concentration spans. However, it might be deduced that the story or narrative told by the influencers or the charisma or unique and distinguishing style they each have might have meant a longer video not only kept their audience engaged, but even created higher attention levels. The results seem to show that formats with a certain covert advertising purpose worked better for teenagers, since playful content predominated in them and so fewer mental barriers might have been put up when viewing them, as the contents were not interpreted as being persuasive.

So, could the attention or emotional response from content have a positive influence on the perception of teenagers towards the advertised brand? Firstly, it must be taken into account that Sociograph really measures physical attention or emotional reaction with a stimulus. The emotion measured by Sociograph does not correspond to taste or any potential positive perception of this stimulus. However, although there are different variables at play, the physical reactions caused by a stimulus and taste or opinions about it can indeed be related, as seen in the results. In this respect, it seems clear that attention does
not have an impact on the positive perception of the brand, at least not in the short-term. However, although the data was not robust enough to establish a direct correlation, it may be inferred that emotion may have had some influence on how positively the brands were perceived, since, although the two best evaluated spots by the teenagers were not those which were most attractive or emotive for young people, the following four most liked contents did correspond to those which were. As we said before, other factors such as previous knowledge about the brand or the believability of the influencer might have been determining factors in how positively the advertisements were perceived (which explains why the first two most liked contents by the teenagers were brands about which they had greater previous knowledge or with the most believable influencers). In this respect, the data obtained were very significant, since not only did they demonstrate that content from influencers may capture high levels of attention and elicit more emotion, but also that the use of influencers may be a highly determinant factor for increasing the positive perception of the advertisement and/or brand. We can see there is a certain relationship between how believable the influencers are and how positive the perception of the contents is, and so we can infer by this that using influencers with a high degree of credibility may lead to a more positive perception of the brand. A clear example of this is the spot by Aitana, which, although it did not elicit high levels of attention or emotion, there was a positive opinion about the perfume and the brand was well remembered.

5. Conclusions

Although this is merely an exploratory study, this first contact has enabled us to gain an insight into the influencer phenomenon and to discover some key factors for explaining why they are considered to be more effective than more traditional advertising formats. Using influencers may increase engagement and the emotional response to the advertising contents. Moreover, formats which are less commercial-looking with influencers may be more effective than a traditional spot protagonised by an influencer. Curiously, intermediate formats, branded content, seemed to elicit more emotion than ones that are more covert and have a more home-made production style. These findings may be of great use for Spanish advertisers who may wish to use these new agents more effectively in their advertising contents.

The credibility of influencers in the positive perception of the brand they endorse was also a significant and salient finding. In this respect, a broader analysis on the characteristics of these influencers and how the degree of credibility affects advertising effectiveness would make a good topic for future research.

The data obtained must be corroborated and contrasted with other studies with a larger sample of teenagers, and other groups of subjects in order to see whether there are differences between ages or genders, when other research techniques are used. A more in-depth exploration will also be needed to see whether different types of formats protagonised by influencers make a difference in how brands are perceived. In this study, the immediate effect after viewing was measured, but it would be interesting to analyse the influence of endorsements by influencers in the short/long-term or on buying intention.

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7. Bibliography


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