Influence of Placement on Explicit and Implicit Memory of College Students

Influencia del «placement» sobre la memoria explícita e implícita de estudiantes universitarios

ABSTRACT
The use of product placement as a marketing communication tool is based on the inclusion of products or brands in the scene where the action is. The use of this tool has benefits for both the producer of the movie, as well as for brands and/or products. There is currently no consensus in the academic world on how to measure the effectiveness of this communication tool. There is scarce scientific evidence in Latin America, and in Chile this format has been used in television programs, and only recently in movies. The objective of this research is to study the influence of placement in movies on explicit memory (unaided recall and brand awareness) and implicit memory (purchase intention) through the implementation of an experiment performed on a sample of 205 Chilean college students, according to the different types of placement in movies: brands as part of the background, used by a main character, and connected with the plot. The results indicate that the higher the degree of integration of the brand with the plot of the film, the higher the probability of stimulating the explicit memory of participants and thereby unaided recall and brand awareness, providing empirical evidence regarding the learning of consumer behavior through placement as a communication tool.

RESUMEN
El uso del «product placement» como una herramienta de comunicación en marketing, se basa en la inclusión de productos o marcas en el escenario donde se desarrolla la acción. La utilización de esta herramienta presenta beneficios tanto para el productor del largometraje, como también para las marcas y/o productos. Actualmente no existe en el mundo académico un consenso respecto a cómo medir la efectividad de esta herramienta de comunicación. En Latinoamérica existe una escasa evidencia científica, y en Chile, este formato ha sido utilizado en espacios televisivos, y recientemente se está incursionando en el cine. El objetivo de esta investigación es estudiar la influencia del «placement» en las películas sobre la memoria explícita (recuerdo espontáneo y reconocimiento de marca) y memoria implícita (intención de compra) a través de la aplicación de un experimento a una muestra de 205 estudiantes universitarios chilenos, según los distintos tipos de «placement» en las películas: marcas como parte del fondo, usadas por un personaje principal, y conectadas con la historia. Los resultados indican que cuanto mayor es el grado de integración de la marca con la trama de la película, mayor es la probabilidad de estimular la memoria explícita de los estudiantes y con esto el recuerdo y reconocimiento de una marca, aportando evidencia empírica en relación con el aprendizaje de conductas de consumo por medio del «placement» como herramienta de comunicación.

KEYWORDS | PALABRAS CLAVE
Placement, media influence, movies, higher education, unaided recall, awareness, experiment, brand.
Publicidad subliminal, influencia mediática, películas, educación superior, recuerdo espontáneo, reconocimiento, experimento, marca.
1. Introduction

Starting in the 1970s product placement became known as an alternative communications tool and its use quickly grew mainly due to the «audience fragmentation» phenomenon. This phenomenon arises as a consequence of the difficulty in effectively reaching the target market due to the ever increasing offer of advertising possibilities and the lack of interest shown by audiences (Karniouchina, Uslay & Erenburg, 2011; Miles, 2009; Eisend, 2009). Product, or brand, placement has been defined as «the paid inclusion of brand products or brand identifiers through audio and/or visual media, as part of the programming done by mass communication media» (Karrh, 1998). This concept implies integrated planning of a non-obstructive commercial message within media entertainment space, so that individuals do not perceive it as an explicit attempt to commercially influence them (Balasubramanian, 1994).

In this respect, the corresponding literature distinguishes different types of placement in movies, such as: verbal, visual or audiovisual, according to its importance within a scene (subtle or prominent) (Gupta & Lord, 1998), degree of integration with the plot, and its relationship with the main character(s) (Russell, 1998; d’Astous & Seguin, 1999). Starting with the landscape model, which exposes the information activation patterns in an individual’s memory as part of the process of comprehension (Willes & Danielova, 2009; Van-den-Broek et al., 1996; Van-den-Broek, Yushchenko & Linderholm, 1999), visual «placement» has been categorized into three levels according to the degree of integration of the brand with the plot. In the first place, the brand may be presented as part of the background, shown in a scene but without being used. Secondly, it may be used by one of the main characters, but not in a manner relevant to the plot. And thirdly, it may be connected to the storyline, playing an integral part in the development of the movie (Yang & Roskos-Ewoldsen, 2007).

Placement in Chile has mainly been used in TV shows, TV series, and reality shows. In the last few years, this has been extended to movies and series (Salazar, 2012). This industry is still, however, in a developmental stage (Uribe & Campo, 2008). In fact, most of the studies have been applied to American audiences, with very little investigative evidence existing regarding Latin America (Khalbous & al., 2013).

Answering the question «how effective can this communications tool be?» is key when evaluating the use of placement. The academic world has not yet reached a consensus regarding what would be the most appropriate way to measure the effects of placement. The most commonly used methods are memory measurements based on the kind of processing used by the audiences (recall, awareness, methods of choice and purchase intention, etc.) (Williams, Petrosky, Hernández & Page 2011; Bressoud, Lehu & Russell, 2010; Reijmersdal, Neijens & Smith, 2009; Duke & Carlson, 1993). The effects of placement have generally been analyzed through cognitive answers, for example, using memory and brand awareness tests (Pokrywcynski, 2005).

Tests that predict the behavioral response of individuals, such as purchase intention or brand selection methods, produce, however, different results and do not appear to be correlated with the cognitive measures (Law & Braun, 2000). In this sense, and from an educommunicational point of view, the existing literature has determined that the interaction of audiences with movies or television series could generate a «transfer effect» due to the fact that certain social consumer environments are shown in these media, and these could be adopted (Noguti & Russel, 2014). Therefore, the present research studies the influence of placement in movies on explicit memory (unaided recall and brand awareness), and on implicit memory (purchase intention), on a sample of Chilean college students, according to the different types of placement: 1) brands as part of the background; 2) brands used by the main character(s); 3) brands connected to the storyline.

2. Material and methods

2.1. Types of placement in movies

The types of placement in movies have been categorized in a wide range of methods (Kaur, 2014). Gupta and Lord (1998), Verhellen, Dens and De-Pelsmacker (2013) proposed a two dimensional focus to classify the incorporation of a brand within a movie. The first is related to the incorporation of the brand which can be: 1) visual, through a product, logo, or other brand identifier; 2) in audio format, through the mention of the brand; 3) as an audiovisual combination. These authors state that visual placement is used more often, whereas the audiovisual form is the most expensive and, possibly, the most complex to integrate.

The second dimension is related to the level of prominence, or degree in which the placement works as a central focus point, categorized as «prominently» when it is presented in a highly visible manner, or as «subtly» when the product or brand identifier is presented away from the central focus point.

Similarly, Russel (1998) classified the types of pla-
cement in three dimensions. The visual dimension or «screen placement», implying the appearance of the brand on screen, which can be presented in different degrees according to the number of appearances, the recording style of the product or brand, etc. The audio dimension or «script placement», implying a verbal mention of the brand within the dialogue and may vary depending on the frequency that the brand is mentioned, as well as the emphasis and tone of voice used. And the third dimension, a connection to the storyline or «plot placement», which refers to the high or low level of intensity that the product is integrated into the central plot and storyline, and may be presented either visually or in an audio manner.

Authors d’Astous and Séguin (1999) catalogued three types of television product placement: 1) «implied placement», in which a brand is presented on a show without being formally mentioned, playing a passive or contextual role where the benefits or attributes of the product are not showcased; 2) «explicitly integrated placement», in which the brand or product plays an active role on a show, having its attributes and benefits demonstrated and showcased formally; 3) «non-integrated explicit placement», where the brand is formally referred to but is not integrated into the contents of the program.

Based on the landscape model, Yang and Roskos-Ewoldsen (2007) categorized visual placement into three different levels according to the degree of integration of the brand with the plot. The brand may be shown in a scene with the main character(s) presented as part of the background, but without being used; the brand may be used by a main character but not in a fashion relevant to the storyline; or the brand can be connected to the story playing an integral part in the outcome of the movie. The main discovery of these authors is related to the fact that brand placement connected to the storyline has a higher probability of being explicitly remembered in the future.

2.2. Placement effectiveness

DeLorme and Reid (1999) propose that placement effectiveness may depend on a number of factors such as: the perception of consistency between the brand and the context of the scene in the film, previous consumer experiences with the brand, empathy towards the character(s), level of spectator involvement with the plot of the movie, the traditional advertisement consciousness that the brand has developed in the past, and individual differences such as age, interests, aspirations, etc. There is still, however, a discussion as to which are the most convenient methods to measure placement effectiveness with audiences.

Research has shown that individuals use their explicit memory to recover information related to an ad or exposure to a past event, implying a deliberate or purposeful effort to try to access the previous information (Shapiro & Krishnan, 2001; Jusufovic-Karisik, 2014). Law and Braun (2000) conclude that two cog-
Regarding types of placement, it has been found that brands that are highly integrated with the plot are more often remembered and recognized (Lehu & Bressoud, 2009; Russell, 2002), as well as placement that involves a major character (d’Astous, Séguin & Chartier, 2000; Redker, Gibson & Zimmerman, 2013). Hypotheses 1 and 2 are formulated for the purpose of investigating the degree in which each type of placement influences unaided recall and brand awareness.

- **H1**: The rate of unaided recall in participants exposed to placement in movies is greater for brand placement connected to the storyline, followed by brand placement used by a main character, and lastly brand placement as part of the background.

- **H2**: The rate of brand awareness in participants exposed to placement in movies is greater for brand placement connected to the storyline, followed by brand placement used by a main character, and lastly brand placement as part of the background.

In spite of the fact that there is less evidence related to implicit memory, different authors have confirmed a possible influence in audiences using assisted memory recovery activities (Chung & Szymanski, 1997; Au & Lewis, 2004; Morton & Friedman, 2002; Cholinski, 2012). Regarding the types of placement, however, the evidence is unclear. In any event, for the purpose of corroborating the general effect of placement in the implicit purchase intention activity after the experiment in the control group, a third hypothesis for study presents itself.

- **H3**: Exposure of participants to placement in film positively and significantly influences the subsequent purchase intention of brands.

Finally, for the purpose of identifying the existence of a relationship between the effects of each type of placement on purchase intention and the landscape model, the following research question is posed.

- **RQ1**: Does the purchase intention activity produce different results according to the type of placement to which the participants are exposed?

### 2.3. Method

In order to corroborate H1, H2, H3, and RQ1, a sample of 205 male and female students from different colleges in Santiago, Chile were selected through a non-probability sampling (convenience sampling) (44% male, and 56% female), between 19 and 26 years of age, through the months of January and March of 2013. The distribution of the sample is detailed in the following table 1.

Additionally, approximately 80% of the sample mentioned that they go to the movies between one and two times a month, and 72% stated that they saw, on average, one to two movies a week.

The experiment was performed in a laboratory setting. Each respondent observed an edited video that exhibited extracts from different movies that contained two brands and only one of the three visual placement types.

### 3. Results

#### 3.1. Explicit memory

**3.1.1. Unaided recall exercise**

So as to be able to analyze whether or not the placement types predict and are related to the unaided recall variables and brand awareness, Binary Logistic Regression (BLR) procedure was applied. In this case, the dependent and dichotomical variable «brand recall» was defined, said variable adopting the value «1» when the participant remembered at least one brand, and the value «0» when this did not occur. Subsequently, so as to analyze the existence of significant statistical differences among the three experimental groups, the ANOVA analysis was used.

#### 3.1.2. Brand awareness exercise

The BLR analysis for the dependent variable «brand recall» indicated the presence of a significant model as well as the existence of a significant statistical relationship with the «placement type variable» (p = 0.000). Subsequently, the ANOVA analysis for the recall exercise resulted in a statistically significant F (2, 147) of 39.169 (p = 0.000); therefore, there are significant differences between the performances of the three experimental groups. To identify whether or not the differences were significant in all of the group
combinations, post hoc tests were conducted. Due to the fact that the variances homogeneity test indicated an insignificant Levene statistic (p=0.058), the equality of population variances hypothesis and the main statistics are accepted for this condition (Tukey, LSD, Bonferroni, etc.), producing significant statistical differences (p<0.05) for all of the combinations among the three experimental groups. As can be seen in Table 2 and Figure 1, the recall rate for the group exposed to the brand connected with the storyline was 68%, which indicates the percentage of brands that are correctly recalled by the participants. This percentage is greater than the results shown by the group exposed to the brand used by a main character (30%). Both of these groups obtain higher percentages than the group exposed to the brand as part of the background (15%). Therefore, hypothesis 1 which indicates the degree in which unaided recall is influenced by each of the placement types is supported.

3.1.2. Awareness exercise

The BLR analysis for the dependent variable «awareness» indicated the presence of a significant model and the existence of a significant statistical relationship with the «placement type» variable (p=0.000). The ANOVA analysis resulted in an F (2, 147) of 46.597 (p=0.000), therefore showing the existence of significant differences between the awareness rate averages for the three experimental groups.

A significant Levene statistic (p=0.000) was obtained following the steps for the unaided recall exercise. Therefore, the Tamhane, Dunnett and Games-Howell statistics are used, resulting in significant statistical differences (p<0.05) between the behaviors of the brand connected with the storyline and the two other groups. No significant differences (p > 0.05) were found, however, between the brand used by a main character and the brand as part of the background. For brand placement connected with the storyline the rate of recognition is 96%, indicating an elevated percentage of brands correctly recognized by this group. For the brand used by a main character, the rate is less with a recognition percentage of 58%. The brand used as part of the background has an even lower recognition percentage at 44% (Table 2). Because of the fact that the statistical difference between the brand placement used by a main character and the brand as part of the background cannot be corroborated with the aforementioned tests, hypothesis 2 which indicates the degree in which awareness is influenced by each type of placement is partially supported.

3.2. Implicit memory

3.2.1. Purchase intention exercise

For the purchase intention exercise, the BLR procedure for analyzing whether or not the existence of placement in film is related to, and can predict, purchase intention behavior for brands after exposure to the stimulus, was used. The «purchase intention» dependent variable was defined for this. This variable could have a value of «1» when the participant chose at least one of the brands that appeared in the film extracts shown, and a value of «0» if not. The independent, or explicative, variable corresponded to the group that was assigned to each surveyed participant (experimental group or control group). Subsequently, the ANOVA test was used as a factor so as to compare the answers...
between the experimental groups and the control group (Pope, 2002).

Analysis of the BLR for the «purchase intention» dependent variable indicated the presence of a significant model and the existence of a statistically significant relationship according to the group to which the participants were assigned (p=0.03), and according to the types of placement (p=0.000). In this sense, it is worth noting that the group that was exposed to placement in movies has a greater influence in purchase intention when compared to the control group. The ANOVA test performed among the participants of the experimental group and the control group so as to analyze the placement effect on purchase intention (Hypothesis 3), resulted in a significant F (1, 313) statistic of 10.108 (p=0.002). The percentage of purchase intention in the experimental group was 36%, as seen in Table 3 and Figure 2, higher that the results obtained in the control group (24%). In other words, the percentage of brands that appear in movies that are chosen by the participants was 12% higher than the percentage of these same brands chosen by the control group which had not been previously exposed to the placement. Hypothesis 3, which refers to the influence on the purchase intention of the participants prior to the placement exposure in the films, is therefore supported.

With reference to the existence of differences between the three experimental groups (RQ1), the «purchase intention rate of variation» variable was generated. The ANOVA analysis resulted in a significant F (2, 147) of 4.244 (p=0.016), implying the existence of differences between average variations in purchase intentions of the three groups (Table 3). When observing the multiple comparisons tests the only significant relationship occurs between the brand used by a main character (22% variation in the intention), and the brand as part of the background (5% variation). No significant results for the brand connected to the storyline (8% variation) and the rest of the groups were found. Therefore, it is worth noting that, regarding research question RQ1, brand placement used by a main character has a greater impact in the variation in purchase intention when compared to the brand as part of the background. However, no significant relationships of the brand connected to the storyline are found.

4. Discussion and conclusions

This research explored the influence of placement in movies on explicit memory (unaided recall and brand awareness), as well as implicit memory (purchase intention), on a sample of college students, regarding the different types of placements in film: 1) brands as part of the background; 2) brands used by a main character; 3) brands connected to the storyline through a landscape model, that explains the levels of activation of the information within memory in the comprehension processes.

The results obtained indicated that the use of brand placement connected with the storyline produces better results with regards to explicit memory, consistent with previous empirical evidence. The brand used by a main character, acting as a facilitator or support element of a scene, follows with lower results; this results in an intermediate level of explicit memory activation. Lastly, the brand used as part of the background which incorporates information that is not necessary for understanding the plot, therefore representing the lowest level of explicit memory activation. In this sense, use of placement in film, specifically when the brand is connected with the storyline, would imply a higher probability of stimulating explicit memory and, with this, recall and recognition.

The most relevant find of this research is related to...
the effect that placement apparently produces in the implicit memory of individuals, which is measured in this study through a purchase intention test. Regarding the types of placement, only a higher significant influence of the brand used by a main character is identified, compared to brand placement as part of the background. It has been mentioned that subtle placements could have a greater influence in implicit exercises, as explained by Ho, Ling and Young, 2011 in their placement study for video games; however, the results of the present study were the opposite. In this sense, no relationship with the comprehension of information model proposed by the landscape model is found, consistent with the evidence that supports that implicit memory would not be influenced by the way that the information is processed in the mind. A possible explanation could be that when the brand is used by a character the sense of familiarity increased, which could work as heuristic at the moment of brand selection, causing the so-called «transference effect» due to the learning of certain consumer social environments.

In this way, the use of placement in movies, and more specifically the brand used by a main character, would stimulate implicit memory when the product already exists in the market because this would reinforce the individual's behaviors such as purchase intention or effective purchasing, working as a learning consumer stimulus; in other words, edcommunication. This could eventually end up being detrimental if we apply these findings to restricted consumer products, such as alcohol (Noguti & Russel, 2014). In these cases, the individual could automatically, or unconsciously, recover the stimuli to which they had been exposed during placement and thus have their conduct influenced.

The limitations that this research presents are in terms of the sample design used. Because the sample is not a probability sampling, the results cannot be generalized to the rest of the Chilean college student population. Regarding the methodology used, the immediate effects on the participants are measured through exercises that are provided immediately after exposure to the placement in the movies. An analysis of the effects of placement after a few weeks of having concluded the exposure to the stimuli would be interesting. The number of brands evaluated, or the category of products used, could be construed as limitations as well. Comparisons between products with or without an ethical load, with a high or low level of emotional attachment, etc., could be included.

Challenges for future investigations would include, for example, the incorporation of a greater number of variables for the understanding of implicit memory and the higher influence found when the brand is used by a main character, time of exposure to the brands, previous consumer experiences, brand familiarity, empathy towards the characters, or individual variables. Due to the fact that the use of placement is increasing more and more each day throughout the world, another future challenge could be the expansion of the study towards other effective measures of placement.

Finally, and considering that most of the studies done in this area are performed within laboratory environments, another suggestion presents itself regarding the collection of information from the sample: field research; for example, at movie theater exits, this could improve the external validity of the experiment.

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