



Interciencia
ISSN: 0378-1844
ISSN: 2244-7776
interciencia@gmail.com
Asociación Interciencia
Venezuela

Redondo, Ignacio; Bernal, Jorge
HOW IN-FILM PRODUCT PLACEMENT STIMULATES FAST
FOOD CONSUMPTION IN DEVELOPING COUNTRIES
Interciencia, vol. 45, núm. 1, 2020, pp. 28-35
Asociación Interciencia
Caracas, Venezuela

Disponible en: <https://www.redalyc.org/articulo.oa?id=33962240005>

- Cómo citar el artículo
- Número completo
- Más información del artículo
- Página de la revista en redalyc.org

redalyc.org

Sistema de Información Científica Redalyc
Red de Revistas Científicas de América Latina y el Caribe, España y Portugal
Proyecto académico sin fines de lucro, desarrollado bajo la iniciativa de acceso
abierto

HOW IN-FILM PRODUCT PLACEMENT STIMULATES FAST FOOD CONSUMPTION IN DEVELOPING COUNTRIES

Ignacio Redondo and Jorge Bernal

SUMMARY

Fast food chains in the USA heavily use in-film product placement to globally stimulate favorable attitudinal/behavioral responses in viewers, who in turn receive the embedded promotional content with a low critical-thinking disposition and thus offer low resistance to persuasion. The persuasiveness of fast food product placement has been repeatedly established, but how the host film's characteristics contribute to such persuasiveness remains largely understudied. The film's characteristics may lead viewers to experience narrative transportation, identification with characters, perceived realism, enjoyment, familiarity with events, and approval of views, all of which may increase viewers' susceptibility to persuasion. To examine how these experiences contributed to explaining product placement persuasiveness, we conducted an experiment involving the screening of The Good Lie in a popular cinema in Chile.

Participants (N= 812) were randomly assigned to an intervention group, which watched the original movie with a McDonald's placement, or to a control group, which watched a placement-free version of the same movie. Immediately after the film viewing, participants reported their experiences in a survey and chose between a McDonald's and Subway combo meal. A logistic regression model was built using a stepwise selection procedure in order to identify the combination of variables with the highest predictive power. The increase in McDonald's choice was best explained by the interaction among brand placement exposure, character identification, and narrative transportation. These findings may help guide educational interventions for developing country consumers to improve their cognitive abilities so they can better understand and resist fast food product placement persuasiveness.

Introduction

Since the 1990's, USA fast food chains, such as McDonald's, KFC, Burger King, and Pizza Hut have expanded rapidly in developing countries (Christian and Gereffi, 2018), where the increasing consumption of high-calorie, low-nutrient fast food has been related to the gradual abandonment of local traditional dietary patterns, many of which contain more balanced nutrients; that is, less fat, sugar, and salt as well as more proteins, vitamins, minerals, and dietary fiber (Keshari and Mishra, 2016). The unbalanced composition of fast food may help explain why its excessive consumption is associated with increased risk of developing obesity, type 2 diabetes

mellitus, and coronary heart disease, all of which have prevailed across both developed (De Vogli *et al.*, 2014) and developing (Odegaard *et al.*, 2012) countries.

USA fast food chains have fueled their rapid expansion in developing countries through well-articulated marketing strategies. These chains successfully combine a) a global standardization of their product characteristics and brand images, which enhances their appeal to local communities, with b) a local adaptation in the distribution and pricing management, which enhances the availability and affordability of their commodities (Crawford *et al.*, 2015). In the realm of promotion, these chains successfully enhance the prestige and desirability of their

brands through conventional advertising and product placement (Christian and Gereffi, 2010). This study focuses on the much less researched product placement, a promotional technique that consists of embedding brands within movies, television shows, video games, music videos, and other entertainment content (Redondo and Bernal, 2015).

For fast food marketers, product placement has four important advantages compared to conventional advertising (Redondo, 2006; Redondo and Bernal, 2016): 1) entertainment content may make audiences experience intense emotions that reduce their resistance to being persuaded by embedded commercial material; 2) the public may process such

material in a non-critical manner, as if it were non-commercial content; 3) audiences cannot avoid exposure to commercial material within entertainment content in the way they can avoid ad breaks in such content; and 4) commercial material produces a greater behavioral response in the public when it is embedded in entertainment content than when it is shown as a conventional ad, all things being equal.

For the benefit of consumers, further research is needed to better understand the mechanisms by which fast food product placement may influence eating behaviors while audiences are consuming entertainment content with low critical-thinking disposition (Kelly *et al.*, 2015). A better

KEYWORDS / Fast Food Globalization / Health Communication / Nutrition Education / Product Placement / Resistance to Persuasion /

Received: 06/05/2019. Accepted: 01/17/2020.

Ignacio Redondo. Ph.D. in Economics and Business, Universidad Autónoma de Madrid, Spain. Professor, Universidad Autónoma de Madrid, Spain.

Jorge Bernal (Corresponding author). Commercial Engineer, Universidad de Tarapacá, Chile. Ph.D. in Economics and Business, Universidad Autónoma

de Madrid, Spain. Professor, Universidad de Tarapacá, Chile. Address: Facultad de Administración y Economía, Universidad de Tarapacá. Calle Cardenal

Caro N° 348, Arica, Chile. e-mail: jbernal@uta.cl.

CÓMO LOS EMPLAZAMIENTOS CINEMATOGRAFICOS ESTIMULAN EL CONSUMO DE COMIDA RÁPIDA EN PAÍSES EN DESARROLLO

Ignacio Redondo y Jorge Bernal

RESUMEN

Las cadenas estadounidenses de comida rápida son mostradas en películas para promover globalmente respuestas favorables de un público que está expuesto con escaso sentido crítico y poca prevención ante la persuasión. La capacidad persuasiva de estos emplazamientos cinematográficos ha sido repetidamente contrastada pero apenas se conoce cómo esa capacidad está condicionada por las características de la película correspondiente. Estas características pueden facilitar que los espectadores se identifiquen con los personajes, viajen al mundo narrado, perciban realismo, se diviertan, conozcan los hechos representados y aprueben las opiniones manifestadas, todo lo cual puede aumentar la susceptibilidad a la persuasión. Para medir la contribución de estos factores, hicimos un experimento basado en la proyección de The Good Lie en un cine popular de Chile.

Los participantes (N= 812) fueron asignados aleatoriamente a un grupo de experimentación, que vio la película original con un emplazamiento de McDonald's, y un grupo control, que vio una versión de la misma película sin emplazamiento. Después la película, los participantes manifestaron sus experiencias en una encuesta y eligieron entre un menú de McDonald's o Subway. Mediante un modelo de regresión logística se identificó la combinación de factores con mayor poder predictivo. El incremento en la elección de McDonald's fue mejor explicado por la interacción entre la exposición al emplazamiento, la identificación con los personajes y el viaje al mundo narrado. Estos resultados podrían orientar acciones educativas dirigidas a que los consumidores de países en desarrollo puedan comprender y resistir mejor los emplazamientos de comida rápida.

COMO O MERCHANDISING CINEMATOGRAFICO ESTIMULA O CONSUMO DE COMIDA RÁPIDA EM PAÍSES EM DESENVOLVIMENTO

Ignacio Redondo e Jorge Bernal

RESUMO

As cadeias americanas de fast-food são mostradas em filmes para promover globalmente respostas favoráveis de um público que está exposto com escasso sentido crítico e pouca prevenção diante da persuasão. A capacidade persuasiva do merchandising cinematográfico tem sido repetidamente contrastada, mas apenas se conhece como essa capacidade está condicionada pelas características do filme correspondente. Estas características podem facilitar aos espectadores identificar-se com os personagens, viajar ao mundo narrado, perceber realismo, divertir-se, conhecer fatos representados e aprovar as opiniões manifestadas, todo o qual pode aumentar a suscetibilidade à persuasão. Para medir a contribuição destes fatores, realizamos um experimento baseado na projeção de The Good Lie em um cinema popular do Chile. Os participantes (N= 812) fo-

ram designados aleatoriamente a um grupo de experimentação, que viu o filme original com o merchandising de McDonald's, e um grupo controle, que viu uma outra versão do mesmo filme sem a veiculação do produto. Após o filme, os participantes manifestaram suas experiências em uma enquete e escolheram lanches em menus de McDonald's ou Subway. Mediante um modelo de regressão logística se identificou a combinação de fatores com maior poder preditivo. O incremento na seleção de McDonald's foi melhor explicado pela interação entre a exposição ao merchandising, a identificação com os personagens e a viagem ao mundo narrado. Estes resultados poderiam orientar ações educativas orientadas para que os consumidores de países em desenvolvimento possam compreender e resistir melhor o merchandising de comida rápida.

understanding of such mechanisms would help teach defense skills against product placement so that consumers a) gain awareness of how they can be gently persuaded, b) understand which psychological processes make them more susceptible to persuasion, and c) improve their cognitive abilities to resist attempts to persuade (Harris *et al.*, 2009b). It is particularly important to study such mechanisms among developing country consumers because individuals with lower socioeconomic status are more

vulnerable to misinterpretation of food portrayals in entertainment content (Vermeersch and Swenerton, 1980; Avery *et al.*, 1997) and because susceptibility to persuasion is greater among those developing country consumers who have a greater admiration for developed world lifestyles (Batra *et al.*, 2000). It is also appropriate to cover all age groups because susceptibility to persuasion has been found among both minors and adults (Harris *et al.*, 2009a).

Focusing on film content, the prevalence of fast food product

placements is relatively high. In a sample of 200 popular films (the top 20 USA box office movie hits for each year from 1996 to 2005), 203 fast food brand placements were identified, among which 43 corresponded to McDonald's, 23 to Burger King, 19 to Dunkin Donuts, and 19 to Starbucks (Sutherland *et al.*, 2010). With respect to the mode of representation, fast food consumption is often portrayed unrealistically as an aspirational activity that intelligent/popular/attractive characters perform in predominantly pleasant situations

(Story and Faulkner, 1990) and as an eating pattern with no potential negative consequences for consumers' health (Greenberg *et al.*, 2009). Not surprisingly, the more consumers are exposed to these fast food portrayals, the more likely they will bias their views of the potential health consequences of fast food consumption (Russell and Buhrau, 2015).

Previous studies have consistently found that in-film food brand placement has an immediate effect on viewers' brand choices, and also found that the size of such an effect increases

depending on certain characteristics of the promotional stimulus: A greater proportion of viewers is persuaded when the brand is shown more frequently/ extensively in the film (Matthes and Naderer, 2015; Brown *et al.*, 2017), when the film's characters interact with the brand (Naderer *et al.*, 2018), when the negative effects of the brand's consumption are not shown (Redondo, 2012), and when the brand's placement is accompanied by conventional advertising of the brand during commercial breaks (Uribe and Fuentes-García, 2015). By contrast, there is a substantial research gap regarding the role played by the characteristics of the film in which the promotional stimulus is embedded. As explained subsequently, experienced reactions to film characteristics may affect those viewer psychological mechanisms through which the embedded promotional content persuades.

Investigating the role of film characteristics

The consistent persuasiveness of in-film product placement can be understood by considering that film content tends to automatically produce story-consistent attitudinal/behavioral changes in viewers through a mechanism based on social cognitive theory, which states that humans vicariously learn attitudinal/behavioral responses by mere observation of the attitudes/behaviors modeled in entertainment and news media (Bandura, 1986). Specifically, this theory helps explain why branded food/drink portrayals in film stories automatically shape viewers' eating/drinking responses to the promoted brands (Greenberg *et al.*, 2009; Redondo *et al.*, 2018).

The automatic persuasiveness of product placement may be enhanced when the characteristics of the surrounding film content make viewers experience narrative transportation, identification with characters, perceived realism, and feeling of enjoyment.

A film's narrative may lead viewers to experience a mental

transportation into the world evoked by the story, an experience generally known as narrative transportation (Green and Brock, 2000). This psychological process may reduce viewers' motivation and ability to think critically about the story's content, thus making them more susceptible to persuasion (Dal Cin *et al.*, 2004).

Film characters may move the public to experience psychological identification with them, which typically manifests as feeling intimacy with them, engaging in their thoughts and emotions, viewing them as role models, and imitating their attitudes/behaviors (Cohen, 2001; Russell and Stern, 2006). The more viewers identify with characters, the less critically they analyze the reasons and consequences of such characters' attitudes/behaviors (Slater, 2002).

Perception of a film realism (i.e., that its actions, events, settings, and characters are consistent with each other; Dal Cin *et al.*, 2004) may help viewers maintain their emotional involvement in the story (Busselle and Bilandzic, 2008) and enable them to vicariously learn and subsequently adopt story-consistent attitudes/behaviors (Bandura, 2001).

Film enjoyment may result in a positive emotional state in which viewers are less likely willing to critically evaluate the story's content and to actively counter-argue the embedded commercial content, which should enhance its persuasive effects (Slater, 2002; Hall and Zwarun, 2012).

Our study measured the extent to which each of these experiences helped enhance product placement persuasiveness. Exploratively, we also measured the potential contribution of two additional understudied film characteristics (familiarity with the fictionalized events and approval of the movie's views), which could understandably reinforce viewers' involvement in the story and predisposition toward story-consistent outcomes.

Another step was to measure the potential contribution of

these experiences when considered in interaction rather than individually. The rationale behind this step is that all these experiences are often interconnected. For example, viewers are more likely to engage in narrative transportation into the film's world when they experience a degree of identification with the film's characters (Sestir and Green, 2010; van Laer *et al.*, 2014), a certain perception of realism in the film's story (Green, 2004; Hall and Bracken, 2011), and a general feeling of enjoying the film's viewing (Hall and Bracken, 2011; Hall and Zwarun, 2012).

The final research objective was to identify the experience or combination of experiences that made product placement more persuasive. To this end, we built a model in which the change in brand choice depends on the product placement, which could be incorporated into the model in different forms (i.e., in interaction with one or more experiences). The form chosen for incorporation was that which comparatively had the highest predictive power; that is, the option with the greatest capacity to explain the influence of product placement on brand choice.

Methods

Experiment design

To ensure internal validity, we designed a randomized controlled experiment in which the impact of a brand's placement was isolated by measuring the difference in the brand's choice between a stimulated and a non-stimulated group. To strengthen external validity, we conducted the experiment in a natural setting that faithfully recreated the real conditions in which moviegoers are stimulated by brand placements.

Participants were recruited to attend a screening of *The Good Lie* (Howard *et al.*, 2014) in a popular theatre in Arica, Chile. Recruited subjects were randomly assigned to watch the original movie, with its McDonald's placement, or a version of the same movie in which the McDonald's

placement had been removed. Reactions to the movie were collected in a survey conducted immediately after the film viewing and choices of either a McDonald's or a Subway combo meal were measured. This experiment posed no foreseeable risk to the participants and collected only anonymous non-sensitive information.

Field work organization

To recruit participants, we announced invitations to an event at the Hoyts Theater, in the city of Arica during which *The Good Lie* (a movie never released in Chile) would be screened and a study would be conducted by researchers at the sponsoring university. The announcements were published during the ten days prior to the event and consisted of a) twelve ads per day on two popular local radio stations, b) flyers left by the theatre's box office and restocked when necessary, c) copies of the movie's poster placed on public bulletin boards in four busy areas of the city, d) twelve hundred flyers distributed among those who passed by the movie's posters, and e) invitations emailed to students, professors, and employees of the University of Tarapacá. All these various media indicated how to book the event's tickets and provided varying degrees of information about the movie (cast, synopsis, etc.) depending on the space available.

Tickets were booked by phoning/emailing the number/address provided in the promotional materials and were picked up at the box office. In order to randomly assign the subjects to either the intervention or control group, the person in charge of managing the reservations alternately assigned the callers/senders either to the first or second screening based on the order in which the call/email was received. The first screening had been assigned to the intervention group (original movie), and the other to the control group (brand-free movie).

The screenings were held during the morning of Sunday,

22/11/2015. As soon as each screening ended, the lights were turned on, and a staff member appeared in front of the audience and introduced himself as a University of Tarapacá researcher conducting a survey. He asked the audience members to voluntarily participate in the survey and freely answer as many questions as desired in the questionnaire administered at that time. He also said that, as a show of gratitude, each participant could choose from among several gifts to distribute at the exit.

At the end of the questionnaire, the respondents were asked to select three gifts, each one chosen from between two alternatives accompanied by pictures: They could choose either a *Pepsi* or *Coca-Cola* can, a *Pringles* or *Lay's* potato snack package, and a gift certificate for either a *McDonald's* or *Subway* combo meal, all of which were alternatives comparable within each category and available in the local market. At the room's exit, an assistant collected the questionnaires, and then in the hallway outside, other assistants distributed the gifts selected by each participant.

Stimulus features

The Good Lie is a critically acclaimed drama that, though fiction, is based on the true plight of the so-called 'Lost Boys of Sudan'. In the movie, a group of children are left orphaned and homeless by the Second Sudanese Civil War (1983-2005) and have to make a long, perilous journey on foot to reach a refugee camp in Kenya. Thirteen years later, the now young adults are given the chance to resettle in the USA. At arrival in Kansas City, they meet Carrie (Reese Witherspoon), an employment agency counselor assigned to help them get jobs. Although initially reluctant, Carrie becomes deeply involved in helping the Sudanese refugees overcome all types of difficulties they face in adapting themselves to modern life in a USA city.

McDonald's appears in a 37-second long segment. While the refugees Mamere,

Jeremiah, and Paul are being driven by car, Carrie has to stop because Jeremiah is about to vomit. While Jeremiah recovers on the side of the road, Mamere explains that his brother "has a weak stomach" and Paul asks about a billboard displaying the McDonalds golden arches. "That's McDonald's. It's a place to eat," answers Carrie. The next scene shows the refugees having McDonald's drive-thru menus in the car to the surprise of those who have never seen the items included in a combo meal. Jeremiah enjoys the meal and feels better.

A control group version of the movie was created by removing

the McDonald's-related segment (i.e., 'the McDonald's placement'). The potential impact of this removal on viewers' evaluations was tested (see Results).

Variable description

The McDonald's choice (dependent variable) was coded 1 if the subject selected the McDonald's combo meal and 0 if the choice was for the Subway combo meal.

The placement of McDonald's was coded 1 for the intervention group and 0 for the control group. Attitude toward McDonald's was measured by the item, 'McDonald's is an excellent fast food chain', with

response options ranged on a 7-point Likert scale (from -3= 'completely disagree', to 3= 'completely agree'). The other six independent variables were measured through multiple items which we either adapted from previous studies (narrative transportation, Green and Brock, 2000; identification with characters, Cohen, 2001; perception of realism, Green, 2004; and feeling of enjoyment, Hall and Zwarun, 2012) or defined for the specific film (familiarity with the fictionalized events and approval of the movie's views). Each multi-item variable was calculated by averaging the responses to five items (Table I), which had been scored on the same Likert scale.

TABLE I
MULTI-ITEM VARIABLES AND THEIR INTERNAL CONSISTENCY RELIABILITY

<u>Narrative transportation (Cronbach's $\alpha = 0.86$)</u>
- I was mentally involved in the story while watching the movie
- While watching, the activity going on in the room around me was not on my mind
- While watching, I became mentally transported into the world shown in the movie
- While watching, I found myself feeling what the characters might feel
- While watching, I could easily envision the development of the story
<u>Identification with characters ($\alpha = 0.87$)</u>
- While watching the movie, I felt I identified with Mamere, Jeremiah, and Paul
- I could feel the portrayed emotions of Mamere, Jeremiah, and Paul
- I could understand the reasons why Mamere, Jeremiah, and Paul did what they did
- I could understand what Mamere, Jeremiah, and Paul were going through at key moments
- I wanted Mamere, Jeremiah, and Paul to succeed in achieving their goals
<u>Perception of realism ($\alpha = 0.92$)</u>
- The way people live their everyday lives is portrayed very accurately in this movie
- This film deals with the kind of difficult choices people in real life have to make
- The setting for the movie seems very realistic
- The actions and reactions of the characters are plausible
- The characters are like people that everyone could come across in the street
<u>Feeling of enjoyment ($\alpha = 0.94$)</u>
- It was an interesting experience for me to watch this movie
- Overall, I enjoyed this movie
- I was really moved by this movie
- This movie will stick with me for a long time
- I would recommend this movie to my friends and relatives
<u>Familiarity with the fictionalized events ($\alpha = 0.94$)</u>
- Before watching this film, I already knew that some civil wars in Africa led to the extermination or exodus of entire peoples
- I already knew that some humanitarian organizations set up camps for refugees from the wars in Africa
- I already knew that the governments of some developed countries have willingly given asylum to war refugees
- I already knew that some private institutions have helped in the relocation of refugees to developed countries
- I already knew that some of the refugees given asylum in developed countries have become fully integrated into these countries
<u>Approval of the movie's views ($\alpha = 0.91$)</u>
- In case of war, neighboring countries should organize refugee camps
- Developed countries should give residence, education, and work to those affected by war
- Expired food should be given to the needy instead of being thrown away
- Even in the most difficult situations, we must share the available food with others
- As it appears at the end of the film, "If you want to go fast, go alone. If you want to go far, go together"

Perceived integrity of the movie was assessed by the item, 'This movie's plot has gaping holes', rated on the same Likert scale.

Statistical analyses

As preliminary analyses, various statistical tests were performed. Chi-square tests of homogeneity were conducted to assess potential differences in participant demographics between the intervention and control groups. A two-independent-samples t test was used to evaluate whether or not the removal of the McDonald's placement produced differences in the groups' perceptions of the movie's integrity. Cronbach's alphas were calculated to assess the internal reliability of multi-item variables.

For this study's final purpose, we built a binary logistic regression model in such a way that the McDonald's placement (by itself or in interaction with one or more film characteristics) best explained the McDonald's choice, which was performed by a forward stepwise procedure based on the likelihood ratio. We used widely accepted criteria (Hair *et al.*, 2010) to interpret variable coefficients and overall model fit statistics.

All statistical analyses were performed using SPSS for Windows (version 22, IBM SPSS, Armonk, NY, USA, 2013). Significance level was set at $p < 0.05$.

Results

With respect to participants, 864 tickets for the movie event were booked, but 43 ticket holders eventually did not attend. None of the attendees openly refused to complete the questionnaire when it was administered, but three questionnaires were left blank and six were incomplete. The final sample thus consisted of 812 valid questionnaires, whose distribution by experimental groups and demographic variables is shown in Table II. Chi-square tests of homogeneity indicated that random

TABLE II
SAMPLE DISTRIBUTION BY DEMOGRAPHICS AND
EXPERIMENTAL GROUPS

Demographics	Intervention group	Control group	Total
Sex			
Male	205	216	421
Female	209	182	391
Age (years)			
18 or less	47	56	103
19-30	186	176	362
31-40	100	102	202
41 or more	81	64	145
Education			
Primary or less	44	50	94
Secondary	159	148	307
Tertiary	211	200	411
Total	414	398	812

assignment resulted in balanced conditions in terms of sex ($\chi^2 = 1.8$, $p = 0.18$), age ($\chi^2 = 2.8$, $p = 0.43$), and education ($\chi^2 = 0.8$, $p = 0.69$).

The removal of the McDonald's placement did not affect viewers' perceptions of the movie's integrity because the intervention and control groups did not differ in their evaluation of the plot's gaping holes ($M_{IG} = -2.66$; $M_{CG} = -2.57$; $t = 1.72$, $p = 0.09$).

With regards to reliability of the multi-item variables, the Cronbach's $\alpha > 0.80$, as shown in Table I, indicated adequate internal consistency for the six variables.

Regarding the regression logistic model building (Table III), the baseline model showed that the McDonald's choice was conditioned by the attitude toward this brand, as expected. Several potential ways to incorporate the McDonald's placement (either alone or interacting with one or more film variables) were compared through their score statistic values, which measured their additional contribution to the explanation of the McDonald's choice. By itself, the McDonald's placement had a significant score, denoting an automatic persuasive power, but some other options showed higher values. Combined with only one variable, the placement showed higher scores in interaction with either character

identification or narrative transportation, while it had lower, albeit significant, scores in interaction with feeling of enjoyment, perception of realism, approval of the movie's views, and familiarity with the fictionalized events. These results indicate that the placement's persuasiveness was reinforced when the interactive effect of either identification with characters or narrative transportation was considered. Combined with two variables, the placement showed the overall highest score in interaction with both character identification and narrative transportation, while the other variable combinations were less discriminant than placement alone. Combined with three or more variables, the placement always showed lower scores which, for brevity, were not included in Table III. Lastly, the option with the highest predictive contribution was incorporated into our final model. The comparison between the overall fits of the baseline and final models confirmed that this incorporation produced a significant reduction in the log likelihood value, a relative improvement in R^2 measures, and a substantial increase in classification accuracy ratio.

Discussion

The mere viewing of McDonald's-related content

embedded in a movie produced a McDonald's choice increase, even though such content didn't describe any objective quality of the company's products but simply showed that the products satisfied some movie characters from an under developed country. Previous research (Redondo and Bernal, 2016) suggests that, if the same content had been shown as a conventional ad, it would have been less persuasive because viewers would have evaluated it more critically and offered greater resistance to persuasion. But nevertheless, with lower critical-thinking dispositions, consistent with social cognitive theory (Bandura, 1986), viewers learnt from the McDonald's placement that it was fortunate to live in a country sufficiently developed to have McDonald's restaurants, which made them more inclined to choose this brand. Furthermore, the McDonald's placement was most persuasive when viewers simultaneously a) identified with the characters, with whom they could share the experience of discovering, tasting, and enjoying McDonald's food; and b) felt transported into the story's world, where they could understand that being introduced to McDonald's was just a step in the adaptation to modern life in the USA. However, the McDonald's placement effectiveness wasn't enhanced by higher levels of enjoyment, perceived realism, agreement with views, and familiarity with events.

These findings suggest the importance of integrating three different theoretical approaches commonly used to explain product placement persuasiveness, which has been proposed to essentially depend on either social learning automatically acquired from the entertainment content (Greenberg *et al.*, 2009; Redondo *et al.*, 2018), imitation of the characters with whom a close attachment is formed (Russell *et al.*, 2004; Russell and Stern, 2006), or adoption of attitudes/behaviors existing in the story's world to which viewers feel transported

TABLE III
LOGISTIC REGRESSION MODEL BUILDING FOR MCDONALD'S CHOICE

Baseline model		B	Wald	p	Exp(B)
Attitude toward McDonald's		0.52	117.38	<0.001	1.68
Constant		0.76	79.33	<0.001	2.13
-2 Log Likelihood (-2LL)= 929.78					
Cox and Snell R ² = 0.16					
Nagelkerke R ² = 0.22					
Classification accuracy (hit ratio)= 66.7%					
Candidates to enter the model		Score	p		
Placement		46.8	<0.001		
Placement x Characters		50.3	<0.001		
Placement x Transportation		47.1	<0.001		
Placement x Enjoyment		42.9	<0.001		
Placement x Realism		40.0	<0.001		
Placement x Approval		39.0	<0.001		
Placement x Familiarity		27.6	<0.001		
Placement x Characters x Transportation		50.6	<0.001		
Placement x Characters x Enjoyment		45.4	<0.001		
Placement x Transportation x Enjoyment		43.4	<0.001		
Placement x Characters x Realism		42.6	<0.001		
Placement x Characters x Approval		42.1	<0.001		
Placement x Transportation x Realism		40.0	<0.001		
Placement x Transportation x Approval		39.3	<0.001		
Placement x Enjoyment x Realism		36.2	<0.001		
Placement x Enjoyment x Approval		35.3	<0.001		
Placement x Realism x Approval		33.3	<0.001		
Placement x Characters x Familiarity		30.6	<0.001		
Placement x Transportation x Familiarity		27.7	<0.001		
Placement x Enjoyment x Familiarity		25.1	<0.001		
Placement x Realism x Familiarity		23.3	<0.001		
Placement x Approval x Familiarity		20.3	<0.001		
Final model		B	Wald	p	Exp(B)
Attitude toward McDonald's		0.58	126.37	<0.001	1.78
Placement x Characters x Transportation		0.18	48.22	<0.001	1.19
Constant		0.24	4.67	0.031	1.27
-2 Log Likelihood (-2LL)= 877.37					
Cox and Snell R ² = 0.21					
Nagelkerke R ² = 0.29					
Classification accuracy (hit ratio)= 81.4%					

Placement: McDonald's placement, Characters: identification with characters, Transportation: narrative transportation, Enjoyment: feeling of enjoyment, Realism: perception of realism, Approval: approval of the movie's views, Familiarity: familiarity with the fictionalized events.

(Banerjee and Greene, 2012; van Laer *et al.*, 2014). Based on the evidence that brand choice increase was best predicted by the interaction among brand placement, character interaction, and narrative transportation, we suggest that the three approaches may be complementary rather than competitive and that further studies should focus on articulating a more comprehensive theoretical framework.

Limitations

This study, albeit having high levels of internal and external validity, has an important limitation: The results were produced by a specific type of

product placement, but different results could have obtained if the experiment had involved other types of product placements. We suggest three types of placement that could potentially lead to different results should be considered. Firstly, if the brand appearance is not prominent enough in terms of visibility, duration, and relevance to the movie's plot, viewers could have such a limited perception of the brand that they don't learn anything about it and thus don't evince any response toward it. Secondly, if the placed brand does not play any role connected to the thoughts/conversations/actions of identifiable characters, the brand-related

content persuasiveness could not be reinforced by viewers' identification with characters. Thirdly, if the brand appears in an artificial/anachronistic way within the story, viewers could perceive an inappropriate commercial intrusion, reduce their level of immersion in the story, and ultimately offer more resistance to adopting story-consistent attitudes/behaviors.

Practical Implications

From this study's findings, advertisers may learn what kind of film content they should choose for their prominent, natural, and character-related placements in order to maximize behavioral responses

in viewers. The best films would be those that have both readily identifiable characters and very captivating stories, regardless of their levels of enjoyability, realism, agreement with views, and familiarity with events. It certainly wouldn't be societally beneficial that fast food chains use these findings to further globalize the immoderate consumption of their nutritionally unbalanced products. As a desirable counter balance, these findings could also be used to more frequently promote healthy eating habits through film content, as various healthy behaviors have been effectively spread through 'entertainment education' (Bandura, 2004).

Indeed, there is an ethical obligation to prevent potential harms from the most disguised/obtrusive advertising techniques (Eagle and Dahl, 2018; Belanche, 2019).

The observation that susceptibility to persuasion is not exclusive to minors suggests that a) possible legal restrictions on product placement in youth-oriented films are insufficient, and b) educational initiatives are needed to train the entire audience to better understand and resist product placement persuasiveness. In this sense, educational interventions might specifically target improving cognitive abilities that deactivate the mechanisms underlying product placement persuasiveness. To inhibit automatic learning from brand-related contents, people should be made more aware that such contents often have a commercial purpose, so it wouldn't be reasonable to give these the same credibility that objective and disinterested sources of information deserve. To neutralize imitation of identifiable characters, people should be helped to better understand that fictional characters' thoughts/conversations/actions are determined by the storyline, whereas in real life the starring actors think/speak/act in ways that are probably quite different. To prevent adoption of attitudes/behaviors from the story's world, people should be made conscious that becoming emotionally immersed in a film story tends to reduce their capacity for critical reflection, which facilitates the adoption of story-consistent responses that they would likely reject in critical-thinking modes. Further studies are needed to investigate how these cognitive abilities can be trained successfully at different education levels in developing countries.

Conclusions

This study helps to better understand the mechanisms by which fast food product placements stimulate consumption of the promoted brands among developing country audiences.

Promotional fast food messages embedded in film content subtly manage to enhance the brands' prestige and desirability but misleadingly fail to show any potential negative health consequences. Overall film content may lead viewers to vicariously learn and subsequently adopt story-consistent attitudes/behaviors. Specific in-film promotional messages are received with low critical-thinking disposition, which make audiences offer low resistance to persuasion. This study first reports the role played by the film's characteristics in enhancing product placement persuasiveness, which is maximized when such characteristics lead viewers to experience both character identification and narrative transportation. It is expected that fast food companies choose movies with both readily identifiable characters and very captivating stories in order to maximize the effect of their brand placements. Unfortunately, promoters of local traditional foods are much less able to embed educational messages in film content in order to spread their nutritional benefits. Given all the above, it is necessary to undertake educational initiatives for developing country consumers to learn how product placement takes advantage of audience receptiveness to improve attitudes toward fast food and encourage its consumption. Only sufficiently informed consumers are in a position to consciously and deliberately exercise their sovereignty to eat fast food after viewing fast food product placements.

ACKNOWLEDGMENTS

The authors wish to thank the Universidad de Tarapacá (Arica, Chile) for financially supporting the experiment under Mayor Project No. 8751-18.

REFERENCES

Avery RJ, Mathios A, Shanahan J, Bisogni C (1997) Food and nutrition messages communicated through prime-time television. *J.*

- Public Policy Market.* 16:217-227.
- Bandura A (1986) *Social Foundations of Thought and Action: A Social Cognitive Theory.* Prentice-Hall. Englewood Cliffs, NJ, USA. 617 pp.
- Bandura A (2001) Social cognitive theory of mass communication. *Media Psychol.* 3:265-299.
- Bandura A (2004) Social cognitive theory for personal and social change by enabling media. In Singhal A, Cody MJ, Rogers EM, Sabido M (Eds.) *Entertainment-Education and Social Change: History, Research, and Practice.* Erlbaum. Mahwah, NJ, USA. pp. 75-96.
- Banerjee SC, Greene K (2012) "I quit" versus "I'm sorry I used": A preliminary investigation of variations in narrative ending and transportation. *Psychol. Health* 27:1308-1322.
- Batra R, Ramaswamy V, Alden DL, Steenkamp JBE, Ramachander S (2000) Effects of brand local and nonlocal origin on consumer attitudes in developing countries. *J. Cons. Psychol.* 9:83-95.
- Belanche D (2019) Ethical limits to the intrusiveness of online advertising formats: A critical review of Better Ads Standards. *J. Mark. Commun.* 25: 685-701.
- Brown CL, Matherne CE, Bulik CM, Howard JB, Ravanbakht SN, Skinner AC, Wood CT, Bardone-Cone AM, Brown JD, Perrin AJ, Levine C, Steiner MJ, Perrin EM (2017) Influence of product placement in children's movies on children's snack choices. *Appetite* 114:118-124.
- Busselle R, Bilandzic H (2008) Fictionality and perceived realism in experiencing stories: A model of narrative comprehension and engagement. *Communic. Theory* 18:255-280.
- Christian M, Gereffi G (2010) The marketing and distribution of fast food. In Freemark MS (Ed.) *Pediatric Obesity: Etiology, Pathogenesis, and Treatment.* Humana. New York, NY, USA. pp. 439-450.
- Christian M, Gereffi G (2018) Fast-food value chains and childhood obesity: A global perspective. In Freemark MS (Ed.) *Pediatric Obesity: Etiology, Pathogenesis, and Treatment.* Humana. New York, NY, USA. pp. 717-730.
- Cohen J (2001) Defining identification: A theoretical look at the identification of audiences with media characters. *Mass Communic. Soc.* 4:245-264.
- Crawford A, Humphries SA, Geddy MM (2015) McDonald's: A case study in globalization. *J. Global Bus. Iss.* 9:11-18.
- Dal Cin S, Zanna, MP, Fong GT (2004) Narrative persuasion and overcoming resistance. In Knowles ES, Linn JA (Eds.) *Resistance and Persuasion.* Erlbaum. Mahwah, NJ, USA. pp. 175-191.
- De Vogli R, Kouvonen A, Gimeno D (2014) The influence of market deregulation on fast food consumption and body mass index: A cross-national time series analysis. *Bull. WHO* 92:99-107A.
- Eagle L, Dahl S (2018) Product placement in old and new media: Examining the evidence for concern. *J. Bus. Ethics* 147: 605-618.
- Green MC (2004) Transportation into narrative worlds: The role of prior knowledge and perceived realism. *Discourse Proc.* 38:247-266.
- Green MC, Brock TC (2000) The role of transportation in the persuasiveness of public narratives. *J. Person. Soc. Psychol.* 79:701-721.
- Greenberg BS, Rosaen SF, Worrell TR, Salmon CT, Volkman JE (2009) A portrait of food and drink in commercial TV series. *Health Commun.* 24:295-303.
- Hair JF, Black WC, Babin BJ, Anderson RE (2010) *Multivariate Data Analysis: A Global Perspective* (7th ed.). Pearson. Upper Saddle River, NJ, USA. 800 pp.
- Hall AE, Bracken CC (2011) "I really liked that movie." Testing the relationship between trait empathy, transportation, perceived realism, and movie enjoyment. *J. Media Psychol.* 23:90-99.
- Hall AE, Zwarun L (2012) Challenging entertainment: Enjoyment, transportation, and need for cognition in relation to fictional films viewed online. *Mass Commun. Soc.* 15:384-406.
- Harris JL, Bargh JA, Brownell KD (2009a) Priming effects of television food advertising on eating behavior. *Health Psychol.* 28:404-413.
- Harris JL, Brownell KD, Bargh JA (2009b) The food marketing defense model: Integrating psychological research to protect youth and inform public policy. *Soc. Iss. Policy Rev.* 3:211-271.
- Howard R, Grazer B, Sherwood KK, Smith MM, Luckinbill Th, Luckinbill Tr (Producers), Falardeau P (Director) (2014) *The Good Lie* [motion picture].

- Alcon Entertainment. Los Angeles, CA, USA.
- Kelly B, King L, Chapman K, Boyland E, Bauman AE, Baur LA (2015) A hierarchy of unhealthy food promotion effects: Identifying methodological approaches and knowledge gaps. *Am. J. Public Health* 105:e86-e95.
- Keshari P, Mishra CP (2016) Growing menace of fast food consumption in India: Time to act. *Int. J. Community Med. Public Health* 3:1355-1362.
- Matthes J, Naderer B (2015) Children's consumption behavior in response to food product placements in movies. *J. Cons. Behav.* 14:127-136.
- Naderer B, Matthes J, Zeller P (2018) Placing snacks in children's movies: Cognitive, evaluative, and conative effects of product placements with character product interaction. *Int. J. Advertis.* 37:852-870.
- Odegaard AO, Koh WP, Yuan JM, Gross MD, Pereira MA (2012) Western-style fast food intake and cardiometabolic risk in an Eastern country. *Circulation* 126:182-188.
- Redondo I (2006) Product-placement planning: How is the industry placing brands in relation to moviegoer consumption? *J. Int. Cons. Market.* 18:33-60.
- Redondo I (2012) The behavioral effects of negative product placements in movies. *Psychol. Market.* 29:622-635.
- Redondo I, Bernal J (2015) Product placement: Una revisión teórico-práctica de sus capacidades y limitaciones. *Interciencia* 40:827-833.
- Redondo I, Bernal J (2016) Product placement versus conventional advertising: The impact on brand choice of integrating promotional stimuli into movies. *J. Promot. Manag.* 22:773-791.
- Redondo I, Russell CA, Bernal J (2018) To brand or not to brand a product placement? Evidence from a field study of two influence mechanisms of positive portrayals of alcohol in film. *Drug Alcohol Rev.* 37:S366-S374.
- Russell CA, Buhrau D (2015) The role of television viewing and direct experience in predicting adolescents' beliefs about the health risks of fast-food consumption. *Appetite* 92:200-206.
- Russell CA, Stern BB (2006) Consumers, characters, and products: A balance model of sitcom product placement effects. *J. Advertis.* 35:7-21.
- Russell CA, Norman AT, Heckler SE (2004) The consumption of television programming: Development and validation of the connectedness scale. *J. Cons. Res.* 31:150-161.
- Sestir M, Green MC (2010) You are who you watch: Identification and transportation effects on temporary self-concept. *Social Infl.* 5:272-288.
- Slater MD (2002) Entertainment education and the persuasive impact of narratives. In Green MC, Strange JJ, Brock TC (Eds.) *Narrative Impact: Social and Cognitive Foundations*. Erlbaum. Mahwah, NJ, USA. pp. 157-181.
- Story M, Faulkner P (1990) The prime time diet: A content analysis of eating behavior and food messages in television program content and commercials. *Am. J. Public Health* 80:738-740.
- Sutherland LA, MacKenzie T, Purvis LA, Dalton M (2010) Prevalence of food and beverage brands in movies: 1996-2005. *Pediatrics* 125:468-474.
- Uribe R, Fuentes-García A (2015) The effects of TV unhealthy food brand placement on children. Its separate and joint effect with advertising. *Appetite* 91:165-172.
- van Laer T, de Ruyter K, Visconti LM, Wetzels M (2014) The extended transportation-imagery model: A meta-analysis of the antecedents and consequences of consumers' narrative transportation. *J. Cons. Res.* 40:797-817.
- Vermeersch JA, Swenerton H (1980) Interpretations of nutrition claims in food advertisements by low-income consumers. *J. Nutr. Educ.* 12:19-25.