

When James Bond shows off his Omega: does product placement affect its media host?

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Abstract

Purpose – This paper aims to contribute to the marketing literature and practice by examining the effect of product placements on the host brand. The declining effectiveness of traditional advertising has prompted increasing interest in strategies for placing products in media programming. Most existing research adopt the perspective of the brands embedded in media products, with limited attention to the impact that product placement has on the media product that serves as a host brand for the embedded brands. The authors investigate this effect in the context of motion pictures and develop a theory-driven conceptual model.

Design/methodology/approach – The authors test their hypotheses with two experiments in which randomly assigned participants view one of seven versions of a custom-made, seven-minute short film that differ in their level of placement prominence.

Findings – The results from a mediation analysis indicate that, after controlling for audiences' general attitudes toward the embedded brand, greater placement prominence heightens consumers' reactance to persuasion attempts and negatively affects their evaluations of the host brand. A *post hoc* experiment confirms that even very low levels of placement prominence can worsen host brand evaluations.

Originality/value – This research is among the first to investigate the effects of product placement from a host brand perspective. It issues a warning to producers of entertainment content: a product placement strategy may generate additional earnings, but it also can lower audiences' evaluations of the focal entertainment product.

Keywords Advertising, Product placement, Reactance, Persuasion knowledge model

Paper type Research paper

Casino Royale is, arguably, the best Bond movie since 1969 [...]. Shame, then, that the moviemakers had to go and spoil it all by sticking a gratuitously clunky bit of product placement in the middle of the proceedings: a line of "dialogue", which is so screamingly obvious [...] that it a) insults the audience's intelligence and b) ruins the scene. Apologies if your eyes start bleeding as you read on – but it goes like this:

Vesper: MI6 looks for maladjusted young men who give little thought to sacrificing others in order to protect Queen and country. You know: former SAS types with easy smiles and expensive watches. *Rolex*?

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Bond: “*Omega*.”

Vesper: “Beautiful.”

[There is] a “special place in Hell” for this bit of Casino Royale (Greenway, 2011).

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Introduction

When James Bond shows off his *Omega* watch or new *BMW* car, Spider-Man aims at a can of *Dr Pepper* in his first attempts to spin a web or Marty McFly is stunned by lace-free *Nike* shoes when visiting the future, audience members may recognize they are confronting product placements. Product placement (also known as brand placement, brand integration or in-program sponsoring) refers to the inclusion of branded products (Russell, 2002) or identifiers (Karrh, 1998) in media programming, in return for money (Gupta and Gould, 1997). Media programming encompasses a growing variety of entertainment products, such as movies, television shows, webisodes, Broadway musicals, professional sports, radio programs, music videos, novels, magazines, comic strips and computer and video games, as well as non-entertainment products, such as news, blogs, non-fiction books, mobile apps and general online content (Williams *et al.*, 2011). Product placements aim to influence media audiences (Balasubramanian, 1994), but without an explicit promotion (D’Astous and Chartier, 2000), such that they are presented as an inescapable part of the dramatic entertainment (Hackley and Tiwsakul, 2006).

This strategy continues to attract interest among marketers and marketing scholars. The market for paid product placements grew to \$3.6 billion in 2009 and is projected to rise to \$6.1 billion by 2014 (PQ Media, 2010). Brand managers value product placement as a cost-effective and precise method to target specific, presegmented audiences unobtrusively (Karrh *et al.*, 2003; McKechnie and Zhou, 2003), particularly in the face of growing consumer resistance to traditional advertising (Keller, 2001) and audiences’ limited ability to avoid exposure to product placements (De Gregorio and Sung, 2010). Most scholars focus on the effects of product placement for the embedded product, noting the potential positive effects (Wiles and Danielova, 2009) and the importance of contingency factors (Cowley and Barron, 2008).

For members of the growing (often media-related) industry that hosts product placements, findings that focus on the embedded brand often are not relevant; their interest instead is in how customers evaluate and consume their host brand. Few researchers have addressed the impact of product placements on the host brand though (i.e. the program in which the product is placed). Considering the multibillion dollar revenues generated by movies and other entertainment products that embrace product placement (MPAA, 2013; *The Economist*, 2011), as well as their individual production costs of up to \$300 million (The Numbers, 2012), we seek to address this relevant research gap.

In particular, whereas extant research stresses placement as an important source of financing that also can enhance a film’s realism (DeLorme and Reid, 1999), we argue that it may have negative effects on the host brands, due to placement reactance. Negative audience responses (Karniouchina *et al.*, 2011; Wei *et al.*, 2008) constitute a financial risk, which entertainment managers must balance against the potential economic advantages of allowing product placements. To the best of our knowledge, this study is

the first to provide a rigorous empirical examination of the potential effects of placements on reactance to and evaluations of the host brand.

Drawing from reactance theory (Brehm, 1966) and the persuasion knowledge model (Friestad and Wright, 1994), we develop a conceptual model and derive a set of hypotheses regarding the effects of product placements, as persuasive attempts, on consumers' evaluations of host brands. To identify the persuasive attempts and clarify consumers' responses, we investigate consumer reactance against product placements in media programs, then empirically test for its consequences on evaluations of the host brand, using an experimental design that involves multiple versions of a seven-minute, professional short film created exclusively for this research. With a mediation analysis (Preacher and Hayes, 2004, 2008), we find that placement prominence negatively affects consumers' assessments of the host brand (i.e. the short film), through placement reactance. We specify this effect with a second experiment and find that even minimal placement conditions can lower host brand evaluations. We accordingly discuss these results and their implications for producers of entertainment products.

Embedded and host brand perspectives

The embedded brand perspective

Many product placement scholars adopt the perspective of the embedded brand and investigate the effects its placement has on this brand. Wiles and Danielova (2009) suggest that placements in successful media products relate positively to brand equity and enhance the firm's market value through consumer attitude changes. Other scholars note some contingency factors though, stressing the degree of formal integration elements, such as modality (e.g. visual and auditory; Gupta and Lord, 1998), manifestness (D'Astous and Chartier, 2000) and the degree of plot connection (Russell, 2002). Although consumers generally prefer product placements to commercial advertising (Nebenzahl and Secunda, 1993), audience reactions are not always positive. Specifically, brands presented excessively (DeLorme and Reid, 1999), prominently (Cowley and Barron, 2008; Van Reijmersdal, 2009), or incongruently (Russell, 2002) prompt less positive (and sometimes even negative) effects, because audiences recognize the promotional intent behind the placements (D'Astous and Séguin, 1999; DeLorme and Reid, 1999). Other studies examine the influence of various placement and audience characteristics on awareness and evaluations of the embedded brand (Bressoud *et al.*, 2010; Romaniuk, 2009). For comprehensive overviews of studies that take the embedded brand perspective, see Karniouchina *et al.* (2011), Van Reijmersdal *et al.* (2009), and Williams *et al.* (2011).

The host brand perspective

The host brand perspective on product placements has received far less attention from scholars. Producers of entertainment content have embraced product placement, for the obvious financial benefits it offers; product placements represent an important source of financing, in the form of monetary payments, barter arrangements and promotional tie-ins (Russell and Belch, 2005). Some moviemakers also have aesthetic motives for integrating real products into films. Embedded brand props can enhance the realistic story by creating authentic settings and perhaps increase viewers' evaluations of the host media's quality, according to DeLorme and Reid's (1999) focus group and depth interview findings[1].

However, product placement can also exert negative effects on the host brand. In a study mainly addressing embedded, brand-related effects, [Wei et al. \(2008\)](#) suggest that product placement has the potential to lower evaluations of the host brand. Their specific setting prevents generalization though, in that these authors study a college radio station, unassociated with commercial interests and they activate consumers' persuasion knowledge by priming them, prior to their consumption, with the information that a brand had paid to be included in a radio show. [Homer \(2009\)](#) focuses on attitudes toward embedded brands in a study of an existing, well-known television series, from which verbal mentions of a brand were deleted, and posits that a high level of repetition might negatively affect attitudes toward the host brand, compared with a medium level of repetition. [Balasubramanian et al. \(2006, p. 116\)](#) criticize this approach though because "the use of preexisting stimuli diminishes experimental control by introducing noise," and they instead recommend [Russell's \(2002\)](#) theater methodology, which "uses full-length stimuli that are amenable to experimental manipulation and natural experimental settings". In addition, Homer's study does not account for possible control and mediation effects, does not remove brand information completely, creates artificial pauses through the editing process and provides only limited information value by comparing mean values without simple slope analyses.

In their study of embedded brand effects, [Karniouchina et al. \(2011\)](#) thus stress the need for more detailed research into the impact of product placements on movies that serve as hosts, after reflecting on findings that too much advertising can have a negative impact on newspaper circulation ([Ha and Litman, 1997](#)). That is, even though scholars have identified the importance of this issue, we know little about the potential negative effects of product placements on host brands.

Model and hypotheses

Overview

[Figure 1](#) illustrates our conceptual model. We argue that the prominence of brand placements in a movie (i.e. placement prominence) negatively affects consumers' assessments of the host brand. This relationship also should be mediated by placement reactance, which is a motivational state the consumer enters to combat perceived persuasion attempts. In line with [Brehm's \(1966\)](#) reactance theory, we predict that high placement prominence leads to reactance, which then produces negative assessments of

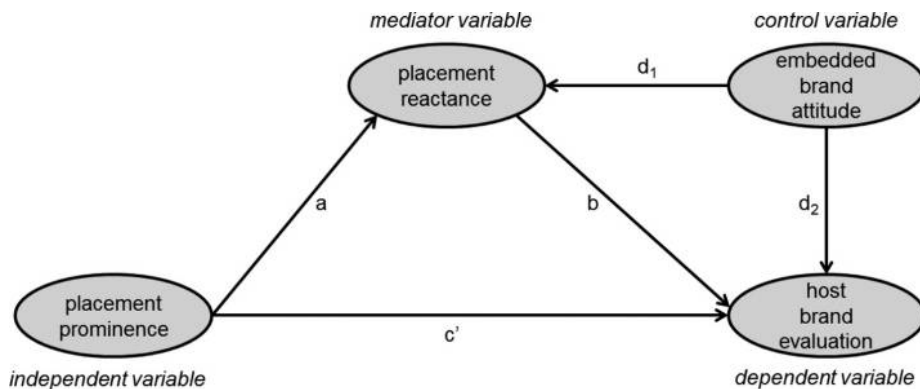


Figure 1.
Conceptual model

the host brand. The consumer's general attitude toward the embedded brand is included as a control variable for the placement reactance and for the host brand evaluation.

Placement–host brand link

The persuasion knowledge model by [Friestad and Wright \(1994\)](#) can explain how consumers interpret and respond to product placements because it suggests that consumers continually develop and refine their knowledge about marketers' goals, the purposes of marketing tactics, and the persuasion process itself. After being subjected to and consciously perceiving marketing efforts for an extended period of time, people learn "to recognize, analyze, interpret, evaluate and remember persuasion attempts" ([Friestad and Wright, 1994](#), p. 3). Thus, whether consumers recognize a persuasion attempt, in the form of a product placement, depends on their knowledge about that placement. Consumers do not necessarily expect persuasive communication in their entertainment media ([Balasubramanian, 1994](#)), so knowledge of marketers' tactics gained through media socialization should help them identify product placements as persuasion attempts ([Matthes et al., 2007](#)). In addition, consumers' awareness of persuasion attempts depends on the placement and its characteristics ([Cowley and Barron, 2008](#)).

An important and frequently researched characteristic of product placements is prominence. However, placement prominence often appears mixed with placement modality (i.e. the senses activated by the stimulus), and no consistent definition exists for placement prominence ([Chan, 2012](#); [Dens et al., 2013](#)). [Gupta and Lord \(1998, p. 48\)](#) define placement prominence generally as "the extent to which the product placement possesses characteristics designed to make it a central focus of audience attention". They distinguish between prominent and subtle placements and explain that prominent placements are "highly visible by virtue of size and/or position on the screen or its centrality to the action in the scene" ([Gupta and Lord, 1998, p. 49](#)). [Law and Braun \(2000\)](#) add the product's centrality to the plot; [La Ferle and Edwards \(2006\)](#) suggest including its central location on the screen and the number of visible same-branded products. Other researchers instead operationalize placement prominence as the duration of a placement on the screen ([Cowley and Barron, 2008](#); [D'Astous and Chartier, 2000](#); [Matthes et al., 2007](#)).

[Russell \(1998\)](#) categorizes placements, and thereby their prominence factors, into three dimensions: visual (appearance of the brand on screen), auditory (verbal mention of the brand) and plot connection (integration of the brand into the story). Studies that adopt this categorization cite higher prominence if the brand is simultaneously shown and mentioned ([Avery and Ferraro, 2000](#); [Homer, 2009](#)). Similarly, [Brennan et al. \(1999\)](#) differentiate between more prominently "on-set" placements that are consumed or mentioned by a leading actor and less prominently "creative" placements that appear in the background of a scene. Many researchers use a count of the number of visual appearances and/or mentions to measure placement prominence ([Cowley and Barron, 2008](#); [D'Astous and Chartier, 2000](#); [Lehu and Bressoud, 2009](#); [Van Reijmersdal, 2009](#)).

Across these various operationalizations, the frequency of visual appearances and mentions of the embedded brand in a movie constitute central determinants of prominence; more appearances and mentions imply higher prominence ([Cowley and Barron, 2008](#); [D'Astous and Chartier, 2000](#); [Dens et al., 2013](#); [Lehu and Bressoud, 2009](#); [Van Reijmersdal, 2009](#)). For the embedded brand, placement prominence leads to higher

recognition (Law and Braun, 2000) and recall (Gupta and Lord, 1998; Lehu and Bressoud, 2009), which likely influence attitudes toward this embedded brand (Dens *et al.*, 2013; Homer, 2009; Matthes *et al.*, 2007). For the host brand, we argue that placement prominence also strongly influences consumers' perceptions and reactions, such that they perceive product placements more readily as persuasion attempts and activate their persuasion knowledge when the placements are more prominent. Highly prominent brands should stimulate cognitive processes that let consumers recognize the agent's action as strategic. The resulting change of meaning (Friestad and Wright, 1994) likely induces a perception of the placement as intrusive (Balasubramanian *et al.*, 2006). Consumers consider the placement an unwelcome distraction from the entertainment program they intend to consume and in which they have invested time and usually monetary resources (e.g. ticket price, rental fee, purchase price). Thus, they may seek to escape ongoing interactions with the placement, which is difficult without abandoning the hedonic experience. Because the placement has the potential to impair consumers' level of pleasure (i.e. the standard motive for hedonic consumption; Alba and Williams, 2013), it can result in a less positive evaluation of the host product (movie). We expect that placement prominence reduces the attractiveness of a movie that contains the placement and hypothesize:

H₁. Higher product placement prominence decreases consumers' host brand evaluations.

Yet the activation of persuasion knowledge does not always produce negative consequences for the host brand. As Kirmani and Campbell (2004) suggest, consumers may respond positively to marketers if doing so helps them attain their own marketplace goals. However, most research notes detrimental effects of the activation of persuasion knowledge because consumers are more aware of the agent trying to influence them (Brown and Krishna, 2004; Campbell and Kirmani, 2000). When consumers perceive strong influence attempts that also would narrow their choice alternatives, they may exhibit reactance, which in turn could mediate the placement–host brand evaluation link.

Reactance theory postulates that people react to attempts to influence them because they experience those attempts as threats to their personal freedom (Brehm, 1966). Persuasion, regulations and restrictions all have the potential to be perceived as threats, such that consumers experience an uncomfortable state of psychological reactance, which motivates them to reassert their threatened freedom. According to Brehm (1966), reactance varies with the perceived strength of threats and the importance the person places on freedom of choice. It does not arise if the person perceives the persuasion attempt as fair or warranted.

Several marketing measures tend to trigger reactance, such as product unavailability (Fitzsimons, 2000), unsolicited recommendations (Fitzsimons and Lehmann, 2004), loyalty programs (Wendlandt and Schrader, 2007) and promotional activities (Kivetz, 2005). Because of their limited ability to avoid exposure to persuasion attempts during an entertainment experience, audiences might regard product placements as a threat to their freedom as well. Their amount of reactance likely varies with placement prominence; consumers might “forgive” the host brand for a low level of placement prominence, but a high level increases the threat of restrictions on their choices. Reactance experienced as a result of high placement prominence then should motivate

the audience “to move in the direction opposite from the influence effort” (Clee and Wicklund, 1980, p. 390). Specifically, in striving to reassert their freedom, consumers likely change their attitudes toward the source (Algesheimer *et al.*, 2005). If they hold the producer of the host product responsible for its artistic presentation and thus for the threat to their perceived freedom (Clee and Wicklund, 1980), their attribution process should lead to negative evaluations of the host brand. We predict that consumer reactance mediates the effect of placement prominence on consumers’ evaluations of the host brand and hypothesize:

*H*₂. The influence of product placement prominence on consumers’ host brand evaluations is mediated by consumer reactance to the placement.

Experimental hypotheses tests (Study 1)

Research design and short film

We conducted an experiment in which participants were randomly assigned to watch one of three versions of a fictional, short film. In line with theater methodology (Russell, 2002), the film was created specifically for this study. With a runtime of seven minutes, the film told the story of a young woman who woke up one morning, wondering about love, her life and her career, and finally found a man who encouraged her to start making decisions about her future. The film was produced in a medium-sized city in Germany. It was a scene-by-scene remake of an existing short film that had been successfully shown at festivals but not aired on television or released on BD/DVD or in theaters, so it was unknown to the participants. The film’s tone was amusing and ironic. The 2 main characters, 12 supporting actors, 2 writers, 1 cinematographer, 2 post-production specialists and 2 technical assistants produced the professional film; the third author of this manuscript directed the film.

We edited three versions of the short film with an identical cast and story; the versions differed only in their product placement prominence. We operationalized placement prominence as the number of audiovisual product placements during the film, which constitutes a main determinant of prominence in prior research. The other possible dimensions of placement prominence – such as plot connection, placement centrality, placement duration and placement size – remained constant. Because the film was exclusively created for this research, we could completely vary the brand placements. The first version contained no brand placements (no placement prominence), whereas two other versions integrated the soft drink brand *Lift*, which is made by *Coca-Cola* and is very popular in Germany. In line with past research (Brennan and Babin, 2004; Tsai *et al.*, 2007), we expect participants to exhibit high recognition levels because of the strong brand familiarity of the placed product.

In both these versions, the actors mentioned the brand, which also was visually displayed with each mention. The verbal component was embedded logically as an everyday object in the movie’s dialogue but with minimal contribution to the narrative structure (no placement version: “Can I have a sip of your apple juice, please?”; placement versions: “Can I have a sip of your [brand], please?”). The second version contained 6 visual and verbal appearances of the brand (medium placement prominence), and the third version contained 12 visual and verbal appearances (high placement prominence). Figure 2 shows three still pictures from two film scenes and the inserted placements for each condition.

Figure 2.
Stills from short films used as experimental stimuli



Before watching the film, we told the participants a cover story, namely, that they were participating in a screening of a short film, which the producers were planning to submit to a local film festival. Each participant watched the movie alone on a personal computer. No indications of the research focus on product placements were provided.

Pretests

We conducted two pretests with 21 persons in total. The qualitative pretest involved ten consumers from this group and served to assess the adequacy of the study design and the experimental manipulations. The pretest participants watched one of three early versions of the film and discussed the following requirements with our research team: the genre should not be polarizing (e.g. erotic, horror), the film character should seem neutral and the film should not be evaluated poorly. Furthermore, we ensured that the embedded brand was ethically inoffensive, well known and clearly identifiable. We found no indications that the participants assigned the integrated brand an important role in terms of its relevance to the story, and nor was it incongruently included, though perceptions of the placement prominence differed across the three groups. With this pretest, we assured that the placements had not been perceived as unrealistic or inappropriate. Following Russell (2002), we also confirmed that the brand was naturally integrated into the plot. This qualitative pretest also revealed that the three film versions differed in the perceived value of placement prominence but not on other dimensions, such as continuity, excitement or entertainment value. Differences in the perceptions of the brand's role and relevance to the story across the three films also could not be verified. During this first pretest, we further optimized the films. Then we conducted a quantitative pretest with a standardized questionnaire involving all 21 consumers. An initial manipulation check tested whether the participants recognized the placed brand in the films with medium and high placement prominence. None of the 5 participants from the control group recognized the placed brand, but all 16 participants from the two other groups recognized it unaided, without exception. After the second pretest, we did not modify the films any further.

Sample

We recruited participants through announcements posted on Web sites and social networks, e-mails, and personal communication with snowball sampling to obtain a broad, random selection of participants. These communications avoided indicating any

information about the real intention of the study, so participants should believe that they were evaluating a film festival candidate. To increase the authenticity of the experimental context, we created a movie poster to show to participants at the beginning of the experiment. As an incentive, participants could win one of several current movies on DVD. All participants watched one of the three film versions in its entirety. After eliminating incomplete surveys, we obtained 203 responses: 41 (20 per cent) from the no, 78 (38 per cent) from the medium and 84 (41 per cent) from the high placement prominence conditions[2]. Among the participants, 104 (51 per cent) were women; 112 (55 per cent) had earned a college degree and 75 (37 per cent) had high school degrees. Their ages ranged from 16 to 63 years, with an average of 27 years.

Questionnaire and measures

All participants filled out a questionnaire after watching one of the three film versions, to which they had been randomly assigned. The very first question measured their perceptions of movie quality (host brand evaluation), using a single, ten-point item (0 = “very bad” to 10 = “excellent”), in line with a common measure of consumer-perceived movie quality on popular movie Web sites such as the Internet Movie Database (IMDb.com), as well as in prior academic research (Hennig-Thurau *et al.*, 2012). Because we placed the dependent variable first, it could not be influenced by any subsequent questions, so it represents respondents’ unbiased host brand evaluations. On three subsequent pages of the questionnaire, we asked the participants questions about the film, to maintain the illusion that we wanted them to evaluate the film for a film festival (e.g. performance of the actors, title, story, picture composition, genre and improvement suggestions). To measure unaided recall, the question on the next page asked whether they noticed any branded products during the movie. On the following page, we measured aided recall by displaying a list of twelve brands and asking participants to mark which ones they had noticed during the movie. Next, we measured consumer reactance using five items (1-7 agreement scale, higher values indicate higher agreement; Hong and Faedda, 1996), followed by a question about how often the specific soft drink brand was mentioned during the film. On the penultimate page, we captured the general attitude toward the embedded placement with two items from Sengupta and Johar (2002), again on a seven-point agreement scale. Finally, we gathered demographic information. Respondents could not turn back to previous pages while completing the questionnaire. All items were translated into German, using a back-translation approach to ensure conceptual equivalence. We report the items in Table I.

Preliminary analyses

We conducted three manipulation checks (labeled as A, B and C). First, we asked participants a binary question: “Did you notice any branded products during the movie?” In the no placement group, 39 per cent of respondents answered yes, whereas in the medium and high placement groups, 100 per cent of the respondents affirmed that they had. A chi-square test revealed a significant difference in the distribution of answers ($\chi^2(A) = 112.65, p < 0.01$). Second, on a separate page of the questionnaire, we asked whether participants had noticed the specific soft drink brand in the movie (again using binary response categories). The differences again were significant across groups ($\chi^2(B) = 175.37, p < 0.01$): 0 per cent responded that they had in the no, 97.43 per cent in the medium and 96.43 per cent in the high placement group. Third, we asked how often

Construct	Scale items	Answer scale	Cronbach's α (AVE)	Adapted from
Placement reactance	I consider the allusion to [brand] in the movie to be an intrusion I resist the attempts of the movie to influence me It makes me angry that the people in the movie are presented as if you should drink as much of [brand] as they do Because the movie presents [brand] permanently, I feel like doing the opposite by ignoring it in future I nearly stopped watching the movie because of [brand's] permanent mention and presentation My opinion of [brand] is very favorable I refuse [brand] generally Please rate the movie you have seen from 1 ("very bad") to 10 ("excellent") Did you notice any branded products during the movie?	1 ("strongly disagree") to 7 ("strongly agree")	0.89 (0.70)	Hong and Faedda, 1996
Embedded brand attitude		1 ("strongly disagree") to 7 ("strongly agree")	0.72 (0.78)	Sengupta and Johar, 2002
Host brand evaluation		1 ("very bad") to 10 ("excellent")	n.a.	Hennig-Thurau <i>et al.</i> , 2012
Manipulation check A		0 ("no") or 1 ("yes")	n.a.	n.a.
Manipulation check B	You see a list of twelve brands. Which one have you noticed during the movie?	For each brand: 0 ("not noticed") or 1 ("noticed")	n.a.	n.a.
Manipulation check C	How often was the soft drink brand <i>Lift</i> mentioned during the movie?	Open-end numeral field	n.a.	n.a.

Notes: n.a. = not applicable; AVE = average variance extracted

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the specific brand was mentioned and obtained mean values of $M_{no} = 0.00$, $M_{medium} = 9.62$, and $M_{high} = 14.46$, with significant differences across them ($\chi^2(B) = 237.72, p < 0.01$) and between each pair of placement conditions (no/medium $F(1, 117) = 107.65, p < 0.001, \eta^2 = 0.48$; no/high $F(1, 123) = 123.59, p < 0.001, \eta^2 = 0.50$; medium/high $F(1, 160) = 18.03, p < 0.001, \eta^2 = 0.10$). Thus, the placement manipulation was successful. In terms of scale reliability, the Cronbach's α values were 0.89 (average variance extracted = 0.70) for the placement reactance scale and 0.72 (0.78) for embedded brand attitude. As Table II shows, the correlation coefficients had the expected signs.

Results

We first compared the mean values of placement prominence and host brand evaluation with ANOVA. As Figure 3 shows, greater placement prominence ($M = 7.27, SD = 4.55$)

No.	Variable	M	SD	1	2	3	4
1	Placement prominence	7.27	4.55	1			
2	Placement reactance	2.86	1.71	0.52*	1		
3	Embedded brand attitude	4.34	1.54	-0.15	-0.30*	1	
4	Host brand evaluation	5.05	2.19	-0.20*	-0.31*	0.20*	1

Table II.
Descriptive statistics and correlations

Note: *Significant at $p < 0.01$ (two-sided)

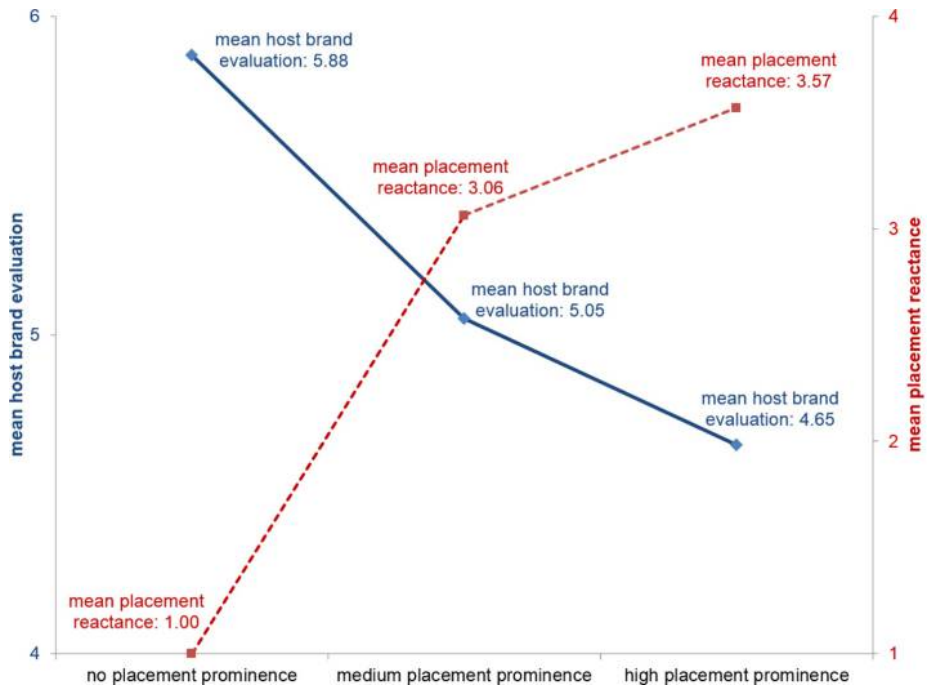


Figure 3.
Effects of placement prominence on mean host brand evaluation and mean placement reactance

occurred together with decreased host brand evaluations ($M = 5.05, SD = 2.19$). For host brand evaluations, we found significant differences between no and medium placement prominence ($\overline{host}_{no} = 5.88, \overline{host}_{medium} = 5.05; F(1, 117) = 3.82, p < 0.05, \eta^2 = 0.03$) but not between medium and high placement prominence ($\overline{host}_{medium} = 5.05, \overline{host}_{high} = 4.65; F(1, 160) = 1.38, p = 0.24, \eta^2 = 0.01$). Across all three levels, placement prominence decreased host brand evaluations ($p < 0.01$, two-sided), in support of *H1*.

Next, we estimated a mediation model using the Preacher–Hayes procedure “process” for SPSS (Hayes, 2014), which addresses mediating relations more adequately than Baron and Kenny’s (1986) method (Zhao *et al.*, 2010). Placement prominence served as the independent variable, with host brand evaluation as the dependent variable and placement reactance as a mediator ($M = 2.86, SD = 1.71$); embedded brand attitude ($M = 4.34, SD = 1.54$) served as a control variable (SPSS process settings: model number 4, covariate in model of both M and Y). We included links from embedded brand attitude to both placement reactance and host brand evaluation. We expect that reactance increases when a product placement, recognized as a recommendation and thus as a persuasion attempt, contrasts with a priori attitudes (Fitzsimons and Lehmann, 2004) and that a highly embedded brand attitude might lower reactance to the inclusion of this brand. Furthermore, we anticipate spillover effects between the embedded and host brands (Rao and Ruekert, 1994; Venkatesh *et al.*, 2000).

The results of this mediation analysis appear in Table III. Prior to the inclusion of the mediator variable, placement prominence influenced placement reactance positively ($a = 0.18, t = 8.26, p < 0.01$); the more prominent the placement, the greater the reactance against it. Placement reactance also negatively affected host brand evaluations ($b = -0.31, t = -3.00, p < 0.01$), in line with our arguments. Initial attitudes toward the embedded brand affected placement reactance negatively ($d_1 = -0.25, t = -3.79, p < 0.01$), and the direct effect of placement prominence on host brand evaluations was

Effect	Description	Regression analysis		<i>t</i> -statistic	<i>p</i> -value	Bootstrap analysis		
		Coefficient	SE			Indirect effect	95 % CI	99 % CI
a	Placement prominence on placement reactance	0.18	0.02	8.26	< 0.01	$a \times b = -0.06$	-0.098, -0.020	-0.116, -0.009
b	Placement reactance on host brand evaluation	-0.31	0.10	-3.00	< 0.01			
c	Placement prominence on host brand evaluation (total effect)	-0.08	0.03	-2.54	< 0.05			
c'	Placement prominence on host brand evaluation (direct effect)	-0.03	0.04	-0.75	n.s.			
d ₁	Embedded brand attitude on placement reactance	-0.25	0.07	-3.79	< 0.01			
d ₂	Embedded brand attitude on host brand evaluation	0.18	0.10	1.78	n.s.			

Notes: Bootstrap analyses are based on 20,000 resamples; the coefficients are unstandardized; SE = standard error; CI = confidence interval; n.s. = not significant

Table III. Mediation analyses

negative and significant ($c = -0.08, t = -2.54, p < 0.05$; see [Figure 1](#) for the path labels a-d).

When we included the mediator variable, bootstrapping tests with 20,000 resamples ([Preacher and Hayes, 2004, 2008](#)) revealed that the effect of placement prominence on host brand evaluations was mediated by placement reactance ($a \times b = -0.06$, Sobel's $z = -2.80, p < 0.01$), and the bias-corrected 99 per cent confidence interval excluded zero (lower-level confidence interval = -0.116 ; upper-level confidence interval = -0.009), in support of *H2*. In a supplementary, unreported analysis, we confirmed that the mediation was significant without the inclusion of embedded brand attitude. The effect of placement prominence on host brand evaluations became insignificant ($c' = -0.03, t = -0.75, p > 0.05$), suggesting an indirect-only mediation ([Zhao et al., 2010](#)).

Post hoc experiment (Study 2)

Method

After finding a distinct difference in host brand evaluations between the no and medium placement prominence conditions but a lesser difference between the medium and high placement prominence conditions, we decided to repeat our experiment with additional prominence levels. Thus, we could compare relatively low levels of placement prominence with a no placement condition. The results of Study 1 led us to predict that the variance in host brand evaluations with more placements should become smaller with increasing placement prominence.

Thus, we created five different prominence conditions. The control condition with no placements (0) remained the same; we added conditions with 1, 3, 5 and 7 placements. For the conditions with 1, 3 and 5 placements, we took the no placement version of the film and cut in scenes from the 6-placement film from Study 1. For the version with seven placements, we took 6-placement version from Study 1 and added another close-up of the brand. We hired a professional film cutter to ensure that the transitions in the films were consistent and presented the clips to a group of five pretesters, who did not notice any odd cuts in the new films. All other aspects of the research design remained the same.

We recruited undergraduates who received course credit in return for their participation and who lived in a city other than the one in which we recruited participants for Study 1, which enabled us to ensure that they were very unlikely to be familiar with the study. After eliminating incomplete questionnaires, we obtained 312 responses. In random assignments, the 0-, 1-, 3- and 7-placement conditions each contained 62 respondents, whereas the 5-placement condition had 63. Of these participants, 117 (38 per cent) were women, and the average age was 23 years.

Results

Similar to our first study, the manipulation checks indicated our manipulations were successful. Whereas only 1.61 per cent of the respondents in the 0-placement condition affirmed that they noticed any branded products, 74.19 per cent in the 1-placement, 100 per cent in the 3-placement, 98.41 per cent in the 5-placement and 100 per cent in the 7-placement conditions did so. A chi-square test revealed significant differences in the distribution of answers ($\chi^2(A) = 237.35, p < 0.01$). In response to the second question about whether they had noticed the specific soft drink brand, we received positive responses from 8.06 per cent of the respondents in the 0-placement, 77.42 per cent in the

1-placement, 100 per cent in the 3-placement, 96.83 per cent in the 5-placement and 100 per cent in the 7-placement condition, with a significant chi-square test ($\chi^2(A) = 214.29$, $p < 0.01$).

As displayed in Figure 4, the host brand evaluation and the differences in its values between each step declined with increasing placement prominence as we went from no (0; 4.29) to low_a (1; 4.02) to low_b (3; 3.77) to medium_a (5; 3.73) to medium_b (7; 3.71) prominence. Thus, the harm to the host brand was strongest when it moved from no (0) to low_a (1) product placement prominence. Thereafter, the differences grew smaller, until they hardly varied at medium levels of placement prominence. Yet even low levels of product placements influenced the host brand evaluation negatively[3].

Conclusion and implications

This research is among the first to investigate the effects of product placement on host brand evaluations. By controlling for *ex ante* attitudes toward the embedded brand, we show that the greater prominence of product placements raises consumers' reactance to these persuasion attempts, which negatively affects consumers' perceptions of the quality of the host brand. We explain these results with Brehm's (1966) reactance theory, which states that consumers of a host brand conceive of embedded placements not only as unwelcome distractions from their entertainment program but also as choice restrictions. This perception motivates them to react against influence attempts, which they experience as threats to their personal freedom. If they hold the producer of the host

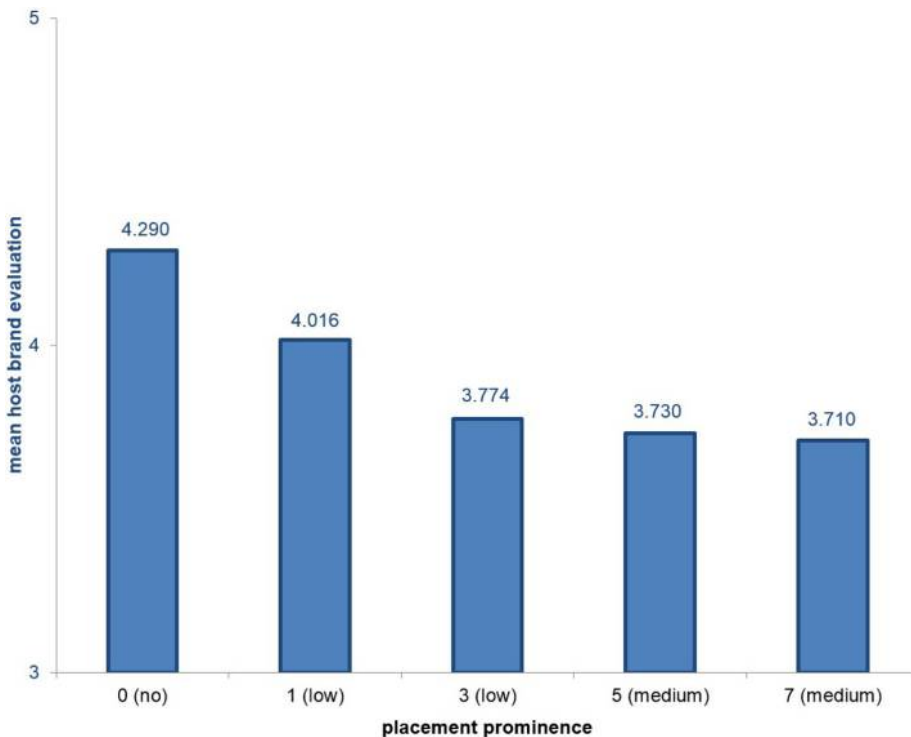


Figure 4.
Post hoc study:
effects of placement
prominence on mean
host brand
evaluation

product responsible for these presentations and thus the threat to their perceived freedom (Clee and Wicklund, 1980), it creates a “boomerang” effect on attitudes toward the host brand (Wicklund and Brehm, 1968).

According to Brehm (1966), reactance varies with the perceived strength of threat – in this research context, product placement prominence. Reactance does not arise if the person perceives the persuasion attempt as fair or warranted, such that it arguably could be less likely when placement prominence is low. However, Study 2 revealed that even low levels of placement prominence (i.e. one mention in a seven-minute film) can lower evaluations of the host brand. Further studies might consider longer movies (e.g. two hours) and gradually increase very low placement conditions to identify the point at which reactance becomes measurable.

Our findings issue a warning to producers of entertainment content: a product placement strategy may generate additional earnings, but it also can lower audiences’ evaluations of the focal entertainment product. We thus identify a tradeoff between the additional earnings generated through product placements and the potential loss of earnings due to decreased host brand evaluations and negative word-of-mouth cascades. Furthermore, our control variable findings indicate that managers must consider consumers’ attitudes toward the embedded brand because a positive (negative) attitude may weaken (strengthen) placement reactance, as well as the negative effects of product placements on host brand evaluations.

Although this study sheds new light on potentially negative product placement effects, several relevant questions remain unanswered. An interesting avenue for further research would be to identify the factors that moderate the impact of placement prominence. For example, media managers we interviewed noted that the fit of the product with the placement host might have an influence. An empirical test of this effect would be challenging, but researchers might identify key determinants of fit and explore their variations. Another interesting factor for continued research is the familiarity of the placed brand and its links with the persuasion knowledge model as applied to product placements (Friestad and Wright, 1994). Brand familiarity (Brennan and Babin, 2004) or brand awareness (Tsai *et al.*, 2007) can influence recognition and thus might moderate the effect of brand placements on host brand evaluations. Furthermore, the impact of related aspects, such as the false familiarity effect (Holden and Vanhuele, 1999), could be interesting topics for further research into product placement.

For this study, we followed Russell’s (2002) theater methodology and created several versions of a seven-minute short film. To expand on the finding of lower host brand evaluations even at very low levels of placement prominence, additional studies might create longer movies and thereby investigate, for example, if one, well-integrated placement lowers the host brand evaluation when it appears in a full-length film too. Along with longer films, additional research might expand our understanding of placement characteristics and their potential impacts by investigating different types of placements (e.g. hedonic versus utilitarian) and host media, including other entertainment products such as video games, television shows, Broadway musicals, radio programs, music videos, novels, magazines or comic strips. The global revenues of the entertainment media industry have been estimated to be USA\$1.9 trillion in 2014 (PWC 2014), making it a highly relevant study context. Other studies should consider non-entertainment products, such as news, mobile apps, non-fiction books and general online content, as well as physical environments, such as hotel rooms, rental cars,

airplanes and ships, that can act as host brands for embedded products (Williams *et al.*, 2011). These extensions also should include consumers in other countries, which differ culturally and in their legal product placement regulations (Ginosar and Levi-Faur, 2010). We encourage studies of the ethical aspects of product placements when they constitute stealth marketing (Rinallo *et al.*, 2013), especially in relation to young audiences who may not have developed their persuasion knowledge fully (Friestad and Wright, 1994) and do not know how to deal with unobtrusive persuasion attempts. If such consumers become so accustomed to product placements that they do not recognize them as persuasion attempts, their reactance to such attempts likely would disappear as well.

Finally, our measures of placement prominence used only frequency counts; additional studies could add other dimensions, such as placement dominance (i.e. size of the placement in the scene) or the level of integration into the plot. Our results indicate that the link between placement prominence and host brand evaluation is nonlinear, so it might be valuable to learn more about potential thresholds. That is, just how often can James Bond show and mention his new *Omega* without causing reactance? By considering such additional determinants, researchers also can better discern if a host brand can benefit from a well-integrated, sparsely displayed, embedded brand that makes the movie seem more realistic.

Notes

1. Another example from the movie industry: “Mr Blomkamp, who worked with a \$115 million budget for *Elysium*, personally emailed companies whose products he wanted to feature in the sci-fi film to give it a sense of realism. ‘This film has been an oddity in the product-placement world because I am not looking for any money from the brands we are using’, he wrote Bugatti. ‘I really want them because I [can] make the film better’” (Chai, 2013).
2. On the basis of our pretest insights, we considered the control group the least interesting group because we expected to observe minimal psychological effects. To ensure more participants in the heterogeneous experimental groups, we weighted the medium and high groups in our experimental random allocation algorithm more heavily.
3. Even in the low (1) placement condition, participants reported a low reactance, with a mean of 1.86 (scale: 1 = lowest and 7 = highest). This reactance to one product was distinctly lower than the reactance measure for the 3-placement condition (2.92) but still greater than 1.

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