

Influence of perceived and effective congruence on recall and purchase intention in sponsored printed sports advertising

Sponsored
printed sports
advertising

An eye-tracking application

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Abstract

Purpose – The purpose of this paper is to examine the influence of congruence (perceived and effective) and the level of visual attention towards sponsors on recall and purchase intention in sports sponsorship by applying neurophysiological measures.

Design/methodology/approach – This study is part of neuromarketing research applied to sports. The experiment entails eye tracking with 111 men and 129 women ($n = 24$) with 24 sports posters of three different disciplines (sailing, tennis and F1), varying the congruence, the number of sponsors and the position ($2 \times 2 \times 2$). The data are analyzed via analysis of covariance and regression using ordinary least squares.

Findings – Brand recall is influenced by the number of sponsors present on the poster and by the time of fixation. Effective and perceived congruence covaried the purchase intention, but the full time of fixation on the sponsor does not. The latter only, purchase intention indirectly.

Practical implications – The results enable managers to implement better poster designs and sponsors to have objective measures of sponsorship.

Originality/value – There are few studies that analyze print media in sponsorship using neurophysiological techniques. This research is a pioneer in considering attention to sports posters to examine recall and purchase intention.

Keywords Sponsorship, Intention to buy, Recall, Eye-tracking, Congruency, Sport poster

Paper type Research paper

Introduction

Investment in sponsorship continues to increase: global sponsorship spending now stands at US\$65.8bn in 2018 (IEG, 2018). However, most authors calculate that the results of the investment in sponsorship still cannot be accurately measured (Meenaghan and O'Sullivan, 2013; Novais and Arcodia, 2013). Previous academic studies have examined the effects of sponsorship on consumer behaviour measuring purchase intention (Biscaia *et al.*, 2013), attitude towards the brand (Alonso-Dos-Santos *et al.*, 2016), recall (McDonald and Karg, 2015), or identification with the sponsor (Olson and Thjømmøe, 2009). However, visual attention to poster sponsors has not been analyzed to date, despite the fact that visual attention is a prerequisite for the aforementioned results (Breuer and Rumpf, 2012), and sports posters (print media) are one of the most-ignored types of media in the academic literature (Dudzik and Gröppel-Klein, 2005), although they are an important part of communication for small and medium sporting events (Bennett, 1999). In this context, there are two types of attention (Smit *et al.*, 2015): active attention, which indicates high-level processing and leads to recall, and passive attention, which is based on stimuli and linked to eye-gaze. Either way, active attention and processing can only occur after passive attention



has been established (Lardinoit and Derbaix, 2001; Smit *et al.*, 2015). Therefore, the measurement of passive attention in sport poster is relevant and important.

Some researchers recognize that the effect of the sponsorship of sporting events influences the attitude towards the sponsor, but also in favourable purchase intentions towards the products of the sponsor (Madrigal, 2001; Papadimitriou *et al.*, 2016). The effectiveness of the sponsorship has also been measured through its capacity to influence memory. According to congruence theory, generally congruent information is remembered better than information that is incongruent or irrelevant for the existing scheme (Jagre *et al.*, 2001). However, other studies have found that incongruent information is remembered better (Alonso Dos Santos and Calabuig Moreno, 2018; Stangor and McMillan, 1992). Likewise, the congruence or fit between sponsor and sponsored is one of the most-used variables in the literature as a variable of influence in the processes of image transmission in sports sponsorship (Alonso Dos Santos and Calabuig Moreno, 2018). However, neurophysiological means have not yet been used to measure the moderating effect of congruence and perceived congruence and its effect on the consumer. Therefore, the aim of this manuscript is to examine the influence of the level of visual attention to the sponsor and congruence on the recall and purchase intention of the sponsor's products. We wish to respond to the following questions: Do visual attention, effective and perceived congruence influence memory and purchase intention? Does visual attention exert a mediating effect between memory and purchase intention?

The results will allow us to measure the success of the sponsorship with greater reliability, to determine the underlying processes in consumer behaviour and its influence on the individual, and, in addition, to obtain indicators for the performance of the sports posters. This manuscript presents at least four relevant contributions: our research contributes to understanding the processes of memory formation and purchase intention based on effective and perceived congruence isolating the effect of visual attention; this research uses neurophysiological techniques to measure the response of the consumer to the effect of sponsorship, a technique rarely used in sports sponsorship to explain the formation of recall and purchase intention (i.e. Boronczyk *et al.*, 2018); and we contribute to explaining the effectiveness of sports posters, a medium that, despite its importance, has had very little research.

This manuscript is structured in the following manner. The research questions and their justification will be explained first, and the experiment will be described next. In the subsequent section, the results of the analysis of covariance and regression will be presented. Finally, we will discuss the results and the limitations and propose future lines of research.

Poster advertising

Posters are a particular case of publicity (Gardner and Luchtenberg, 2000) that can be located outside in streets, trains, buses; or inside in sporting centres, for example. It is crucial to not assume that the generalized results of advertising, where there is in-depth research, are applicable to sponsorship (Alonso Dos Santos *et al.*, 2018; Tipps *et al.*, 2006) because for some time now, sports managers have realised that the methodologies and techniques that were usually applied in other industries could not be extrapolated to their firms (Alonso-Dos-Santos, 2018).

The normal size in the industry for a poster tends to be 24 × 36 inches (A1) for big posters (bus stops), 18 × 24 inches for medium posters (street) or 11 × 17 inches for small posters (in the metro, for example). There are three main advantages of using the sport poster as a communication media (Breivik and Nysveen, 2005): due to their low cost, they are especially attractive for small and medium sporting events, which are the majority of events that occur. For example, more than 3,000 running events were counted in Spain in

one year (Burillo and Pérez-González, 2016). All of these events could potentially use posters as a means of communication. Second, their visibility is high, and their positioning is strategic because they can be placed in the same establishments where the subjects practise, at other sporting events, or on the street, and they can even be digitalized and disseminated through social networks. Finally, they are adaptable to a multitude of formats (e.g. bus stop, metro, or billboard sizes), thus expanding the scope and number of possible impacts. Additionally, according to Krugman (1965), print media stimulate better participation than radio or television and provide the receiver with a reasonable opportunity to develop specific information about the attributes of the advertised product.

Posters, as publicity messages, transmit to cognitive and affective systems through visual processes, thus the effectiveness of the publicity depends on their capacity for attracting visual attention (Simola *et al.*, 2014). However, recent studies argue that the congruence in the marketing communication can determine the effectiveness of the advertisement (Koo and Lee, 2018; Papadimitriou *et al.*, 2016; Shin *et al.*, 2018). Therefore, it is important to isolate the effect of attention to the posters to measure how congruence affects behaviour and the processing of the consumer.

According to Bloom (2000), one of the problems facing the development of this means is the measurement of its effectiveness. Starting a decade ago, various pilot systems have developed in France and the UK and consist of monitoring and measuring the response of passers-by through surveys and systems of proximity. More recent studies have compared the effectiveness of the poster with social media (Kim and Jeong, 2016) or its capacity to attract attention (Alonso Dos Santos *et al.*, 2019). But the academic literature in the area is limited.

Measuring the effectiveness of sponsorship

As we have previously reported, companies invest large amounts of money in sponsorship; however, they do not yet have appropriate measurement indicators that account for the return on investment in sponsorship (Boronczyk *et al.*, 2018; Meenaghan and O'Sullivan, 2013). Currently, indicators based on exposure are still being used. For example, the company Blinkfire Analytics (www.blinkfire.com) offers coefficients based on the time spent on the screen and mobile in social networks without taking into account the processing by the subject. This is just one example of a trend in the market (Boronczyk *et al.*, 2018; Breuer and Rumpf, 2012; Meenaghan, 2013; Meenaghan and O'Sullivan, 2013). No indicators are provided on the logo display, only the time the brand stays on the screen. That is, the industry tends to calculate the maximum exposure potential as if it were real. They do not take into account the processing of information (Crompton, 2004); rather, they simply measure the exposure (Boronczyk *et al.*, 2018). In addition, this method has significant disadvantages because it does not take into account the sizes of the logos, colours, or familiarization with the brand (Breuer and Rumpf, 2011). Therefore, indicators that measure the exposure – visualization ratio and that also consider the processing of sponsorship signals are necessary.

Visual attention to the sponsor

Attention is a cognitive process linked to a selection mechanism for the processing of information. Because mental capacity is limited, attention is defined based on preferences and limitations of the subject (Hsieh and Chen, 2011). A fundamental limitation refers to the difficulty of the task (Navon and Miller, 2002); as the amount of information increases, the resources allocated to the focus of attention increase, decreasing for the rest of the tasks that are performed simultaneously. Attention to printed advertising depends on the stimulus itself (the poster) (bottom-up factors) and on the stimuli inherent to the subject (top-down factors) (Pieters and Wedel, 2004). The process of ascending attention (bottom-up) refers to

the process by which the subject captures attentional information according to the characteristics of the poster, for example, due to its colour, position, size or shape (Ares *et al.*, 2013). Bottom-up factors refer to the workspace of the designer. Top-down attention is subject to the interests and objectives of the subjects when they evaluate the stimulus (Pieters and Wedel, 2007). If the subjects do not need the information regarding the sponsors, they will most likely not pay attention to it, unless their attention is automatically captured (bottom-up process) (Ares *et al.*, 2013).

There is not much available information about whether the attention of consumers to the information of the sports poster is determined mainly by the design of the poster (bottom-up factors) or by the search for specific information (top-down factors). In any case, the research about sponsors is based on subjects' perception when attention has already been captured, ignoring whether the attention was captured by the sponsor's logo and how that attention affects the consumer. Additionally, no other research has considered isolating the effect of attention for the study of the effect of congruence. Therefore, more research is needed to understand the process of consumer attention to sports posters because attention is a necessary requirement for effective communication (Rumpf and Breuer, 2014). Without attention, there is no processing, and therefore, the sponsorship message is unsuccessful.

Sponsor-brand congruence

Congruence is the perception of fit between a sponsor and the sponsored (Rifon *et al.*, 2004) and is a top-down factor (Flechtenhar and Gamer, 2017) because it depends on the characteristics of the subject. The study of congruence in sports sponsorship has been widely disseminated (Pappu and Cornwell, 2014), and there is a broad consensus about its benefits. For example, it has been reported that congruence improves image transfer (Gwinner and Eaton, 1999), causes better product differentiation (Amis and Slack, 1999), and improves both the attitude towards the sponsor (Speed and Thompson, 2000) and recall (Rifon *et al.*, 2004). It has been reported that incongruence decreases the effect on image transfer (Meenaghan, 2001), increases the processing time of the logo (Alonso Dos Santos and Calabuig Moreno, 2018) and can confuse the consumer (Becker-Olsen and Simmons, 2002). Some authors found that congruence influences purchase intentions (Dees *et al.*, 2010; Papadimitriou *et al.*, 2016; Rodgers, 2007).

According to Tribou (2011), incongruence involves two scenarios. If the subject can assimilate the incongruence, the effect of sponsorship lasts longer because the person had to make a greater cognitive processing effort and can rationalize the association. However, if the relationship does not become rationalized, the sponsorship will be rejected, causing a negative effect on the subject's perception of the brand. According to Alonso Dos Santos and Calabuig Moreno (2018), congruent sponsorships require a lower level of effort and cortical capacity and are quicker to identify. They report that due to the longer processing time required by the incongruous sponsor, it would be possible for it to be more effective because it would increase recall. However, the risk of creating a negative emotional status could cause discomfort in the consumer by not engaging this learning-sponsorship in the cerebral plastic structure.

Brand recall

Brand awareness is defined as the strength or degree of ease with which a brand is in the mind of a consumer and can be remembered and associated with the products of the marketing company (Keller, 2003). According to Quester (1997), brand awareness can be measured through unattended recall, that is, by evaluating the consumer's ability to name a sponsor without any clue, the latter being one of the most common methods used for its measurement (Pitts and Slattery, 2004). Numerous manuscripts have used recall as a measure of the effectiveness of sponsorship (Amorim and Almeida, 2015; Javalgi *et al.*, 1994;

Speed and Thompson, 2000). Some authors found that brand recall influences purchase intention (Chen and He, 2003; Pons and Souiden, 2009; Shahin Sharifi, 2014). Therefore, the use of recall to evaluate the cognitive effect of attention and its efficacy seems appropriate and accepted in the scientific literature (Kinney *et al.*, 2008).

According to Lardinoit and Derbaix (2001), attention is a prerequisite for the processing and memory of sponsorship; however, it must be processed as a limited indicator of recall, to the extent that a stimulus can be attended but not processed, but a stimulus can never be processed without being attended to. A positive relationship between the number of eye fixings in an ad (Maughan *et al.*, 2007) and recall has been found. In summary, attention influences brand recall (i.e. Breuer and Rumpf, 2012; Tangmanee, 2016; Yang *et al.*, 2015). However, just because attention has been paid to an area does not mean that it is remembered (Drèze and Hussherr, 2003), although there is a high correlation between the amount of visual attention (time of permanence) and the retrieval of memory (Wedel and Pieters, 2000). According to the theory of adaptive control of thought (Anderson, 1983), knowledge and concepts are presented in the form of associations and nodes. Declarative memory takes the form of a semantic network that links propositions, images and sequences by associations. How the associations influence memory is a controversial issue in the literature. It has been found that congruent associations are the most remembered (Rawson and Van Overschelde, 2008), but also have the opposite effect (Ning *et al.*, 2018). The moderate schema incongruity effect (Mandler, 1982) affirms that product evaluations are positively influenced when there is a moderate incongruency between the product and its association (Clemente *et al.*, 2014). Memory of a moderately incongruent association should be greater than when the association is congruent.

Purchase intention

Numerous articles in the area of sports sponsorship have been based on the theory of planned behaviour by Ajzen (1991) to explain the purchase intention of the sponsor's products when they are exposed to sponsorship stimuli (Biscaia *et al.*, 2013; Cornwell and Cote, 2005; Ko *et al.*, 2008). Many others have used congruence as a moderating or mediating variable in such a relationship (Alonso-Dos-Santos *et al.*, 2016; Dees *et al.*, 2010), but the influence of visual attention on intentionality processes has been ignored to date (Boronczyk *et al.*, 2018). There has been some approach through the study of the ability of the visual processing of the subjects (Close *et al.*, 2015). However, it has been in areas such as food where more research in this respect has been found; the results of such research show that the ability to attract attention through product packaging can increase one's willingness to buy (Oliveira *et al.*, 2016; Velazquez and Pasch, 2014). In a framework more similar to ours, it has been found that visual attention and recall in print advertising positively influence a greater preference for the brand, improving the purchase intention of the brands that were recognized (Simola *et al.*, 2013). Likewise, a weak but positive relationship between attention and purchase intention in the area of sports sponsorship has been found (Shaw and McDonald, 2006).

We propose the following research questions:

- RQ1. Does the congruence (perceived and effective) between sponsor and the sponsored party influence recall and purchase intention?
- RQ2. Does attention to the sponsor's brand influence recall and purchase intention?
- RQ3. Does visual attention exert a mediating effect between recall and purchase intention?

Method

Statistical analysis

First, the scales are validated through partial least squares. Then an analysis of the covariance (ANCOVA) and an analysis of mediation based on the analysis of regression

through the macro PROCESS were carried out. The ANCOVA analysis allowed for the control of the effect of the covariable (attention) on the dependent variable when it is not possible to do this through the experimental design. In this way, we can control the effect of congruence on recall and purchase intention by isolating the effect of attention, obtaining a more exact approximation of the causal relationship established (increase in reliability). The attention of the subjects towards the frame can be due to intrinsic factors like implication, identification, reading patterns or cognitive capacity, or extrinsic factors such as the format, colour or position. The communication agency in marketing, or us in the experiment, can control certain factors, but we can isolate the effect of attention to establish a cause and effect relationship of congruence-recall / purchase intention with more reliability.

Eye tracking

The objective of the application of the eye tracking method is to investigate the preferences of the subjects regarding advertising messages by measuring visual attention, the fixation of the gaze and even the order of exploration of the stimulus (Thomsen and Fulton, 2007). The authors argue that through visual attention and eye tracking, it is possible to measure the amount of information extracted from a stimulus (Kessels and Ruiter, 2012), which is intrinsically related to brand preference (Stewart *et al.*, 2004), because consumers spend more time fixed on their favourite brands.

This research uses the full time of fixation (FTF) to an area of interest represented by the brand logo as an indicator of visual attention. The hardware used is an Eye Tribe eye tracker that has a sampling frequency of 60 Hz and a latency of 20 milliseconds. In terms of accuracy, it has an average visual angle of 0.5 degrees and a spatial resolution of 0.1 degrees. It has 16 calibration points. The system allows movements in subjects up to 75 cm in vertical and horizontal angles. The software that records and processes the information is OGAMA, which is free and open source. The equipment and software have been previously used in scientific research, and their accuracy and validity have been certified (Popelka *et al.*, 2016; Voßkühler *et al.*, 2008). According to the software company iMotions, the use of this eye tracking system is present in more than 227 publications in Google Scholar (iMotions.com, 2018).

Validation of stimuli

This manuscript differentiates perceived congruence and effective congruence. Both constructs measure the fit between sponsored and sponsor. The perceived congruence is based on the image the subject has of this relationship at the moment of being exposed and asked. Authors that have measured perceived congruence include, for example: Johnston and Paulsen (2011), Papadimitriou *et al.* (2016) and Shin *et al.* (2018). The effective congruence is constructed through the validation of the stimuli or the researchers themselves assume that there is congruence (Alonso Dos Santos and Calabuig Moreno, 2018; Cornwell *et al.*, 2006; Roy, 2010).

For the construction of effective congruence, we selected three sports categories (tennis, sailing and F1). This choice was made because of the availability on the internet of real sporting event posters without famous people. Then, we asked a group of 100 university students to name congruent and incongruent sponsors for each selected sports discipline. From this process, we obtained eight sponsors for each discipline and the most common type of congruency. To reduce and validate the stimuli even more, we again consulted university others 100 students, who scored on a Likert scale the congruence for each option described above. The associations with greater scores determined the effective congruence. With these results, we manipulated the real posters and inserted the selected brands. All the posters we used as stimuli are real posters. These posters were validated in different focus groups. Three groups of six subjects in each examined the posters and contributed

information about the quality of the image, the size of the sponsors, their visibility and the congruence observed in each poster. As a result, we observed that the subjects were able to understand the meaning of each poster, the quality of the photomontage was adequate and all of them identified who the sponsors were and where they were situated. Additionally, we identified the processing time of the subjects to consider in the following phase. All the stimuli can be found online from Table I.

Experimental design and questionnaire

The experiment was performed with 111 men and 129 women ($n = 240$) with 24 sports posters from three different disciplines (sailing, tennis and F1), varying the congruence, the clutter (number of sponsors) and the position ($2 \times 2 \times 2$). According to Breuer and Rumpf (2012), research regarding attention must control the positioning variables within the sponsorship communication actions. The sample consists of pedestrians from the university campus, which is an open campus. The average age of the sample denotes the high presence of students ($M = 21$, $SD = 4$). None of them had links to researchers or the experiment.

The experimental design is mixed and is based on Latin squares, and it has been previously used in commercial experiments with eye tracking (Hernández-Méndez and Muñoz-Leiva, 2015). The intra-subject factor is sports discipline, and the inter-subject factors are the position, the clutter and the congruence.

In the experiment, 24 experimental groups of ten subjects each were randomized and balanced according to the age and sex of the subject. The process, in general, required several steps: establish contact with the subject, accompany him/her to the laboratory

Experimental group	Observation sequence			Type of stimulus	Link
G1	F1_C_4_O	S_C_4_O	T_C_4_O	E	https://goo.gl/sILjJq
G2	T_C_4_O	F1_C_4_O	S_C_4_O		https://goo.gl/k7fEii
G3	S_C_4_O	T_C_4_O	F1_C_4_O		https://goo.gl/t2h5sn
G4	F1_I_4_O	S_I_4_O	T_I_4_O	G	https://goo.gl/k4bg6h
G5	T_I_4_O	F1_I_4_O	S_I_4_O		https://goo.gl/dZ9i61
G6	S_I_4_O	T_I_4_O	F1_I_4_O		https://goo.gl/PmeIf
G7	F1_C_1_O	S_C_1_O	T_C_1_O	B	https://goo.gl/qDY0Wi
G8	T_C_1_O	F1_C_1_O	S_C_1_O		https://goo.gl/CxKFjb
G9	S_C_1_O	T_C_1_O	F1_C_1_O		https://goo.gl/wZhfKE
G10	F1_I_1_O	S_I_1_O	T_I_1_O	D	https://goo.gl/M4zfO7
G11	T_I_1_O	F1_I_1_O	S_I_1_O		https://goo.gl/HAUEjq
G12	S_I_1_O	T_I_1_O	F1_I_1_O		https://goo.gl/3cxyry
G13	F1_C_4_I	S_C_4_I	T_C_4_I	F	https://goo.gl/49P7tc
G14	T_C_4_I	F1_C_4_I	S_C_4_I		https://goo.gl/CBevR2
G15	S_C_4_I	T_C_4_I	F1_C_4_I		https://goo.gl/x4NsHi
G16	F1_C_1_I	S_C_1_I	T_C_1_I	A	https://goo.gl/JDEpzX
G17	T_C_1_I	F1_C_1_I	S_C_1_I		https://goo.gl/wu4VFY
G18	S_C_1_I	T_C_1_I	F1_C_1_I		https://goo.gl/CbsLBW
G19	F1_I_4_I	S_I_4_I	T_I_4_I	H	https://goo.gl/bRDDI0
G20	T_I_4_I	F1_I_4_I	S_I_4_I		https://goo.gl/el9Vd7
G21	S_I_4_I	T_I_4_I	F1_I_4_I		https://goo.gl/JLp1Eu
G22	F1_I_1_I	S_I_1_I	T_I_1_I	C	https://goo.gl/Lu8KAj
G23	T_I_1_I	F1_I_1_I	S_I_1_I		https://goo.gl/kcdyis
G24	S_I_1_I	T_I_1_I	F1_I_1_I		https://goo.gl/W1E20q

Notes: The sequence uses the following codes in this order: sports discipline (Formula 1 = F1, Sailing = S, Tennis = T), congruence (C = congruent, I = incongruent), and position (I = inside the area of action, or O = outside)

Table I.
Experimental design

outfitted for experimentation according to the indications of the International Telecommunication Union (2002), inform them about the experiment, read the ethical indications, accommodate the subject, calibrate the instruments, perform the experiment, and finally, administer the survey. During the experiment itself, the posters interspersed with black images for two seconds were displayed for eight seconds. The exposure time is based on Gülçay and Cangöz (2016) and contrasted in the qualitative validation process described previously.

All the images generated are available for download at the links listed in Table I. The nomenclature of the sequence of observation of the images contains three parts with the following explanation in the order exposed to the subject separated by an underscore: sports discipline (Formula 1 = F1, Sailing = S, Tennis = T), congruence (C = congruent, I = incongruent), clutter (one or four) and position (I = within the action zone and O = outside). Thus, the first poster of the first experimental group G1 visualized a poster of F1 congruent with four sponsors while the target brand was located outside the action area. The name of the stimulus was chosen randomly as part of the process of randomization of the groups.

Regarding the scales, the measurement of spontaneous recall was based on Ko *et al.* (2008) and consisted of recording the frequency in which the respondents could correctly remember a specific brand. This method is recommended by numerous authors, such as Pitts (1998). The scale to measure the purchase intention (IntBuy) was based on Smith *et al.* (2008), previously validated by Speed and Thompson (2000). The scale to measure the perceived congruence was adapted from Speed and Thompson (2000) and validated by Roy (2010). Effective congruence was determined by the results of the stimulus validation process.

Results

Validation of the scales

With respect to the reliability of the scales (Hair *et al.*, 2018), correlations between the items and their respective variables were greater than 0.7. Both the Cronbach's α , the rhoA coefficient and the composite reliability index were greater than the limit of 0.7. The convergent validity was confirmed through the average variance extracted (greater than 0.5). To examine the discriminant validity, we used the Fornell-Larcker criterion to examine the cross-loadings and the heterotrait-monotrait ratio (upper limit 0.9) (Henseler *et al.*, 2014).

Manipulation checks

The results of the repeated measures ANOVA analysis show that there was no difference in the attitude towards the brand (Dees *et al.*, 2008) ($F_{2, 7} = 0.423$, $p = 0.671$), nor in the implication with the sport (Shank and Beasley, 1998) ($F_{2, 6} = 0.785$, $p = 0.498$) within the groups. Thus, we can assume that the sports discipline and the personal preferences of the subjects towards the brands do not influence the results.

ANCOVA analysis

Two covariance analyses were performed, taking IntBuy and recall as independent variables and considering two positions of congruence (Congruent, Incongruent), two clutter positions (1, 4 sponsors), perceived congruence (five Likert positions), and two locations (Inside, Outside). The FTF factor was considered a co-variable; in this manner, it was possible to eliminate the heterogeneity in the dependent variable caused by the influence of attention, thus obtaining a reliable indicator of the effect of the independent variables on the dependent variable. In all cases, the presumption of homoscedasticity was confirmed: Levene test (IntBuy): $F(37, 199) = 1.44$, $p = 0.51$; Levene test (Recall): $F(37, 199) = 1.47$, $p = 0.50$.

Recall

The analysis of covariance for spontaneous recall shows that the effect of the FTF co-variable does influence spontaneous recall $F(1,239) = 26.905, p < 0.001$. Among the independent variables, the clutter was significant only for recall: recall is higher when there is only one sponsor $F(1,198) = 4.216, p < 0.041$. As before, none of the interaction effects were significant. Table II presents a summary of the descriptive statistics of the positions of each variable, in addition to the results of the comparison between groups.

Purchase intention

The ANCOVA for the IntBuy shows that the effect of the co-variable FTF was not significant $F(1,198) = 1.470, p = 0.227$. Among the independent variables, only the congruence $F(1,198) = 7.264, p = 0.008$ and the perceived congruence $F(4,198) = 6.474, p = 0.000$ were significant. None of the interaction effects were significant. Table III presents a summary of the descriptive statistics of the positions of each variable, in addition to the results of the comparison between groups.

Although the interaction effect between the effective and perceived congruence with respect to the IntBuy was not significant, Figure 1 shows that the marginal mean of the purchase intention is greater when the sponsor is incongruent, but the subjects perceive the relationship as congruent.

Mediating effect

The macro PROCESS of the SPSS software package (model 4) developed by Hayes (2013) was used to test whether recall mediates the influence of the FTF on the IntBuy. The regression analysis (Table IV) shows that FTF influences recall ($\beta = 0.001, p < 0.001$) and that recall exerts a significant effect on IntBuy ($\beta = 0.398, p = 0.003$). However, the FTF does not have a direct effect on IntBuy ($\beta = 0.0001, p = 0.143$), although it exerts an indirect effect through recall ($\beta = 0.0004, p < 0.05$).

Main and interaction effects	Mean \pm SE	Comparisons
<i>Congruence</i>		
Congruent	0.99 \pm 0.13	ns
Incongruent	1.28 \pm 0.11	
<i>Clutter</i>		
1 sponsor	1.31 \pm 0.13	1 sponsor > 4 sponsors***
4 sponsors	0.98 \pm 0.11	
<i>Location</i>		
Inside	1.23 \pm 0.12	ns
Outside	1.06 \pm 0.13	
<i>Perceived congruence</i>		
1	1.65 \pm 0.27	ns
2	0.95 \pm 0.17	
3	1.04 \pm 0.09	
4	1.05 \pm 0.12	
5	1.09 \pm 0.25	
FTF	277.45 \pm 21.97	***

Notes: ns, not significant. *** $p < 0.001$

Table II.
Summary of
recall results

Main and interaction effects	Mean \pm SD	Comparisons
<i>Congruence</i>		
Congruent	2.49 \pm 0.12	Incongruent > Congruent***
Incongruent	2.93 \pm 0.10	
<i>Clutter</i>		
1 sponsor	2.82 \pm 0.10	ns
4 sponsors	2.63 \pm 0.12	
<i>Location</i>		
Inside	2.63 \pm 0.11	ns
Outside	2.81 \pm 0.12	
<i>Perceived congruence</i>		
1	1.92 \pm 0.26	5 > 4 > 3 > 2 > 1***
2	2.49 \pm 0.16	
3	2.81 \pm 0.09	
4	2.91 \pm 0.12	
5	3.46 \pm 0.23	
FTF	277.45 \pm 21.97	ns

Table III.
Summary of
IntBuy results

Notes: ns, not significant. *** $p < 0.001$

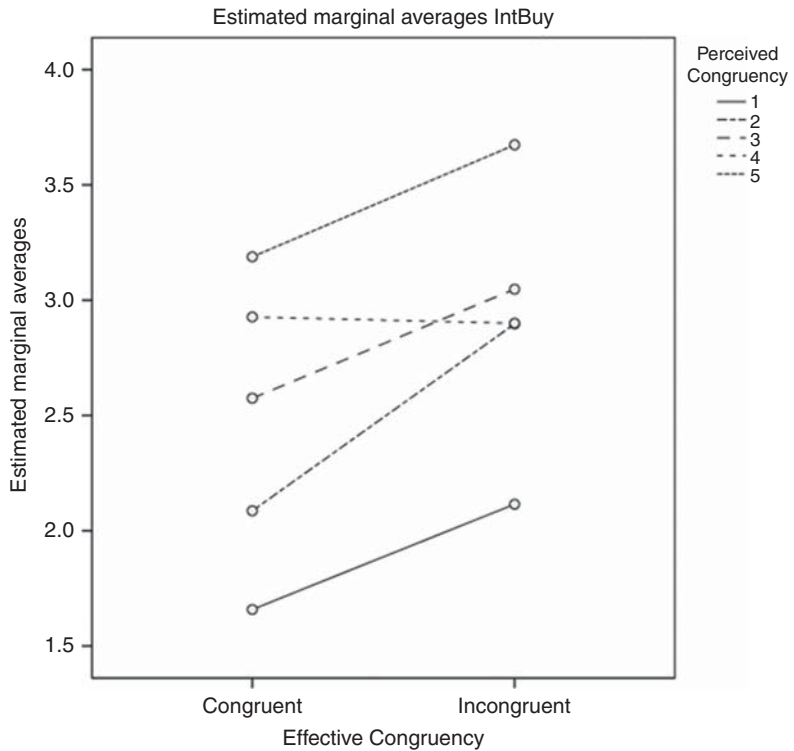


Figure 1.
Estimated marginal
means of IntBuy
based on effective and
perceived congruence

Conclusions and recommendations

The aim of this manuscript is to examine the influence of congruence (perceived and effective) and the level of visual attention towards sponsors on recall and purchase intention in sports sponsorship. The application of the study was sports posters, due to first, the scarce literature on the subject and second, its importance as a means of communication, especially in sports (Bennett, 1999; Breivik and Nysveen, 2005).

The results of the first analysis of co-variance to answer the first research question show that both the effective and perceived congruence were significant according to purchase intention. Specifically, incongruent effective sponsorships were associated with greater purchase intention. These results contrast with the results reported in the academic literature (Hutabarat and Gayatri, 2014; Olson and Thjømøe, 2009; Speed and Thompson, 2000), although none of the aforementioned manuscripts isolated the effect of visual attention on congruence, which may explain these results. However, prior research has not managed to demonstrate that congruent sponsors receive more visual attention, but that they do receive more cognitive attention (Alonso Dos Santos *et al.*, 2018, 2019). The literature is, thus, confusing in this sense, as the previous associations between brands and sponsors can vary their effectiveness according to some authors (Rawson and Van Overschelde, 2008) or diminish it according to others (Ning *et al.*, 2018). Although the interaction effect shown in Figure 1 was not significant, an upward trend in the marginal mean of the IntBuy is shown among the subjects who perceive the incongruent sponsorships as congruent, which could mean that the subjects who assimilate the inconsistency of the message exhibit higher IntBuy rates. We argue, in line with Clemente *et al.* (2014), that incongruent sponsorships that are favourably resolved (non-significant) increase the cognitive work in the processing, increasing their impact, effectiveness and perpetuating them in time (Tribou, 2011). This would explain why purchase intention grows when the perceived congruence is increased. The results regarding the perceived congruence cast doubt on the ability of the subjects to perceive the congruence of the sponsorship since the perceived congruence increases when the sponsors are incongruent. The difficulty of identifying the congruence of the sponsors was found to be high previously (Alonso Dos Santos and Calabuig Moreno, 2018), which could confirm these results.

The second analysis of co-variance showed that visual attention does influence brand recall, which is in line with previous eye-tracking research (Breuer and Rumpf, 2012). The results also showed that recall increases when the clutter decreases, which is also in line with the previous literature (Breuer and Rumpf, 2012; McDonald and Karg, 2015; Mikhailitchenko *et al.*, 2012).

Regarding the third research question, the regression analysis showed that FTF influences recall. Likewise, recall influences the IntBuy, as found by Shaw and McDonald (2006). However, we could not demonstrate that the FTF exerts a direct effect on the IntBuy, although it does indirectly through recall. These last results are in line with those of Crompton (2004), who states that the relationship between recall and buying behaviour is very tenuous.

Outcome: IntBuy	SE	<i>t</i>	95% CI		<i>R</i> ²
FTF	0.0002	1.4757	-0.0001	0.0008	0.0725
Recall	0.1323	3.0144	-0.6607	-0.1368	
Outcome: Recall					
FTF	0.0001	7.2149	0.0007	0.0012	0.3061
Indirect effect (FTF – IntBuy)		Boot SE	BootLLCI		BooULCI
		0.0001	-0.0007		-0.0001

Table IV.
Model summary
information for
the IntBuy

Therefore, it seems advisable to urge sponsors to link themselves with sports disciplines with which they do not have a great fit, but enough of a fit for the subject to resolve the conflict of incongruity. In such a case, perhaps the sponsors should distinguish between fit and similarity. In this instance, an example of fit would be a sponsorship relationship between Michelin and FI, and an example of similarity would be a sponsorship established between McDonald's and the Olympic Games (Pappu and Cornwell, 2014). In any case, the results indicate that being located in the area of action does not increase IntBuy or recall directly, which does not mean that it does so indirectly through attention. This implies that the sponsors should not use more economic resources to be located within the area of action. Being a unique sponsor improves the memory but does not improve the purchase intention. It would therefore be necessary to examine financially how the recall rate influences the success indicators of the sponsor in terms of its objectives in relation to the resources available to be an exclusive sponsor. The visual attention does not influence the purchase intention. We interpret that the number of times and total time you look at the sponsor does not influence the purchase intention. Then sponsors should focus on activation strategies rather than repetition strategies, a circumstance not examined in the present study (O'Reilly and Lafrance Horning, 2013).

In general, the research presented is not free of limitations, which is why the results should be taken with caution. Some of these limitations are related to the cultural context of the subjects and to the experiment as a research method for the extrapolation of results. Other limitations are related to the selected sponsorships and their categories. We also assume that the individual preferences of the experiment's subjects towards the brands can be a factor that influences the results and whose manipulation was not taken into consideration. In future studies, it would be advisable to choose hedonic and functional sponsors (Roy, 2010). Regarding the measurement method, we propose to investigate neurophysiological methods that allow capturing the emotional commitment with the event and sponsor (Meenaghan *et al.*, 2013), with the objective of measuring attraction, not just attention capture. Additionally, the categories of products that were chosen as sponsors in the experiment could influence the results to the extent that some categories include food products. In any case, it would be advisable to examine the effect of the location and clutter on attention in greater depth.

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Further reading

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