The Effect of Sponsorship Placement on Visual Attention, Brand Attitude, and Recall

An Eye-Tracking Study on Instagram

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Abstract

Purpose - The study attempts to explore how visual attention mediates the effect of sponsorship placement on brand attitude and recall, while examining the potential moderation trait anxiety on the effect of placement on visual attention.

Design/methodology/approach – In a 1x2 eye-tracking experiment, 62 participants were prompted to look at a social media post. The control group saw a post with the sponsor logo in the area of action of the Instagram post. The test group saw a post with the sponsor logo in the designated sponsor area. A survey measured anxiety, brand attitude and brand recall, as well as the control variables. Linear regression analysis and process analysis were used for data interpretation.

Findings – Logos in the area of action in social media posts attract more visual attention than logos in the designated sponsor area. However, overall statistical significance of the findings is not conclusive, requiring further investigation. Contrary to expectations, no moderation effect of anxiety was found between sponsorship placement and attention. Lastly, a mediating effect on brand recall and brand attitude was disproven.

Research implications – The findings provide insights in the role of sponsorship placement on visual attention in the social media context. It also inquires further research as it contradicts previously established relations between placement, brand attitude and brand recall as well as the expected moderation of trait anxiety.

Managerial implications – The study provides marketeers with insights on how to tailor social media strategies for improved salience and visual attention.

Keywords – Placement – Visual Attention – Anxiety – Brand Attitude – Brand Recall

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1. Introduction

The rising popularity of social media dominant communication platform in today's society is overshadowing the traditional media, motivating marketers to adapt to this evolving form of communication (Mukherjee, 2019). The number of active social media users over the past two years has witnessed a significant increase, reaching 4.76 billion in January 2023, accounting for 59.4% of the global population (Chaffey, 2023). Furthermore, social media is expected to surpass 6 billion active users by 2027 (Number of Worldwide Social Network Users 2027 | Statista, 2023).

Panigyrakis, Panopoulos, and Koronaki (2020) highlight that social media not only facilitates the establishment of relationships between consumers and brands but it also assists businesses in managing relationships by facilitating the exchange of opinions, preferences, and details about goods and services (Cheung, Pires, & Rosenberger, 2020). Additionally, social media increases word-of-mouth advertising, improves organizational visibility, and enhances brand recall (Simbolon et al., 2022).

Sponsorships are a marketing strategy used to enhance brand recall, visibility, and attitudes (Visentin, Scarpi & Pizzi, 2016; Dos Santos, Moreno & Franco, 2019). Its primary objective is to capture potential customers' attention and wake positive brand attitudes in the early stages of their customer journey (Visentin et al., 2016; Hanlon, 2022; Chaffey, 2023). Attention plays a vital role in influencing consumers' intentions and is a critical, initial step in processing sponsorships (Milosavljevic & Cerf, 2008). Hence, it is crucial for organizations to strive towards enhancing the salience of sponsorships to capture consumers' attention (Pieters & Wedel, 2004).

Dos Santos et al. (2019) demonstrated the significant effect of sponsorship placement on sports event posters in enhancing sponsorship salience and capturing consumers' attention. However, traditional marketing outlets like posters are no longer deemed as effective, with social media replacing them as a primary marketing communication tool (Jung & Im, 2021).

Social media provides a direct channel for organizations to obtain exposure and reach their target audience through event sponsorships on social media platforms (Chebli & Gharbi, 2014). The consistency, reliability and real-time features of social media make it a valuable tool for organizations to explore in their marketing endeavors (Nadaraja & Yazdanifard, 2013). Nevertheless, there are uncertainties regarding sponsorship placement on social media for marketers, due to its rapid emergence as a marketing tool and limited research (Liu, Chou & Liao, 2015), highlighting a gap in the literature and the need for further research in this area.

Organizations fiercely compete for viewers' attention in the social media context (Boronczyk, Rumpf, & Breuer, 2018). However, people react differently in competitive circumstances due to different personality traits such as anxiety (Murray & Janelle, 2003). People who tend to be more trait anxious are more likely to have narrowed visual attention and different visual processing strategies (Janelle, 2002; Murray & Janelle, 2003). Therefore, it is possible that the impact of sponsorship placement on visual attention is moderated by an individual's level of anxiety.

This research aims to expand the literature on sponsorship placement in social media and how it influences consumers' brand attitudes and recall through attention. Up till now, this field remains relatively uncovered within the extensive field of social media marketing. The following research questions are proposed:

How does visual attention toward sponsorship signage in social media posts mediate the effect of sponsorship placement on brand attitudes and brand recall?

How does anxiety moderate the effect of sponsorship placement on visual attention?

Answering these research questions will advance the field of marketing, particularly the realm of social media and sponsorships, while drawing upon prior work of Dos Santos et al. (2019). It will investigate the impact of sponsorship placement on brand attitudes and recall in social media, and explore how anxiety moderates the relationship between sponsorship placement and visual attention. Previous literature has established that anxiety influences visual processing and attention to imagery (Bagozzi, Gopinath & Nyer, 1999; Janelle, 2002; Wegbreit, Franconeri & Beeman, 2015; Wang, 2022), but this has not been studied in the context of sponsorships, particularly on social media.

The findings of this study offer practical insights to marketers in order to obtain desired effects of sponsorships and contribute to the field of social media marketing. The findings inform marketers about the optimal placement of sponsorships to capture visual attention and how it affects on brand attitudes and recall. Furthermore, understanding how consumer anxiety affects visual processing on social media will assist marketers in tailoring their sponsorship tactics accordingly.

The following chapter provides a thorough analysis of relevant theories in the theoretical framework, investigating the relationships between the concepts and formulating corresponding hypotheses. Chapter three discusses the methodology employed to address the research questions and test the hypotheses. Data collection procedures and data analysis techniques are presented, followed by the results section in chapter four. Finally, based on the findings, conclusions are drawn, and implications for further research are discussed in chapter five.

2. Theoretical Framework

This research aims to expand on the literature on sponsorship effectiveness by exploring the effect of sponsorship placement on brand attitude and brand recall in social media posts. Instagram specifically. Therefore, it is important to look into what is already known about these concepts and how they relate to each other.

2.1. Social Media

Social media has created new opportunities for businesses to interact with consumers. Social media is an interactive environment where businesses connect and engage with customers and leverage their voices (Tafesse & Wien, 2018). Moreover, organizations have started the widespread adoption of social media platforms for multiple other reasons: To be meaningful and distinctive towards consumers, but also to differentiate themselves from competitors (Anagnostopoulos et al., 2018). It has evolved in a variety of formats, such as blogs, collaborative websites, social networking sites, content communities and many more (Kaplan & Haenlein, 2010).

Social media also enables organizations to provide consumers with unlimited information without human intervention (Nadaraja & Yazdanifard, 2013). The amount of information that can be posted to social media is larger compared to other traditional media sources and it can be provided in an easily processable form. Also, costs are low to none for posting on social media, compared to the high costs of traditional media (Weinberg & Tamar, 2011)

Furthermore, social media helps businesses to more effectively target consumers and audiences based on their interests, enabling marketers to more successfully connect with potential customers who might be interested in what a business has to offer (Nadaraja & Yazdanifard, 2013). Building on this, social media also allows users to converse with each other to have discussion about brands and spread word-of-mouth communication quicker and further than in traditional media (Daugherty & Hoffman, 2014).

This ability to reach audiences instantaneously and with the ability to prompt as much information as the organization deems necessary, provides a powerful mechanism for sponsoring brands, especially in the context of sport, to engage consumers and improve attitudes (Naraine, Bahksh & Wanless, 2022). Therefore, organizations have since started to widely adopt the use of social media in their sponsoring and advertising strategies (Delia & Armstrong, 2015).

2.2. Sponsorship

Sponsorships are defined as: "an investment, in cash or in kind, in an activity, in return for access to the exploitable commercial potential associated with that activity" (Meenaghan, 1991, p. 36). The

sponsor's investment makes sure the receiving organization can carry out it's activity and the sponsor receives access to the audience of the activity it has invested in (Lacey, Close & Finney, 2010). It is important to know that sponsorships can be regarded as a form advertising as money is being invested for commercial purposes (Meenaghan, 1991). A common example is the investment into sports teams, in order to display your brand at their matches.

Key reasons why organizations invest in sponsorships are gaining high levels of exposure and recall, as well as increasing sales, improving brand image and brand recognition, but also developing brand loyalty (Dos Santos et al., 2019). They are intended to trigger a reaction from consumers that go beyond monetary return and also to develop a person's positive brand attitudes as a result of the involvement in the sponsored events (Visentin et al., 2016). However, it remains vague how sponsorships effectively contribute to these objectives and thus how the performance of sponsorships can be measured (Meenaghan, 2013; Dos Santos et al., 2019).

Sponsorships are a subtle tool for branding that does not interfere with the consumer, rather it creates a special relationship without appealing to the consumer's conscience. It allows companies to communicate on logos and appearances only, instead of products. This subtle way of posing a brand makes it possible for organizations to transfer positive associations from the sponsored event, to complement and improve the brand image (Chebli & Gharbi, 2014). Also, investing in marketing efforts on social media, like sponsorships, can improve the value perception of the consumer on the sponsoring brand (Zauner, Koller and Fink, 2012).

The advent of the digital era has had significant effects on sponsorship and performance as it has provided organizations with focused channels of communication, like social media, to achieve sponsorship objectives (Meenaghan, 2013). According to Meenaghan (2013), social media has helped organizations to meet their objectives by creating pathways to the consumers that sponsors seek.

2.3. Brand attitude

Previous literature indicates that sponsorships are used to leverage brand attitude (Visentin et al., 2016; Dos Santos et al., 2019), by transferring positive associations from the sponsored event to the brand (Chebli & Gharbi, 2014; Schnittka et al., 2023). However, consumers who are unable to assess a brand's goods or services may do so by relying on "extrinsic cues" like the logo of the company (Keller, 1993). This is seen in sponsorships, where the brand logo often is the only element of the sponsoring brand visible to consumers.

When customers believe a brand offers qualities and benefits that meet their needs and desires and foster a positive overall brand attitude, pleasant brand associations are developed, which is a sign of

the success of a marketing effort (Keller, 1993). Positive attitudes are important because they often shape the basis of consumer behavior (Keller, 1993).

2.4.   Brand recall

Brand recall is about the ability of a consumer to retrieve the brand from the memory when the product category is given in which the brand is operational, the demands fulfilled by the category or another type of probe as a cue is given (Keller, 1993).

Brand recall is a key objective of sponsorships (Dos Santos et al., 2019), in order to build meaningful connections with the customer (Hickman, 2020). Consumers that are not aware of the brand, are unable to support the brand in the market, as the brand is not in their consideration set (Keller, 1993). Knowing this, recall of the sponsoring brand, plays a critical role in reflecting the success of the sponsorship investment (Hickman, 2020).

2.5.   Attention

The abundance of concurrent visible information in social media, causes sponsors to compete for viewers' attention, making attention itself an important driver for the sponsorship information processing (Boronczyk et al., 2018). Attention enables the prioritized processing of a particular group of observable items (Boronczyk et al., 2018). Attention is affected by bottom-up and top-down factors. Bottom-up factors determine the perceptual salience of advertisements, like place and size. These features almost automatically draw attention to ad elements, even when not actively looking. Top-down influences are individual characteristics and his or her attentional process (Pieters & Wedel, 2004). Personal variables like interest with items or traits, encourage consumers to deliberately pay less or more attention to advertising components (Pieters & Wedel, 2004; Koch, 2004).

Earlier literature suggest that there is a positive relation between attention and sponsorship performance (Milosavljevic & Cerf, 2008), as attention leads to interest, which leads to desire and then leads to action (AIDA model). Consumers need to pass through the funnel in order to go from assessing of the sponsorship, to actual purchasing behavior (See Figure 1) (Visentin et al., 2016; Hanlon, 2022). Organizations should capture consumers' attention, generate interest in their products or services, and stimulate desire, ultimately leading to the purchase of the offered product or service (Kotler & Keller, 2012; Pramita & Manafe, 2022; Hanlon, 2022). So at the base of getting your sponsorship to achieve its preset goals such as developing brand recall and positive brand attitudes is capturing attention.

Figure 1: AIDA Funnel

A similar model for digital marketing is the RACE framework, focusing on the implementation and planning of a digital marketing strategy rather than the customer journey (Chaffey, 2023). The four steps of RACE are: Reach, Act, Convert and Engage (See Figure 2). Reaching the customer involves promoting your brand, to encourage people to act and seek additional information and demonstrate the value of your product or service. This can convert their interest into results and maximize your marketing efforts. Ultimately organizations must engage with customers on the long term maintain excitement about the brand and create loyalty.

Figure 2: RACE Funnel

Hence, sponsorships can reach and expose organizations to customers, leverage attitudes and raise customers' recall of the brand, advancing further through the RACE and AIDA funnel. Sponsorships should grab the audience's attention, wake their interest, and compel interaction with the brand in order to turn that curiosity into sales and a lasting relationship.

However, when freely viewing images without a particular task in mind, attention to advertisements and sponsorships tends to be lower compared to other image elements (Pieters & Wedel, 2004; Pieters & Wedel, 2007). For sponsorships these "other elements" are anything but the logo that can be seen in the image. Therefore, it can be challenging to capture consumer's attention and therefore highlighting the importance of salience of the sponsor's brand (Pieters & Wedel, 2004). Bottom-up attention could be the closest that organizations get, before the top-down factor of advertisement and sponsorships avoidance kicks in (Milosavljevic & Cerf, 2008).

2.6. Sponsorship Placement

A key bottom-up factor that has been shown to influence the salience of sponsorships is the placement of sponsorship signage according to Pieters and Wedel (2004). More prominent placement of a brand's visual identity symbols have a positive effect on the attention paid by the customer.

Sponsorship placement also affects the attitude towards the displayed brand (Brasel & Gips, 2008). Findings by Brasel and Gips (2008) on fast-forwarded videos suggest that content with brand information in a more central locations, enjoy increased brand attitudes. However, commercials with brands in more peripheral locations or limitedly shown, do not enjoy these increased brand attitudes. This was explained by people's visual attention being more focused on the center of the screen. This suggests a positive relation between visual attention and brand attitudes. Knowing this, there is a possibility that the effect sponsorship placement on brand attitude is mediated by visual attention.

Dos Santos et al. (2019) also found that placement of brand symbols has an effect on attention. In the research by Dos Santos et al. (2019) on sports events posters, brands placed more in the center of action would get more attention, compared to brands placed in the designated sponsor area, which can most of the times be found in the lower section of an image. The study primarily focused on conventional media, but acknowledged that comparable placement tactics are also common in social media platforms, such as Instagram (Dos Santos et al., 2019). Therefore, this research aims to extend the knowledge on this subject by concentrating on social media and exploring it in greater depth.

With social media's growing role as a marketing tool, sponsorship placement is also being explored more and more in the marketing context. Placement on social media now is one of the most important marketing strategies, despite the relatively small amount of research that has been done in this area, compared to traditional media. It is an increasingly popular way to reach potential customers on social media, who are able to zap away from advertising and sponsorships on traditional media (Liu et al., 2015).

2.7. Anxiety

The visual scope of attentional selection is influenced by emotional traits, as they affect the way information is processed by consumers (Bagozzi et al., 1999; Spalding et al., 2020). Anxious people seem to process information less effectively, due to their cognitive exhaustion, which induces a decline in their capacity to understand and interpret information (Wang, 2022). Search tactics become inconsistent, resulting in scan pathways that are less effective and more varied according to the study by Janelle (2002).

The observation that search rate increases along with anxiety is perhaps the strongest argument in favor of this view (Janelle, 2002). Besides, higher anxiety levels are associated with less efficient processing during shaping and binding memory, like with brand attitude and recall (Spalding et al., 2020). Having acknowledged this, it can be expected that a higher level of trait anxiety results in less visual attention towards sponsorships in social media posts, as the number of fixations rises.

2.8. Control variables

Existing literature suggests that sponsorship placement affects the attention capturing of consumers. However, this effect is limited to a bottom-up approach aiming to enhance the salience of sponsorship signage. According to Pieters and Wedel (2004) numerous top-down factors have an effect on the capturing of a consumer's attention. These factors typically are personal and unique to the individual, like product involvement, motivation and brand familiarity (Pieters & Wedel, 2004). A study by

Gauzente (2010) revealed that gender and attitude towards sponsorships have a significant top-down effect on the visual attention towards an advertisement.

First of all, a general attitude towards sponsorships has a positive effect on visual attention to sponsorships. According to Gauzente (2010), a positive attitude towards sponsorships causes consumers to pay more attention to a sponsorship whereas a negative attitude towards sponsorships does the opposite. Therefore this variable is controlled.

Based on previous literature, it is expected that male consumers devote more attention to sponsorships and are more likely to research the sponsor further than female consumers (Gauzente, 2010), making gender another possible factor of influence. Therefore it is important to control for gender, as it could interfere with the effect of placement on attention, giving a distorted image.

Furthermore, attitude towards the sponsored event also seems to play a role in the attention paid towards sponsorships. According to earlier research, consumers' attitudes of the event have a favorable impact on their attitudes toward sponsorships (Dos Santos et al., 2016). This favorable attitude is reflected in enhancing the impact of the sponsorships because of image transfer, in which the sponsor benefits from the event's setting (Dos Santos et al., 2016). This could therefore also have an effect on the visual attention towards sponsorship signage and therefore should be controlled for.

2.9. Hypotheses

Drawing on prior research, a series of hypotheses is proposed. Dos Santos et al. (2019), Brasel and Gips (2008) and Liu et al. (2015) demonstrated a relationship between sponsorship placement and visual attention, indicating that the location of sponsor signage can influence the level of attention it receives. Specifically, sponsors placed in the area of action have been shown to elicit more visual attention than those placed in the designated sponsor area. Building on this insight, the following hypotheses is formulated:

H1: Sponsorship placements within the area of action in social media posts will yield higher levels of attention compared to those placed within the designated sponsor area.

Furthermore, literature has shown that trait anxiety alters the visual processing tactics of consumers by narrowing the attentional focus, reducing efficiency of image processing (Janelle, 2002; Spalding et al., 2020; Wang, 2022). This increases the chances of missing out on information. Therefore it is anticipated that anxiety moderates the effect of sponsorship placement on visual attention to sponsorship signage:

H2: The relationship between sponsorship placement and visual attention will be stronger for people with lower levels anxiety than for people with higher levels of anxiety.

Moreover, sponsorship success is frequently measured by the degree to which it increases brand recall and attitudes towards the sponsoring brand (Chebli & Gharbi, 2014; Hickman, 2020; Schnittka et al., 2023). Through sponsorship, organizations can gain access to the audience of the event, thereby increasing the brand's exposure (Lacey et al., 2010). However, for consumers to become aware of and develop attitudes towards a brand, they must visually perceive the sponsor (Boronczyk et al., 2018). Based on this understanding, it is hypothesized that the relationship between sponsorship placement and brand attitude, as well as sponsorship and brand recall, is mediated by visual attention:

H3a: Sponsors placed in the area of action in social media posts will receive greater visual attention, which in turn will lead to stronger brand attitudes compared to sponsors placed in the designated sponsor area.

H3b: The positive relationship between sponsorship placement and brand attitude will be weaker when visual attention is low compared to when visual attention is high.

H4a: Sponsors placed in the area of action in social media posts will receive greater visual attention, which in turn will lead to higher brand recall compared to sponsors placed in the designated sponsor area.

H4b: The positive relationship between sponsorship placement and brand recall will be weaker when visual attention is low compared to when visual attention is high.

To bring all of these concepts together, the following conceptual model has been composed (Figure 3). The conceptual model incorporates all of the concepts, based on several different hypotheses that were formulated from what was already known in the literature:
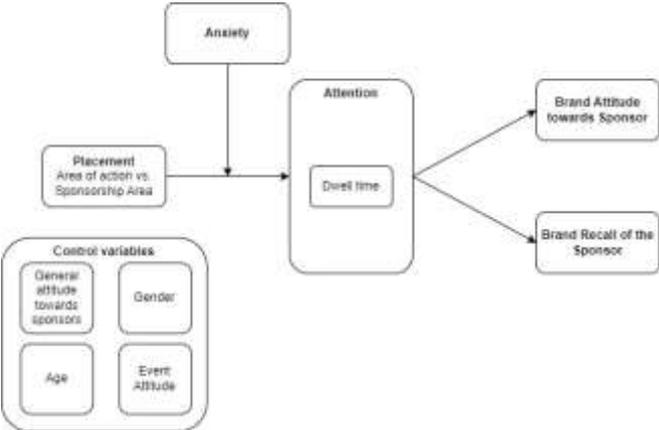

Figure 3: Conceptual model

3. Methodology

This chapter explores the methodology used to test the hypotheses regarding the relationship between sponsorship placement and brand attitude and recall towards the sponsoring brand. A 1×2

experimental design is deployed with the dependent variables of brand attitude and recall, which are measured using established scales in a self-report questionnaire. An experiment is used because of the desire to manipulate the independent variable in two different ways to see what kind of effect this has on respondents (Field & Hole, 2002).

The independent variable is sponsorship placement, which is manipulated by creating two images that are similar except for the placement of the sponsor signage (See Appendix A). The placement of the sponsor signage is altered in a way that is expected to affect visual attention, which is measured using eye-tracking technology. The questionnaire is used because there is a need to measure several psychological constructs. It the case of this study it is not possible to measure these constructs directly, therefore a self-report questionnaire is used (Field & Hole, 2002). After the respondents have seen the image they are posed with a further set of questions, regarding anxiety, brand attitude, brand recall, their general attitude towards sponsorships and their attitude towards the event. Finally, the questionnaire is administered through an online platform and will employ a seven-point and five-point Likert scale format for most questions. Once the data is collected, the dataset is analyzed in SPSS to look at relations between the concepts, using the appropriate statistical test.

3.1. Data collection

For the purpose of this study, convenience sampling is employed to gather data. Eye-tracking technology is employed to capture respondents' visual attention data as they examine one of two images developed. Subsequently the respondents will have to answer multiple questions enabling the measurement of multiple variables.

3.2. Design

The platform that is chosen for the experiment is Instagram. Based on the literature it was concluded that currently, Instagram is one of the most popular and fast-growing platforms among social media users and it has a potential to reach over one billion users (Curtis et al., 2020; Belanche, Flavián & Ibáñez-Sánchez, 2020). It is a platform within the social media context where users communicate with images (Anagnostopoulos et al., 2018), which therefore lends itself very well for a research on visual attention.

In order to manipulate placement, two images are used of a fictive sporting event, with different sponsorship placement. One post with the sponsor signage located in the designated sponsor area and the other post with the sponsor signage located in the area of action (See Appendix A). The design and the types of placements are replicated from the research by Dos Santos et al. (2019). They studied multiple sports event posters and noticed communalities which they used in their design. Their study

also mentioned that this design is common for the platform of Instagram. Therefore this this layout will also be applied in this study.

To control for the potential biasing effect of brand and event attitudes, a fictitious brand with no association to any existing product or company will be utilized in the experiment. The brand is called "Venture" and the logo is developed in a minimalistic way, taking inspiration from existing sport brands.

Furthermore, the post will not feature real players, events or sports teams to avoid any potential subjectivity. The event focuses on the sport of baseball, which was chosen through random sampling from a comprehensive list of sports played in the Netherlands. This selection was made due to the fact that the study's respondents are exclusively located in the Netherlands.

Prior research by Pieters and Wedel (2004) has shown that advertisements consist of complex scenes and texts, which are processed by the visual system and knowledge together to guide consumers' attention. Therefore, other ad elements are kept at a constant, avoiding any top-down process effects from interfering, other than sponsorship placement.

3.3. Pre-test

A pre-test is carried out, to ensure that the two conditions are accurately experienced, (Field, 2017). In order to examine the data received during the pre-test, independent sample t-tests are performed (Field, 2017). Ten people are initially contacted to take part in the pre-test (Field, 2017). After watching one of the two conditions, participants are required to complete a survey (Field, 2017). Five participants observe the condition where the sponsoring brand logo was placed in the designated sponsor area (DSA) and five participants observe the condition where the logo was place in the area of action (AOA).

First of all the respondents have to fill in where the sponsor brand logo is located in the post, which all of the ten respondents answered correctly. So there are no significant differences between the manipulations (see Table 1).

	Location	N	Mean	Std. Deviation
Manipulation check	AOA	5	1,00	,000ᵃ
	DSA	5	1,00	,000ᵃ

Table 1: Means table of the manipulation check

The respondents are then asked if they noticed a sponsor logo, if it stood out to them and if it was noticeable at all. A seven-point scale is used to evaluate these items. Levene's test yields non-

significant results, indicating equal variances between groups, for the metrics of noticing the brand at all ($F_{(1, 8)} = .10$, $p = 0.75$) and standing out ($F_{(1, 8)} = 1.49$, $p = .25$).

Since both manipulations are designed to make sure respondents can identify a sponsor brand for evaluation and analysis purposes, there is little difference in the groups in terms of noticing a sponsor brand at all. The respondents stated that they saw the brand logo in both instances (M(AOA) = 6.6, SD(AOA) = 0.54; M(DSA) = 6, SD(DSA) = 0.70) and that it stands out to them (M(AOA) = 5.2, SD(AOA) = 0.44; M(DSA) = 5, SD(DSA) = 1.22) There are no significant differences for either of these variables ($t_{(8)} = 1.50$, $p = 0.172$; $t_{(8)} = 2.05$, $p = .07$).

However, there is a larger difference in the level of noticeability between the AOA manipulation (M = 6.4, SD = .98) and the DSA manipulation (M = 5, SD = 0). The variance of both manipulations is unequal as Levene's test yielded a significance level of $p < 0.01$ and an $F_{(1, 8)}$ of 17.05. Acknowledging this, unequal variance are taken into account and a significant difference of noticeability is found ($t_{(8)} = 3.50$, $p < 0.01$), which means that the AOA yields a higher level of noticeability, compared to the DSA, as expected (see Appendix C, Table 16).

In the recall phase, participants are asked to choose the sponsor brand logo from a group of three pictures, two of which are dummies. Notably, only three out of five respondents in the DSA manipulation were successful in correctly identifying the correct brand logo (M = 0.6, SD = 0.548). In contrast, all respondents in the AOA manipulation did correctly (M = 1, SD = 0). The Levene's test yields significant results so variances are unequal as is to be expected based on the difference in standard deviation. The difference in means however, suggests that participants in the AOA group pay closer attention to the sponsor brand than participants in the DSA group, but the effect appears non-significant ($t_{(8)} = 1.63$, $p = .17$). This is possibly due to the smaller sample size of the pretest which makes it more challenging to detect significant relations (Field, 2017).

Additionally, participants have to provide their thoughts on a number of topics pertaining to the manipulations employed on a seven-point Likert scale. When participants are asked about the integration of the logo inside the picture and its positioning within the post, the AOA post yielded higher means compared to the DSA (see Appendix C, Table 17). This is consistent with the intended effect of the design decisions, as the logo in the AOA manipulation is purposefully positioned inside the picture, in contrast to the DSA manipulation's explicit placement of the logo outside the picture in the post.

A composite measure is created for these placement variables and another t-test was performed to analyze the difference between groups. The Levene's test is deemed non-significant ($F_{(1, 8)} = .86$, $p = .37$) so equal variances are assumed. The t-test also shows a significant difference between both

groups (t (8) = 5.69, p < .01) which means that the sponsor logo in the AOA is considered to be more part of the picture compared to the sponsor logo in the DSA, as is desired and expected.

Participants are then questioned about how realistic they thought the image they had just seen appeared to be, as well as how similar it appeared to real-life situations. Positive results are obtained for the DSA and AOA manipulations, which is encouraging and shows that the respondents think both posts were realistic (See Appendix C, Table 18). Using another composite measure of these two variables a final t-test is performed. The variances across the groups are assumed to be equal (F (1, 8) = 2.04, p = .19) and there appears to be no significant difference in realism between both groups (t (8) = 2.17, p = .06). These outcomes are in line with expectations as the posts are based on real-world examples and differences between both manipulations are limited to the placement.

3.4. Stimuli

3.4.1. Attention

In order to measure attention with eye-tracking, fixation time on the sponsor logo is used as variable, commonly referred to as dwell time within the eye-tracking framework. This metric, replicated from the study by Dos Santos et al. (2019), is measured in total time in seconds.

3.4.2. General sponsor event attitude

In order to measure the general attitude towards sponsorships on event posters, this study will use a scale developed by Gauzente (2010). This scale consists of four items, measured on a seven-point Likert-type scale.

3.4.3. Brand attitude & Brand recall

In assessing brand attitude towards sponsor signage, a five-item scale will be utilized, which is also evaluated on a seven-point Likert scale and was developed by Spears and Singh (2004).

An aided recall measure is employed to assess the brand recall, replicated from Lardinoit & Darbaix's (2001) study. Five different brand logos are shown, of which four are dummy logos, and one is the true logo which was used in the picture. These results are coded with either 0 (false) or 1 (correct).

3.4.4. Anxiety

The questionnaire also includes an assessment of anxiety using the Spielberger (2012) trait anxiety scale. This scale comprises eight items measured on a five-point Likert scale, to evaluate the level of anxiety of a respondent.

3.4.5. Event attitude

A four-item scale adapted from Speed and Thompson's (2000) study will be used in order to measure attitude towards the event depicted on the poster. The scale will be evaluated on a seven-point Likert scale.

3.4.6. Demographics

The study incorporates various questions to gather demographic information concerning the participants, in accordance with the recommendation of Field and Hole (2002), aimed at obtaining a comprehensive overview of the target population. The variables assessed include gender and age, alongside the question what their relation to the researcher is.

3.5. Measures and sample

The instrument used for eye-tracking is Gazerecorder. It is used in research to measure visual attention and to investigate how people interact with, interpret, and respond to visual content (GazeRecorder, 2021).

Canva (2023) and the AI application ChatGPT (OpenAI, 2021) are used to build the sponsorship signage. ChatGPT creates a neutral brand name and event, guaranteeing that responders have no prior associations. In Canva, which can design new business logos and social media posts, the produced names are used to build an event poster and logo.

Qualtrics is used for both the questionnaire's development and administration. This powerful online survey tool allows you to create customized surveys with a variety of question types, such as open-ended, multiple-choice, and Likert-scale questions.

The analysis of the data is done with SPSS. SPSS is capable of handling large datasets and can run multiple analysis such as ANOVA, ANCOVA and regression analysis. The program also checks for the variance and significance of relations between concepts.

The sample size comprises a total of 62 respondents, recruited by convenience sampling and was mainly conducted at home. 32 individuals were exposed to the AOA post and 30 individuals were exposed to the DSA post. The sample as a whole has an average age of 29.58 years, with 20 female volunteers and 42 male. For a more detailed overview see Appendix D.

3.6. Ethics

Participants have to provide informed consent before taking part. The informed consent form includes information about the study's nature and purpose, as well as potential risks and benefits, confidentiality and privacy policies, and the participant's right to withdraw from the study. However,

there is no mention of the manipulation in order to prevent the respondents from altering their attention tactics subconsciously. Finally, this study is carried out in a responsible and ethical manner. Despite the use of convenience sampling, all ethical considerations are addressed, including the potential risks and benefits of the study, informed consent, confidentiality and privacy policies, and participant diversity.

4. Results

Linear regression and process analysis model 7 are deployed as analytical techniques for the present research. Linear regression provides both explanations and predictions of the variance in dependent variables. Moreover, it works well in situations where the sample size is relatively small, as it requires a minimum of 5 respondents per independent variable (Hair et al., 2013). This makes linear regression well-suited for the current study. Additionally, process analysis model 7, which incorporates linear and logistic regression, enhances the analyses by offering a thorough method of investigating relations and potential mediating effects in the context of the research (Hayes, 2013).

4.1. Data cleaning

To assure the reliability and validity of the results, a rigorous data cleaning process was used for the initial sample of 62 respondents. Four of the negatively posed anxiety statements were reverse coded to ensure consistency for all the item scores and interpretation regarding the overall construct of anxiety.

Composite measures were created for variables using pre-existing scales to improve comprehensiveness of the analysis. This involved aggregating individual scores of questions within each variable by calculating the mean score. Additionally, a dummy variable was created to reflect the study's manipulation. The AOA was used as the control group (= 0), while the DSA was used as the experimental group (= 1).

Two variables were manually extracted from gazerecorder to assess the visual attention of the respondents. These variables respectively were: (1) whether the respondent noticed the sponsor logo at all (0 = no, 1 = yes) and (2) the dwell time on the sponsor logo in seconds (indicating time fixated on the sponsor logo).

Through boxplots two outliers were identified on the anxiety scale. After careful assessment both values were determined as natural variation and a true value, rather than a measurement error. Therefore, both values were retained in the analysis[1].

Most variables were normally distributed with slight violation of skewness or kurtosis, but still resembling the desired bell-shape. However, the variable of dwell time was slightly skewed (1.333), therefore a square root transformation was performed and resulting in an improved normal distribution (skewness = 0.37, kurtosis = -0.83).

4.2. Factor and reliability analysis

An exploratory factor analysis of the questionnaire was conducted using principal component analysis method of extraction, with oblimin rotation method. This approach was chosen to examine the convergence of items on their intended constructs, based on the employed scales.

The analysis proceeded based on satisfactory results from the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (KMO = 0.66) as the items have enough shared variance. Bartlett's test of sphericity is significant ($p < .01$), suggesting that the observed variables are sufficiently correlated to proceed.

5 factors were extracted, based on 23 items incorporated in the analysis explaining a total of 64.97% of total variance (see Table 2)

Component	Eigenvalue	% of Variance	Cumulative %
1	5.172	22.487	22.487
2	3.744	16.279	38.767
3	2.631	11.441	50.208
4	1.847	8.029	58.236
5	1.549	6.735	64.971

Table 2: Eigenvalues, percentages of variance and cumulative percentages of variance for factors for 23 items

As anticipated, the items were well-aligned with the corresponding factors (see Appendix E, Table 20). Factor 1 consists of the 8 items that were used to measure anxiety. Factor 2 is made up of the

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[1] Analyses were run with and without the outliers, but no significant changes were found in the results. Therefore, together with the small sample size, it was chosen to retain the outliers.

five items that measured brand attitude. Factor 3 comprises of 4 items that measure event attitude. Factor 4 measures general sponsor event attitude by four items and factor 5 comprises of 2 items measuring the realism of the image. Table 3 shows the correlations between these factors.

Component	1	2	3	4	5
1	1,000	,021	,062	,211	-,060
2	,021	1,000	,294	,228	,179
3	,062	,294	1,000	,301	-,011
4	,211	,228	,301	1,000	-,016
5	-,060	,179	-,011	-,016	1,000

Table 3: Factor correlation matrix

Reliability tests are conducted to evaluate the consistency and dependability of the scales used in this research. All the scales utilized in this study are pre-existing and previously validated, therefore it is anticipated that they demonstrate sufficient values of reliability.

Cronbach's Alpha values of reliability ranged from .70 to .93, which are all considered as acceptable (see Table 4). A more detailed overview of the specific values of reliability per scale can be found in Appendix B (Table 15), along with the items that it comprises and it sources. These findings support the reliability of the scales used in this research and show that the scales are accurate and consistent for measuring the intended constructs used in this study.

Variable	Items	Cronbach's Alpha
Trait-Anxiety	8	.81
Event attitude	4	.89
General Sponsor Event Attitude	4	.70
Brand attitude	5	.82
Realism	2	.93

Table 4: Reliability test for the latent constructs used in the study

4.3.   Manipulation checks

A manipulation check is performed to see whether respondents notice the manipulation in the first place and to see if there is a difference between both conditions. The manipulation check evaluates participants' ability to recognize the positioning of the sponsor logo. Utilizing gazerecorder data, a further manipulation check is carried out, especially testing whether participants notice the brand logo or not.

An independent sample t-test examined whether any significant differences occurred between both groups with respect to the manipulation check question. Based on the non-significant outcomes of the levene's test for the manipulation check in the survey ($F (1, 60) = 0.94$, $p = 0.33$) and in the gazerecorder ($F (1, 60) = 2.07$, $p = 0.15$), equal variances across the groups are assumed. The t-test's outcomes show no significant differences across the mean scores between the groups for the manipulation check in the survey ($t (60) = 0.538$, $p = 0.593$) and for the manipulation check in the gazerecorder ($t (60) = 0.722$, $p = 0.473$). Mean differences between both groups are indeed minimal ($M = 0.06$, $SD = 0.12$ for the question; $M = 0.08$, $SD = 0.11$ for viewing) suggesting that in both images the brand was equally visible which is in accordance with the design, since both logos need to be perceivable in order to do the research.

4.4.   Main results

4.4.1.   Placement and attention

In order to test the first hypothesis (*H1*) a linear regression analysis is performed, testing how placement affects attention while also controlling for age, gender and relation to the researcher. The placement in AOA is considered the control variable (= 0), while placement in the DSA is the manipulation variable (= 1).

Assumptions are checked and there is no sign of multicollinearity as all variables are within the thresholds (Tolerance > 0.2, VIF < 5) (see Appendix F, Table 2) and the dwell time is transformed to assure improved distribution. Unfortunately even after transformation there was a sign of heteroscedasticity which could not be eliminated with transformations. Therefore, results have to interpreted with caution.

The overall model does not appear to be significant (F (1, 57) = 1.84, p = 0.13, R^2 = .11) (see Table 5). Adding the placement variable into the model gives an additional R^2 change of .07 over the demographics, so explaining power is slightly increased. Placement is the only predictor that is significant (b = -.26, t(57) = -2.13, p = 0.37), indicating a positive relation between AOA and dwell time, compared to DSA (See Table 6). However as the model is non significant this indicates that there is a relation but it possibly non-linear. Another option would be that the model is non significant due to the smaller sample size.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,210[a]	,044	-,005	,45448
2	,338[b]	,115	,052	,44119
a. Predictors: (Constant), Relation, Gender, Age				
b. Predictors: (Constant), Relation, Gender, Age, Location of sponsor brand				
c. Dependent Variable: Dwell time				

Table 5: Model summary of H1

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,687	,259		2,654	,010
	Gender	-,204	,142	-,213	-1,435	,157
	Age	,006	,006	,157	,951	,345
	Relation	-,014	,056	-,038	-,258	,797
2	(Constant)	,812	,258		3,146	,003
	Gender	-,126	,143	-,131	-,877	,384
	Age	,002	,006	,043	,253	,801
	Relation	-,005	,054	-,012	-,088	,930
	Location of sponsor brand	-,261	,123	-,291	-2,132	,037
a. Dependent Variable: Dwell time						

Table 6: Coefficients table of H2

4.4.2. Moderation of anxiety

Following through, another linear regression analysis is done to test H2. Anxiety and the interaction term between placement and anxiety are added to the model. The interaction term is manually computed and the regression analysis is executed.

Assumptions are once more checked and collinearity is, although nearing the threshold, still within an acceptable range for the anxiety variable (Tolerance = .30, VIF = 3.23). However the interaction term that was computed between the dummy of placement and anxiety shows high values of

multicollinearity (Tolerance = .01, VIF = 64.29) (See appendix G, Table 22). This is expected as the term is computed by multiplying both variables and over half of the values of the dummy hold a value of zero, so therefore over half of the interaction term will also hold a value of zero. Also, heteroscedasticity is still present, as mentioned earlier. Therefore results have to be interpreted with caution.

Again, the overall model was non significant ($F_{(6, 55)}$ = 1.33, p = .62, R^2 change = .01). However, adjusted R^2 drops from .05 to .03, so adding anxiety and the interaction term lowers predictive ability of the model even further (see Table 7).

Also, there is no longer any significant relation between the dependent variable of attention and the independent variables (sex, age, relation, anxiety, placement and interaction term). Anxiety (b = .01, t(55) = .04, p = .96) and the interaction term (b = .11, t(57) = .46, p = .64) are both non significantly related to attention (see Table 8), so it assumed that there is no moderating effect of anxiety on the effect of placement on visual attention and there is no direct effect of anxiety on visual attention.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,210[a]	,044	-,005	,45448
2	,338[b]	,115	,052	,44119
3	,354[c]	,125	,030	,44637
a. Predictors: (Constant), Relation, Gender, Age				
b. Predictors: (Constant), Relation, Gender, Age, Location of sponsor brand				
c. Predictors: (Constant), Relation, Gender, Age, Location of sponsor brand, Anxiety, interaction term				
d. Dependent Variable: Dwell time				

Table 7: Model summary of H2

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,687	,259		2,654	,010
	Gender	-,204	,142	-,213	-1,435	,157
	Age	,006	,006	,157	,951	,345
	Relation	-,014	,056	-,038	-,258	,797
2	(Constant)	,812	,258		3,146	,003
	Gender	-,126	,143	-,131	-,877	,384
	Age	,002	,006	,043	,253	,801
	Relation	-,005	,054	-,012	-,088	,930
	Location of sponsor brand	-,261	,123	-,291	-2,132	,037
3	(Constant)	,715	,853		,838	,405
	Gender	-,107	,148	-,112	-,728	,470
	Age	,002	,007	,054	,299	,766
	Relation	,006	,057	,016	,112	,912
	Location of sponsor brand	-,673	,949	-,748	-,709	,481
	Anxiety	,010	,205	,011	,049	,961
	Interaction_term_anxiety_placement	,117	,255	,466	,461	,647

a. Dependent Variable: Dwell time

Table 8: Coefficients table of H2

4.4.3. Mediation of brand attitude

A process analysis model 7 is conducted to investigate the relationship between placement, dwell time, anxiety, and brand attitude using a moderated mediation analysis (H3a & H3b). A bootstrap of 5000 resamples was conducted to asses robustness and enhance reliability of the observed effects.

The model's explanatory power, accounted for 13.8% of the variance in dwell time; however, statistical significance was not achieved (R^2 = .13, F(8, 53) = 1.06, p = .39). However, the overall model for brand attitude explained a significant proportion of the variance, amounting to 24.9% (R^2 = .24, F(7, 54) = 2.56, p = .02) (see Table 9).

Outcome Variable	R	R^2	MSE	F	df1	df2	p
Dwell Time	0.3726	0.1388	0.2036	1.0682	8.0000	53.0000	0.3992
Brand Attitude	0.4999	0.2499	0.6990	2.5698	7.0000	54.0000	0.0232

Table 9: Model Summaries of the moderated mediation analysis of placement on brand attitude

Notably the previously significant effect of the placement manipulation on dwell time became non-significant (b = -.25, t(53) = -1.89, p = .06), albeit close to significance at the conventional α threshold of .05. This change could be attributed to the introduction of anxiety as a moderator which may have exerted a suppression effect causing significance value to decrease.[2] Within the entire model, a positive effect of the control variable, event attitude, on brand attitude (b = .27, t(54) = 2.82, p < .01) was the only significant relation identified and aligns with the established theoretical findings by Speed and Thompson (2004).

Furthermore, the effect of dwell time on brand attitude was found to be non-significant (b = -.09, t(54) = -.37, p = .71), indicating that dwell time did not significantly influence brand attitude. Similarly, the interaction between anxiety and placement showed no significant relationship with dwell time (b = .14, t(53) = .52, p = .60). Finally, the absence of a significant effect of placement on brand attitude (b = -.13, t(54) = -.53, p = .59) suggests that there is no attentional mediation between placement and brand attitude (see Table 3). The process model also shows that there is no significant indirect effect of placement on brand attitude (b = .02, 95% CI [-.14, .33]) (See Table 10). For a complete overview of all effects, please refer to Appendix H, Table 23.

Direct relations	Coefficient	SE	t-value	p-value
Placement → Attention	-0.2512	0.1325	-1.8968	0.0633
Attention → Brand Attitude	-0.0937	0.2531	-0.3702	0.7127
Placement → Brand attitude	-0.1300	0.2453	-0.5300	0.5983
Placement*Anxiety → Attention	0.1449	0.2775	0.5221	0.6038

Table 10: Direct relations of the moderated mediation on brand attitude

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[2] An analysis of process model 4 was performed and yielded a significant effect of placement on attention. Anxiety was the only addition to the model 7 analysis. Therefore it is assumed that this caused the suppression effect.

Ultimately, the index of moderated mediation also yielded non-significant results (b = -.01, 95% CI [-.29, .17]), providing further evidence against a possible moderated mediation effect within the model (see Table 11).

Indirect relationship	Direct effect	Indirect effect (SE)	Confidence interval low/high	T-values
Placement → Attention → Brand Attitude	-0.1300	0.0235 (0.0795)	-0.1444/0.3337	-0.5300
Probing Moderated Indirect Relationships	**Effect**	**BootSE**	**BootLLCI**	**BootULCI**
Low level of anxiety	0.0304	0.1130	-0.1444	0.3337
High level of anxiety	0.0167	0.0766	-0.1197	0.2052
Index of Moderated Mediation	-0.0136	0.1089	-0.2967	0.1707

Table 11: Indirect and Moderated Indirect Effects of Placement on Brand Attitude Mediated by Attention, Moderated by Anxiety

4.4.4. Mediation of brand recall

In order to test hypotheses H4a and H4b another process model 7 is performed. The results were analyzed using logistic regression, because recall is coded as binary, with 0 representing "no recall" and 1 representing "recall" for the analysis. The model explaining variance of the outcome variable of dwell time is completely identical to the one used in the moderated mediation analysis of brand attitude and is therefore still non-significant (See Table 9).

The overall model holds a reasonable fit to the data ($\chi^2(7)$ = 8.32, p = .30). However, the predictive abilities of the model are limited, as indicated by the pseudo R^2 measures (McFadden's R^2 = .09, Cox and Snell's R^2 = .12, Nagelkerke's R^2 = .16), which suggest modest explanatory power of the model (see Table 12).

Outcome variable	-2LL	ModelLL	df	p	McFadden	CoxSnell	Nagelkrk
Brand recall	75.2882	8.3248	7.0000	0.3048	0.0996	0.1256	0.1697

Table 12: Model Summaries of the moderated mediation analysis

It is important to note that the coefficients for the predictors are expressed in a log-odds metric. The closest predictor to show a positive effect, approaching significance on recall is "Location" or placement (b = 1.08, SE = .65, Z (54) = 1.65, p = .10). However, this effect still failed to reach conventional significance levels. The same goes for the direct effect of attention on brand recall (b = .71, Z(54) = 1.05, p = .29), which suggest that there is no mediation effect present (See Table 13). In

the end all the other variables also failed to yield a significant effect on brand recall (see Appendix H, Table 24).

Direct relations	Coefficient	SE	Z-value	p-value
Attention → Brand Recall	0.7161	0.6773	1.0572	0.2904
Placement → Brand Recall	1.0809	0.6535	1.6541	0.0981

Table 13: Direct relations of the moderated mediation on brand recall

Again, the index of moderated mediation yielded non-significant results (b = -.10, 95% CI [-.82, 1.08]), for multiple levels of anxiety, which provides more evidence against a possible moderated mediation effect within the model (see Table 14).

Indirect relationship	Direct effect	Indirect effect (SE)	Confidence interval low/high	Z-value
Placement → Attention → Brand Recall	1.0809	-0.1799 (0.3296)	-1.0619/0.2441	1.6541
Probing Moderated Indirect Relationships	**Effect**	**BootSE**	**BootLLCI**	**BootULCI**
Low level of anxiety	-0.2320	0.4554	-1.4288	0.4183
High level of anxiety	-0.1277	0.3297	-1.0783	0.2054
Index of Moderated Mediation	-0.1038	0.4421	-0.8249	1.0880

Table 14: Indirect and Moderated Indirect Effects of Placement on Brand Recall

Overall, the model holds limited predictive power and there are no significant effects on brand recall. Therefore it is assumed that there is no mediation of attention between placement and brand recall. Because of the limitations of these findings, they should be interpreted with caution and further research should be done to explore additional factors which influence recall.

5. Discussion

5.1. Key findings

The primary objective of this study was to examine the impact of sponsor signage placement on the level of visual attention directed towards such signage in social media posts. Additionally, the study sought to explore how trait anxiety might moderate this effect and how visual attention related to the viewer's brand attitude and brand recall as a mediator of sponsorship placement. The key

findings of this research demonstrated (1) a possible significant relation between sponsorship placement and visual attention in the specific context of social media expands upon the findings of Dos Santos et al. (2019), confirming the expected affiliation. (2) Disproving the anticipated moderating effect of trait anxiety on the relation between sponsorship placement and visual attention. The lack of proof for a mediation effect of visual attention between sponsorship placement, (3) brand recall and (4) brand attitude.

The findings of this study contribute to the expanding literature of social media marketing and sponsorships in an ever continuing competition for the consumer's attention. Findings suggest that placement of the sponsor logo within the area of action of a social media post provides an advantage over logos positioned in designated sponsor areas. Notably, dwell time is significantly higher for logos in the area of action, possibly affirming expectations and supporting the acceptance of the first hypothesis, implying that placement captures additional visual attention from viewers. However, it is important to exercise caution in interpreting this relationship, as the overall model did not attain statistical significance, implying the possibility of a non-linear association or the effect of a small sample size, thus requiring further investigation.

Contrary to expectations, no evidence was found to support the hypothesis that trait anxiety negatively moderates the relation between logo placement and visual attention. Higher trait anxiety levels do not necessarily reduce time viewing sponsor logos compared to lower trait anxiety levels. More importantly, trait anxiety does not weaken the impact of sponsor placement on visual attention. Thus, the second hypothesis is rejected.

Thirdly, the lack of a significant correlation between visual attention and brand attitude suggests that visual attention may not serve as a robust predictor of brand attitude on its own. Consequently it can be inferred that visual attention does not mediate the impact of sponsorship placement on brand attitude, thus rejecting hypothesis three (3a & 3b).

Lastly, a lack of evidence for a significant relation between attention and brand recall implies that the level of visual attention paid to sponsor signage does not significantly affect a person's ability to recall the brand. Hence it is assumed that there is no attentional mediation effect between placement and brand recall. Contrary to expectations. As a result the fourth and final hypothesis (4a & 4b) is rejected.

5.2. Academic contributions

5.2.1. Key finding 1

Previous research in the field of sponsorship placement and its effect on visual attention has primarily concentrated on conventional media channels (Brasel & Gips, 2008; Liu et al., 2015; Dos Santos et al., 2019). However, there are few studies examining sponsorship placement within the context of social media. Therefore, this study aims to contribute to the present literature by specifically focusing on sponsorship placement on social media platforms. With use of eye-tracking technology, this study ventures into lesser known territory and expands the academic field of sponsorship placement and its impact on visual attention within the realm of social media. The findings align with prior research conducted in the domain of traditional media, providing further support for increased salience (Pieters & Wedel, 2004) and enhanced visual attention (Dos Santos et al., 2019) associated with sponsorship placement. The evidence for this relation can be used as a base for researchers, who desire to venture further into the field of sponsorship placement and its effects of visual attention.

5.2.2. Key finding 2

The effect of emotional traits on attention has been studied multiple times before (Bagozzi et al., 1999; Pieters & Wedel, 2004; Spalding et al., 2020). However, as a moderator in the relationship between placement and visual attention has not been explored within the context of social media until now. Therefore, this study contributes to the understanding of the impact of emotional traits on attention in new contexts by incorporating trait anxiety as a potential moderator. The effect was deemed non-significant, even though a significant moderation was expected (Spalding et al., 2020), suggesting that trait anxiety does not significantly influence the effect of placement on visual attention in this specific setup.

Nevertheless, it is important to note that other measures of visual attention, such as viewing patterns and fixations, could provide valuable insights and potentially reveal a moderation effect of trait anxiety. Unfortunately, due to limitations in the available tools these metrics have not been analyzed. Hence, further research could explore the possible moderation of trait anxiety in this context.

5.2.3. Key finding 3 & 4

Despite existing studies having found positive effects of placement and attention on brand attitude (Keller, 1993; Brasel & Gips, 2008; Chebli & Gharbi, 2014; Schnittka et al., 2023) and brand recall (Keller, 1993; Dos Santos et al., 2019), prior research has not thoroughly analyzed a possible

mediated relation where visual attention mediates the effect of placement on brand attitude and brand recall. Therefore this study contributes to the theory by researching this possible relation.

However, no mediation effect was found. Proof for a direct effect of placement on brand attitude or recall also lacked, contradicting previous research, therefore challenging the existing literature. Nevertheless, event attitude as a control variable was rightfully adopted, however, as it exhibited a significant relation with brand attitude, supporting the findings by Dos Santos et al. (2016).

5.3. Managerial implications

The usefulness of social media as a marketing tool for businesses to reach desired audiences has previously been mentioned (Liu et al., 2015). Equipping managers with insights on optimizing social media post to gain an edge in 'the battle for concurrent attention' (Boronczyk et al., 2018), could potentially engage a larger pool of consumers and guide them towards the first steps of the AIDA-funnel, ultimately translating their newly gained attention into actions.

Furthermore, it is valuable for organizations to understand what factors do and do not affect visual attention, particularly those operating in sectors characterized by higher levels of trait anxiety. These insights reveal that their social media strategies do not have to deviate significantly from sectors where trait anxiety is not as present. These insights can help organizations with tailoring their approach and it also contributes to a better understanding of visual attention and its dynamics.

5.4. Limitations and suggestions for further research

Despite the insightful conclusions drawn from this study, it is critical to recognize a number of limitations that should be taken into account when evaluating the results. Due to financial (cost of gazerecorder) and logistical (laptop as only source of distribution) constraints sample size is relatively small. Add to this the convenience sampling which together reduce generalizability, possibly cause bias and representativeness of the findings. Thus limiting statistical power and making the results more susceptible to random variations making it harder to draw robust conclusions and find significant relations. Future research should sample a larger, random population to improve on these limitations, allowing for a more representative sample and increased statistical power.

Secondly, it is crucial to realize that several of the assumptions underlying the statistical analyses in this study were not fully satisfied, which constitutes a study limitation. Departing from these limitations can harm validity and reliability and may result in inaccuracies and biases in the interpretations. Though efforts were made to limit these violations as much as possible it is crucial to

acknowledge that this was not always possible, due to the limited sample size. Therefore caution is required for the generalization and interpretation of results. Future research should strive to address these assumptions in order to improve validity of these findings. Replication studies could prove useful in this manner, also exploring different social media platforms.

The inherent limits of eye-tracking technology have to be acknowledged as well. Despite efforts to replicate an organic social media environment, it is important to acknowledge that such replication can never fully recreate the exact experience of browsing social media individually. Furthermore, variations in conditions such as lighting and camera quality cannot always be controlled, potentially impacting the accuracy and reliability of the eye-tracking metrics. Therefore it is recommended to study the effects using different eye-tracking techniques and improving the control over environmental factors, as well as developing approaches that minimize discrepancies between a manipulated and an authentic environment. Thus improving accuracy and robustness of findings.

5.5.   Conclusion

Sponsorships are widely used as a marketing tool, to exploit commercial potential of events. However, the ever rising use of social media grows at a rapid pace for users and businesses, making it hard for research to keep up with this explosive growth. The findings of this study expand already existing knowledge into the marketing context of social media, investigating the attentional mediation of sponsorship placement on brand attitude and brand recall. A relation between sponsorship placement and visual attention is found significant, suggesting that organization should place their logos in the area of action rather than in the designated sponsor area, to receive more attention from consumers. Moreover the findings disprove the expected moderation of anxiety on this relation between placement and visual attention. Furthermore, findings contradict the expected effect of placement on brand attitude and brand recall in social media posts as well as the anticipated effect of visual attention on these variables.

These findings emphasize the importance placement strategies to capture consumer attention on social media. However, the need for a more nuanced understanding of the interplay between sponsorship placement, visual attention, and consumer responses is also required. Further research is required to examine alternative factors and mechanisms that could possibly have an effect on brand attitude and recall in the social media marketing context, enhancing effective communication strategies in this evolving landscape.

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7. Appendix

Appendix A: Manipulation

AOA	
DSA	
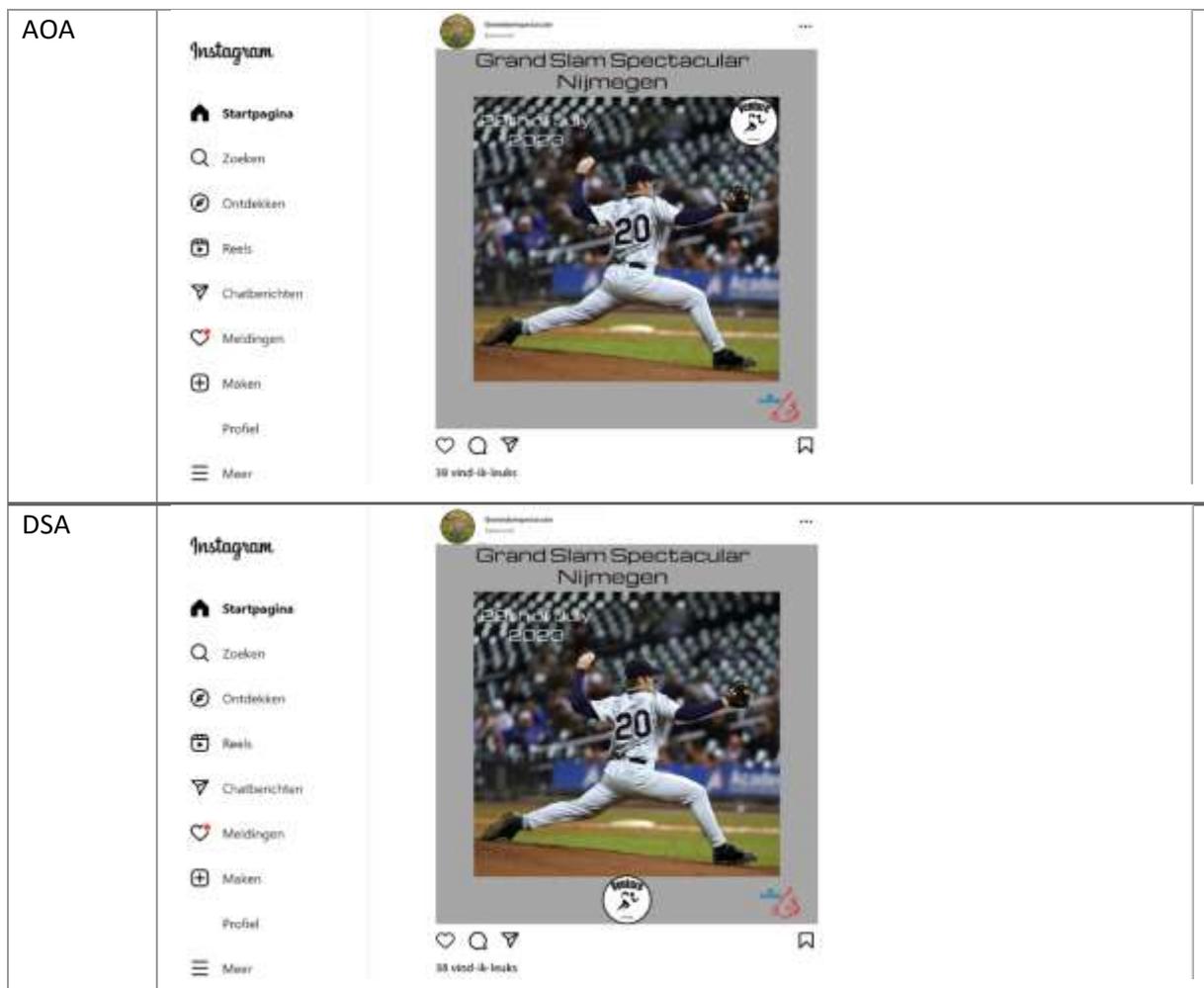
Variable	Source + Items used	Items	Cronbach's Alpha
Trait-Anxiety	Spielberger, C. D. (2012). Please indicate how often you experience these feelings. 1. I feel satisfied with myself 2. I am calm, cool and collected 3. I feel that difficulties are piling up so that I cannot overcome them 4. I worry too much over something that really doesn't matter 5. I lack self-confidence 6. I make decisions easily 7. I take disappointments so keenly that I can't put them out of my mind 8. I am a steady person	20 total; 8 adopted	.81
Event attitude	Speed, R., & Thompson, P. L. (2000). Please indicate how you feel about the following statements. 1. I am a strong supporter of this event 2. I would want to attend this event 3. I would enjoy following coverage of the event 4. This event is important to me	4	.89
General Sponsor Event Attitude	Gauzente, C. (2010). Please indicate how you feel about the following statements. 1. Sponsored events are a good thing 2. Sponsored events make me happy 3. Sponsored events are useful to me 4. Sponsored events are normal to me	4	.70

Brand attitude	Spears, N., & Singh, S. (2004). Please indicate how the following statements apply to you: 1. To me Venture Sports appears to be unappealing – appealing 2. To me Venture Sports appears to be bad – good 3. To me Venture Sports appears to be unpleasant – pleasant 4. To me Venture Sports appears to be unfavorable – favorable 5. To me Venture Sports appears to be unlikeable - likeable	5	.82
Realism	Self-developed Please indicate, to what degree you agree with the following statement: 1. The image I just saw resembles a real-life scenario 2. The image I just saw is realistic to me	2	.93
Visual attention	Alonso Dos Santos, M., Calabuig Moreno, F., & Sánchez Franco, M. (2019). GazeRecorder. (2021) 1. Dwell time/total fixation time	1	
Brand awareness (Aided recall)	Lardinoit, T., & Derbaix, C. (2001). Singh, S., Rothschild, M., & Churchill, G. A. (1988). 	5	

	- I don't know - None		

Table 15: Variable measures and items used, sources and cronbach's alpha

Appendix C: Pre-test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Significance Two-Sided p	Mean Difference	Std. Error Difference
I have noticed a sponsor brand in the image I just saw	Equal variances assumed	,103	,757	1,500	8	,172	,600	,400
The sponsor brand in the picture stood out to me	Equal variances assumed	1,492	,257	2,058	8	,074	1,200	,583
The sponsor brand in the picture was noticeable	Equal variances not assumed	17,053	,003	3,500	8	,008	1,400	,400

Table 16: Independent sample T-test of the pretest

	Location	N	Mean	Std. Deviation	Std. Error Mean
The sponsor brand was integrated in the picture	AOA	5	5,60	,548	,245
	DSA	5	3,80	1,304	,583
The sponsor brand is part of the picture	AOA	5	5,40	,894	,400
	DSA	5	4,20	1,304	,583
The sponsor brand is within the picture	AOA	5	5,80	,447	,200
	DSA	5	3,40	1,342	,600

Table 17: Means of placement check per group

	Location	N	Mean	Std. Deviation	Std. Error Mean
The image I just saw resembles a real-life scenario	AOA	5	6,20	,447	,200
	DSA	5	5,00	1,225	,548
The image I just saw is realistic to me	AOA	5	6,40	,548	,245
	DSA	5	5,40	,894	,400

Table 18: Realism check group statistics

Appendix D: Descriptives

Participants are primarily identified as friends of the researcher (48.4%; n = 30), colleagues (22.6%, n = 14), and co-students (16.1%, n = 10), while the remaining participants indicated familial ties (1.6%, n = 1) or reported a different relationship with the researcher (11.3%, n=7).

As previously stated, composite measures were created for the survey's variables. The variables assessed, namely brand attitude, event attitude, general sponsor event attitude, realism, and anxiety, were all ordinal in nature.

	N	Mean	Std. Deviation	Minimum	Maximum
Brand attitude	62	4,3935	,90823	2,00	6,20
Event attitude	62	3,2137	1,23379	1,00	6,00
General sponsor event attitude	62	4,7863	,79683	2,75	6,50
Realism	62	5,2177	1,46159	2,00	7,00
Anxiety	62	3,5988	,50262	2,13	4,38
Dwell time transformed	62	,5546	,45323	,00	1
Gazerecorder manipulation check	62	,7419	,44114	,00	1,00
Recall	62	,40	,495	0	1
Survey manipulation check	62	,44	,500	0	1
Age	62	29,58	12,271	18	64

Table 19: Descriptive statistics for all questionnaires and variables in the study

Appendix E: FA

	Component				
	1	2	3	4	5
BA_1		,640			
BA_2		,789			
BA_3		,764			
BA_4		,723			
BA_5		,799			
ANX_1	,722				
ANX_2	,445				
ANX_3	,740				
ANX_4	,781				
ANX_5	,747				
ANX_6	,419				
ANX_7	,728				
ANX_8	,682				
EA_1			,900		
EA_2			,818		
EA_3			,859		
EA_4			,767		
GSEA_1				,615	
GSEA_2				,882	
GSEA_3				,750	
GSEA_4				,597	
RC_1					,918
RC_2					,910

Table 20: Pattern Matrix of Principal Component Analysis

Appendix F: H1

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Gender	,751	1,331
	Age	,607	1,648
	Relation	,777	1,287
2	(Constant)		
	Gender	,701	1,427
	Age	,546	1,833
	Relation	,772	1,296
	Location of sponsor brand	,836	1,196
a. Dependent Variable: Dwell time			

Table 21: Collinearity statistics H1

Appendix G: H2

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Gender	,751	1,331
	Age	,607	1,648
	Relation	,777	1,287
2	(Constant)		
	Gender	,701	1,427
	Age	,546	1,833
	Relation	,772	1,296
	Location of sponsor brand	,836	1,196
3	(Constant)		
	Gender	,675	1,483
	Age	,491	2,038
	Relation	,728	1,373
	Location of sponsor brand	,014	70,041
	Anxiety	,309	3,236
	Interaction_term_anxiety_ placement	,016	64,290
a. Dependent Variable: Dwell time			

Table 22: Collinearity statistics H2

Predictor	Effects on dwell time				Effects on Brand Attitude			
	b	SE	t-value	p-value	b	SE	t-value	p-value
(Constant)	0.3373	0.5377	0.6274	0.5331	2.9779	0.9958	2.9904	0.0042
Location	-0.2512	0.1325	-1.8968	0.0633	-0.1300	0.2453	-0.5300	0.5983
Dwell Time					-0.0937	0.2531	-0.3702	0.7127
Anxiety	-0.0200	0.2181	-0.0918	0.9272				
Interaction Term	0.1449	0.2775	0.5221	0.6038				
Event Attitude	0.0032	0.0552	0.0574	0.9545	0.2712	0.0959	2.8290	0.0065
General Sponsor Event Attitude	0.0707	0.0860	0.8223	0.4146	0.1174	0.1546	0.7598	0.4506
Sex	-0.0949	0.1500	-0.6328	0.5296	-0.2559	0.2738	-0.9346	0.3542
Age	0.0035	0.0070	0.4995	0.6195	0.0007	0.0124	0.0565	0.9551
Relation	0.0090	0.0578	0.1554	0.8771	0.1797	0.1047	1.7157	0.0919

Table 23: Model Coefficients of the entire model of the mediated moderation on brand attitude

	Effects on brand recall			
Predictor	b	SE	Z-value	p-value
(Constant)	-0.5253	2.5836	-0.2033	0.8389
Location	1.0809	0.6535	1.6541	0.0981
Dwell time	0.7161	0.6773	1.0572	0.2904
Event Attitude	0.0740	0.2501	0.2960	0.7673
General Sponsor Event attitude	0.1675	0.3952	0.4239	0.6716
Gender	-0.8363	0.7260	-1.1519	0.2493
Age	-0.0145	0.0342	-0.4237	0.6718
Relation	-0.1557	0.2903	-0.5365	0.5916

Table 24: Model Coefficients of the model of the moderated mediation of brand recall