

Fan Responses to Virtual Reality Sport Sponsorship Activations: The Influence of Presence on  
Emotion and Attitude Formation

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## Abstract

Considering the massive financial investment into sport sponsorship and the growth of the industry, it is important for managers to understand the strategic implications of their partnership decisions. This is even more essential in the current marketing landscape where advertising clutter and limited attention spans are rampant. Consequentially, experiential marketing has emerged to combat these challenges and provide consumers with unique and memorable experiences. Further, virtual reality (VR) has surfaced as a possible experiential marketing tool in that it has the capabilities of simulating one's presence in a virtual environment: potentially creating those unique and memorable experiences. With sponsorship activation transitioning into an online environment further accelerated by the COVID-19 pandemic, the capabilities of virtual reality make it an attractive option to sport marketers. Presently, this technology is being applied without a clear purpose due to the newness of the platform and the lack of research and understanding regarding its true value. Thus, it is critical to examine how media modes, such as VR, may affect the impact of sponsorship messaging. In exploring sponsorship activation specifically, this study aimed to examine the use of 360-degree video and virtual reality as activation components, and if traditional non-immersive (phone, tablet, laptop, or desktop) and immersive (virtual reality) technologies differ in terms of their influence on important sponsor outcomes such as eliciting emotions and influencing attitudes. This study employed a survey design to compare responses between two groups. The first group experienced a 360-degree sport sponsorship activation video using non-immersive media while the second group experienced the same video in VR. A total of 114 responses were collected (57 in each group). Responses were then analyzed using two-way independent sample t-tests to find any statistically significant differences. Results showed that non-immersive respondents reported

higher ratings of arousal compared to immersive respondents. Notably, there was a clear desire for 360-degree activation content from all users regardless of media mode. This study serves as a preliminary basis of valuation for virtual reality technology as it applies to sponsorship activation.

*Keywords:* sponsorship activation, virtual reality, presence, emotions, attitudes

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## **Chapter One: Introduction**

According to the International Events Group (IEG, 2018), world-wide investment in sponsorship has grown from \$24 USD billion in 2001, to an estimated \$65.8 USD billion in 2018. Within this substantial corporate investment, approximately 70 percent of sponsorship spending in North America has been attributed to sport (IEG, 2018). With such sums of money invested into sponsorship, and continued growth anticipated, there is a need for greater strategy in how sponsors choose to communicate their sponsorship. In turn, it is necessary to recognize industry trends and technological developments, how they can be utilized and, in some cases, even provide possible competitive advantages. In exploring sponsorship activation and virtual reality, this research investigated if new media technologies, specifically 360-degree video and virtual reality (VR), can prove to be an effective tool for sport sponsors. Set within the context of a shift in sport sponsorship towards experiential marketing, and how sport organizations and sponsors are beginning to utilize new media technologies through leverage and activation to achieve sponsor objectives, the study strived to understand how such technologies may benefit sponsors and sport organizations. Many emerging technologies are being applied without a clear purpose because of the newness of these platforms and the lack of research and understanding regarding their true value. In an effort to operate efficiently and effectively, sport organizations and sponsors should evaluate these platforms to understand the potential value these platforms could bring to them, including influencing consumers' emotions and attitudes.

While definitions of sponsorship vary, Gardner and Shuman (1988) defined sponsorship as “investments in causes or events to support corporate objectives (for example, by enhancing corporate image) or marketing objectives (such as increasing brand awareness)” (p. 44). Within sponsorship there are two main activities: the first activity is an exchange between the sponsee

and the sponsor, where the former receives a fee from the latter to associate itself with the activity/event; the second activity is the marketing of the association by the sponsor (Cornwell & Maignan, 1998). Both activities are essential if the sponsorship fee is to be a meaningful investment (Cornwell & Maignan, 1998).

The marketing of these associations is commonly referred to as sponsorship-linked marketing (SLM) (Cornwell, 1995), and is typically attempted via two primary forms of marketing: leveraging, which refers to the macro-level marketing communications intended to communicate a sponsorship partnership (Cornwell & Kwon, 2020); and activation, a subcategory of leveraging which encompasses more micro-level, consumer-engagement based marketing activities (Weeks, Cornwell, & Drennan, 2008). Although a critical component of sponsorship-linked marketing efforts, the role of activation in communicating sponsorships remains a relatively unexplored area of research. While leveraging includes all collateral marketing communications related to the investment in sponsorship, activation relates to communications that encourage interaction with the sponsor (Weeks et al., 2008). Further, activation goes beyond one-way basic advertising and promotion to two-way communication and even advanced forms such as complex real-time campaigns that draw on consumer geolocation and local weather conditions (Activative, 2017). For example, in activating their partnership with FC Bayern, a German football club, HypoVereinsbank, a European bank, empowered customers of their FC Bayern credit card to apply for an exclusive home match ticket, even for matches already ostensibly sold out (Dreisbach, Woisetschläger, Backhaus, & Cornwell, 2018). According to Kuzma, Shanklin, and McCally (1993), learning about which sponsorship activations work best usually occur by trial and error.



A current trend in the industry that is in part driving sponsorship's growth and affording brands a means of activation is experiential marketing. Experiential marketing uses sensory and symbolic stimuli to evoke imaginative and emotional responses during the decision-making process (Tsaour, Chiu, & Wang, 2007). Wiedmann, Labenz, Haase, and Hennigs (2018) claim that "providing customers with unique and memorable experiences to establish a positive customer-brand relationship has become one of the key challenges for brand managers" (p. 1). Experiential marketing has thus emerged as an answer to that challenge in an effort to create and foster long-term, two-way relationships between businesses and their consumers. There is a need to explore this area of sponsorship further, as the extant sponsorship literature has offered only a limited investigation into the successes and strategies underpinning sponsorship-linked marketing activities. Importantly, though, activational approaches (i.e., consumer-engagement based activities) have been shown to outperform nonactivational (signage, promotions, public address, etc.) while providing notable benefits such as higher reported ratings on attitudes toward the sponsor, word of mouth, and purchase intentions (Ballouli, Koesters, & Hall, 2018). In addition, there has been a notable drive towards creating experiences through the implementation of these activations to leverage sponsor relationships.

As technology develops, organizations are adapting and finding new and creative ways to leverage their sponsor relationships. One piece of technology that has emerged is virtual reality. Roettl and Terlutter (2018) explain that "virtual reality is understood as an environment that is created by a computer or other media and in which the user has a feeling of being present in the environment" (p. 2). The technology aims at depicting an environment that is closer to the real world compared to a three-dimensional (3D) environment (Roettl & Terlutter, 2018). With a VR headset, a person's physical presence is simulated in a virtual 3D environment while concealing

the individual from the real physical surroundings during the experience (Wei, 2016). Virtual reality has emerged as one of the fastest growing industries right now with the total worldwide market size for VR expected to nearly triple from \$6.2 USD billion in 2019 to \$16.3 USD billion in 2022 (Statista, 2019). This growth is only expected to increase as this technology becomes more affordable and consumers gain access to this technology.

Virtual reality allows for both passive experiences, where the user is immersed in the virtual environment (VE) but has no ability to interact with it, and interactive experiences where the user has full control within the VE (Rousseau & Slater, 2020). To date, this technology remains a largely underdeveloped and underexplored opportunity for sport organizations and sponsors; however, recent trends suggest that its use may increase as organizations gain a further understanding of the true potential and value of this platform. Recent activations by the likes of AIG (AIG, 2015), American Express (Zaldivar, 2015), and RBC (RBC, 2016), for example, are evidence of a growing shift in sponsor VR use as a component to activation campaigns and highlight the potential for sport organizations and sponsors to engage with consumers through this new medium. In 2015, AIG launched a smartphone app that utilized 360-degree technology allowing users to immerse themselves within a VR experience. The video empowered users to look anywhere and control their own experience as if they were on the field with the New Zealand All Blacks during the performance of the legendary Haka (AIG, 2015). As companies begin to apply this technology, it is important to examine how they can best utilize these technologies to strategically achieve sponsor objectives. With the emergence of virtual reality, teams and sponsors have additional inventory to work with as well as an entirely new platform to provide consumers with meaningful experiences.

This further reflects a significant trend in the sponsorship industry, and the marketing industry in its entirety, as sponsors move towards experiential marketing in adapting their promotional activities. The largest generation by population in the United States, millennials, (Fry, 2020) will be entering their earning prime in the near future. Millennials, also known as Generation Y, are commonly understood to be individuals born between 1981 and 1995 (Eisner, 2005). With the majority of them now firmly rooted in the workforce, it is important to understand where they will direct their spending. In a study conducted by Eventbrite (2014), 72 percent of millennials surveyed expressed an interest in spending more on experiences rather than physical items in the next year. Moreover, it has been shown that the more experience dimensions an event incorporates, the more individuals become satisfied and show repeat attendance behaviour in the future (Yazici, Kocak, & Altunsoz, 2017). With a clear interest in experiences, organizations may find increased success in targeting millennials through the implementation of experiential marketing activations.

Despite the continuing advances in sponsorship and progressive growth in sport and activation research, there remain a number of significant limitations in the extant literature. First and foremost, there has been a lack of research regarding the mode of communication that sponsors choose to employ to articulate their partnership and meet their objectives (Yim, Cicchirillo, & Drumwright, 2011). Most of the literature instead focuses on the content of the advertisement, consumer characteristics, and information processes (Yim et al., 2011). It would be beneficial for sport organizations and sponsors alike to understand how different platforms affect the impact of their messages in a sponsorship context: including how consumers feel about these platforms. In this context, Russell and Pratt's (1980) pleasure-arousal framework provides a potential lens through which to explore sponsorship activation. Having previously been

adopted by dimensional emotional theorists, Kim and Kaplanidou (2014) incorporated the pleasure-arousal framework to examine the determinants of attitudes and emotions toward sponsor activation. The theory claims that the two dimensions of pleasure and arousal are enough to denote the internal emotional state (Russell & Pratt, 1980). Given the importance of understanding how sponsorship activation design characteristics may impact these dimensions, such as the particular media mode utilized, Russell and Pratt's theory affords a useful means of examining sponsorship success in greater depth. Moreover, sponsorship literature still suffers from a lack of understanding of how sponsorship functions in consumers' minds and how it might be made more effective, a limitation first noted by Cornwell (2008) more than a decade ago.

Likewise, as Cornwell and Maignan (1998) note, there has been a "poor understanding of the relationship between stated objectives and achieved results of different types of sponsorships [and] a lack of established measures for and convergent finding about the impact of sponsorship on different consumers and publics," (p. 16). Cornwell and Maignan (1998) recognized that the central objective of future research on sponsorship should be to measure its effects while considering emerging issues such as wearout, where more intensive advertising leads to diminished marginal effectiveness (Chai, Bruno, & Feinberg, 2019), and clutter, where consumers are concurrently exposed to competing brands (Boeuf, Carrillat, & D'astous, 2018). Unfortunately, to date little scholarly research has been committed to evaluating and understanding sponsorship's effects and efficacy. Despite advancements in return on investment (ROI) research with regards to sponsorship, sponsors have been historically unclear of their return due to inaccurate and inconsistent research regarding the effectiveness and impact of their sponsorship (Cornwell & Maignan, 1998). The authors further note the difficulty in isolating

sponsorship benefits while considering other extraneous variables such as on-site signage and other competing activations.

Furthermore, advertising intensity has developed over time to become a significant factor in sport, and due to clutter and the limited attention capacities of sport fans, mere logo exposure during sporting events is no longer enough (Dreisbach et al., 2018). Sport teams and sponsors will need to evolve and become more creative in their approach to reach consumers in meaningful ways. Walliser (2003) claims that in most cases, “tracking techniques are used to evaluate sponsorship effects” (p. 13). Additionally, theoretical foundations of image transfer have been discussed by scholars, but more needs to be done to explore the conditions which lead to successful, repeatable, image transfer from the activity supported to the sponsoring organization.

Another significant gap in the literature is the lack of sponsorship activation analysis. There are very few academic articles that focus on sport sponsorship activations and their effects. Ballouli et al. (2018) claim that “research on leverage and activation of sponsorship is an underexplored area in academia, one that is still in its infancy in the event management and sport marketing literature,” (p. 22). Activations are an important component regarding leveraging a sponsor relationship and it would be ideal for businesses to adapt strong practices in developing these activations. At present, sponsorship scholarship lacks an adequate theoretical framework to conceptualize fundamental activation design characteristics, implications for inference making, and important sponsor outcomes (Dreisbach et al., 2018).

Lastly, there is little to no research regarding virtual reality and 360-degree video and their application to sponsor activation due to the technology being in its infancy. Considering the

apparent scarcity of theory and research investigating media modes, including virtual reality, as they pertain to sponsorship activation, there is currently no evaluation of this technology regarding its use for sport sponsors; however, this research attempted to address that gap and communicate the value of the platform in an activation context.

In light of these theoretical limitations, this study aimed to examine the use of 360-degree video and virtual reality as activation components, and if traditional non-immersive (phone, tablet, laptop, or desktop) and immersive (virtual reality) technologies differ in terms of their influence on important sponsor outcomes such as eliciting emotions and influencing attitudes. In so doing, the present study was guided by two research questions:

(RQ1) Do virtual reality activation experiences influence emotions (arousal and pleasure)?

(RQ2) Do virtual reality activation experiences influence attitudes?

The ensuing chapters present a review of literature and outline the methodology employed. First, the study's grounding in the extant sponsorship and extended reality literatures is provided with a focus on how organizations utilize sponsorship as a key component of their marketing strategy and achieve defined objectives through sponsorship-linked marketing. Further, the review details industry trends, such as experiential and new media marketing, and how they coincide with the emergence of virtual reality technology in a sponsorship context. Lastly, the review outlines virtual reality's potential to evoke emotions, and in turn, elicit more positive attitudes towards sponsor brands.

The methods that guided this research study and subsequent findings are then presented. The study was positivist in nature and utilized a quantitative survey design. Using two different online survey distribution platforms, Amazon's Mechanical Turk (MTurk) and Research Access

Portal (RAP), two different groups of participants were exposed to the same sport sponsorship activation video in one of two media modes. MTurk participants viewed a Red Bull sponsor activation 360-degree video using traditional two-dimensional (2D) non-immersive media (phone, tablet, laptop, desktop) while RAP participants experienced the activation video using a virtual reality head-mounted display. In this capacity, the study investigated the potential effects of a virtual reality stimulus on participant emotions and attitudes in an activation context through comparing the two groups across several metrics. The data collection process involved the distribution of online questionnaires post-treatment designed to measure the level of pleasure and arousal toward the experience as well as the participant attitudes toward the activation and brand showcased. Two-way independent sample t-tests were then conducted to compare both the traditional non-immersive and immersive group means across the above metrics. Altogether, this framework afforded the ability to explore virtual reality's potential to sport sponsors as a new media platform and assessed how it could potentially be utilized as an activational component and further integrated into an SLM strategy.

## **Chapter Two: Literature Review**

This chapter provides an overview of literature that informed this research study. The topics begin with sport sponsorship, including sponsor objectives. This is followed by sponsorship-linked marketing, leveraging, and activation. The emergence of experiential marketing and new media technologies are discussed, then followed by virtual reality technology. Lastly, the discussion outlines how concepts of presence and emotion play into the formulation of consumer attitudes such as attitudes towards the activation and attitudes towards the brand.

### **Sport Sponsorship**

Sponsorships are intricate relationship-based, business-to-business services, and should be viewed as strategic investments by management (Athanasopoulou & Sarli, 2015; Dolphin, 2003). Although definitions of sponsorship vary in the literature, Gardner and Shuman (1988) define sponsorship as “investments in causes or events to support corporate objectives (for example, by enhancing corporate image) or marketing objectives (such as increasing brand awareness),” (p. 44). Sponsorship involves two main activities: the first activity is an exchange between the sponsoring company and a sponsee, where the former obtains the right to associate itself with the activity sponsored, and in return, the sponsee receives a fee; the second main activity is the marketing of the association by the sponsor (Cornwell & Maignan, 1998). Both activities are essential if the sponsorship fee is to be a meaningful investment (Cornwell & Maignan, 1998). Researchers have suggested that sponsorship is an effective means for businesses to distinguish themselves from their competitors and gain advantages in the marketplace (Bennett, 1999). Further, sponsorship has the capability to accomplish a range of goals that include corporate social responsibility, corporate image, marketing sales, brand



exposure, and effects such as goodwill generation, image building, or attitude change (Meenaghan, 2005). Unfortunately, despite the economic significance of sponsorships, there is no comprehensive model to assess the effectiveness of sponsorship deals (Christensen, 2006).

According to Cornwell and Maignan (1998), “a market-driven type of sponsorship has replaced philanthropic sponsorships, and has been accepted as business-related behavior” (p. 18). This growth has been reflected in the commercial value and strategic intent of sponsorship partnerships. In 2001, for example, worldwide investment in sponsorship was estimated at more than \$24 USD billion (IEG, 2002); to compare, in 2018, total global sponsorship spending was estimated to be \$65.8 USD billion (IEG, 2018). Close, Finney, Lacey, and Sneath (2006) claim that 96 percent of United States corporations use sponsorship to augment their marketing communications. Currently, it is the norm to see crowds of sponsors vying for consumers’ attention at major events (Nickell, Cornwell, & Johnston, 2011) and this reflects the exponential growth that the sponsorship industry has experienced in the past few decades. As such, sponsorships are one of the fastest growing marketing communications instruments in the world, and the shift of resources towards sponsorship can be attributed to the decreasing effectiveness of traditional media (Wohlfeil & Whelan, 2006). In addition, marketers have shifted more of their marketing resources into sponsorship to target specific groups and engage them in interactive conversations (Wohlfeil & Whelan, 2006) while avoiding the omnipresent noise of advertisements (Roy & Cornwell, 2004; Meenaghan, 2001).

Sponsorship has thus become engrained in the entertainment industry and many events could not be funded if not supported financially by sponsors, and sponsors have been revealed to prefer the performing activities (i.e., sports) (Cornwell & Maignan, 1998). For example, in 2018, approximately 70 percent of the projected share of the North American sponsorship market was

within sport (IEG, 2018). According to Farrelly and Quester (2005), sport sponsorship is typically viewed as a strategic business-to-business (B2B) relationship for mutual benefit between a sponsor and a sport team, league, or athlete. Generally, large corporations have provided significant funding for the biggest and most visible events. For example, Coca-Cola and China Mengniu Dairy have recently signed a record joint sponsorship deal with the International Olympic Committee (IOC) that is worth a combined \$3 USD billion (Ahmed, 2019). According to Ahmed (2019), both companies announced that they are to jointly sponsor the Olympic Games between 2021 and 2032: covering six Winter and Summer Games. The deal stands as one of the largest corporate endorsements in sport. Similarly, the scope of corporate involvement in sport through sponsorship in the National Basketball Association (NBA) further provides evidence of sponsorship's prominence and growth. In 2017, the NBA made the decision to allow sponsor ID patches on team jerseys. Consequently, sponsorship spending on the league and its teams climbed 31 percent to a total of \$1.12 USD billion in the 2017-2018 season, the first time the league had ever eclipsed \$1 USD billion (International Events Group, 2018). During and after the COVID-19 pandemic, firms will likely place a high priority in leveraging these dollars more effectively. With businesses, both large and small, increasingly looking to partner with sport entities and employ sponsorship as a method to achieve specific outcomes, it is critical to further examine their objectives.

### **Sponsorship Objectives**

There are many reasons why a company may choose to sponsor a sport entity, and those reasons may vary depending on the characteristics of the sponsor and sponsee. Mount and Niro (1995) argue that large corporations adopt sponsorship to prioritize marketing and communication objectives, while small and mid-sized businesses in smaller towns utilize

sponsorship as a community relations tool. Traditionally the most prominent and frequently cited sponsorship objective has been enhancing image and increasing awareness for brands and/or companies (Walliser, 2003). However, Gillooly, Crowther, and Medway (2017) argue that sponsorship objectives have begun to shift from awareness and image benefits to further integrate relational outcomes. There has been a general shift in marketing from a transactional (one-way) to a relational (two-way) emphasis (O'Malley, 2014; Grönroos, 1990).

When sports are sponsored, the corresponding marketing of that partnership is of greater importance compared to other sponsored industries, such as the arts (Witcher, Craigen, Culligan, & Harvey, 1991). Sport sponsorship has become a popular tool for the management of brand personality and brand image, among other aspects of brand equity across a range of industries (Koronios, Vrontis, & Thrassou, 2021; Javalgi et al., 1994). Considering the nature of the business relationship between sport entities and their sponsors created, it is crucial that sport bodies understand how sponsors may view each aspect of the sponsorships in terms of accomplishing brand-related objectives.

However, as, Henseler, Wilson, and Westberg (2011) state, “there is limited research on how managers assess the ability of a sponsorship to fulfill specific objectives, particularly those related to brand equity” (p. 7). Researchers have attempted to provide insight to this issue through examining managers’ perceptions of sponsorship as a tool to establish various aspects of brand equity. The findings of Cornwell, Roy, and Steinard (2001) suggest that sponsorship is perceived among managers to contribute more to building brand equity through image and awareness than through brand personality and loyalty. Further, scholars suggest that sponsorship effectiveness must be focused on specific strategic objectives (O'Reilly & Madill, 2009; Grohs et al., 2004). Many entities, both sponsor and sponsee, enter into sponsorship agreements without

clear, defined, and measurable objectives (O'Reilly & Madill, 2012). With companies investing large sums of money into sponsorship, it is imperative to apply a standardized approach to the understanding and implementation of sport sponsorship to maximize its value (Lee & Ross, 2012). Additionally, the measurement of sponsorship activities and their overall effectiveness has proven to be a difficult process. In the past, scholars have expressed dissatisfaction at the reluctance of businesses to measure the effect of their investments as sponsors (McDonald, 1991; Abratt & Grobley, 1989; Hulks, 1980). However, recently there has been an increase in pressure on brand marketers to measure and ensure return on investment (Jensen, Walsh, & Cobbs, 2018).

Although research assessing sponsorships' effectiveness has developed in recent years, it is still arguably in its infancy. Kim, Y., Lee, Magnusen, and Kim, M. (2015) noted an absence of research regarding objective sponsor performance outcomes such as market share, sales, and return on investment. This observation is especially evident when reviewing much of the previous research in the sponsorship domain. Historically, researchers have attempted to evaluate the awareness, familiarity, and preferences engendered by sponsorship based on consumer surveys (McDonald, 1991). Additionally, most empirical studies that attempt to measure the effects of sponsorship have utilized tracking measures. For example, researchers have attempted to assess the recall of sponsors' ads (Pope & Voges, 1995; Cuneen & Hannan, 1993). Pope and Voges (1995), for instance, analyzed recall and recognition rates through examining location of the message, number of advertising locations, and memory decay (recall and recognition rates 24 and 48 hours after exposure). Awareness and attitudes toward sponsors and their products have also been assessed (Nicholls, Roslow, & Laskey, 1994), commonly employing surveys and interviews asking respondents about their individual brand preferences have been exercised (Nicholls et al., 1994). Lastly, image effects such as corporate image (Javalgi, Traylor, Gross, &

Lampman, 1994) and brand image (Otker & Hayes, 1987) have been examined. To assess corporate image for example, qualitative interviews have been conducted with those responsible for their companies' sponsorships to detect characteristics of a company's personality: an element of a company's subjective image (Javalgi et al., 1994).

These aforementioned studies have been shown to yield inconsistent findings, further demonstrating the difficulty in measuring the effectiveness of sponsorships. Cornwell and Maignan (1998) have speculated that this issue may stem from methodological weaknesses such as a lack of control for extraneous variables or small sample sizes. Most notably, field studies have appeared to yield unreliable results because of the lack of control for extraneous variables such as other activations, signage, and promotional material typically found at event sites (Cornwell & Maignan, 1998). More presently, Kim et al. (2015) shared a similar sentiment surmising that the issue may derive from the intricacies concerning isolating the exact contributions of sponsorship efforts from an array of other factors that impact objective performance outcomes; thus, the difficulties in measuring the effectiveness of sponsorships have continued even in more modern times.

### **Sponsorship-Linked Marketing**

As organizations further their understanding of sponsorship and the benefits of associating with sport properties, it is important to consider how these associations can best be communicated to achieve sponsor objectives. Sponsorship-linked marketing is defined as "the orchestration and implementation of marketing activities for the purpose of building and communicating an association to a sponsorship" (Cornwell, 1995, p. 15). According to Cornwell (1995), the term was conceived to mirror the coordination of interacting employees, audiences, activities, events, promotions, merchandise, co-sponsors, and media. SLM may take many forms

and has largely replaced traditional advertising (Cornwell, 2008). Cornwell, Weeks, and Roy (2005) state that “Creating an environment of proactive sponsorship management is essential in ensuring that all activities ultimately contribute to enhancing clear and memorable communications,” (p. 35). Firms that commit to managing sponsorships in this manner are accordant with the belief that sponsorship is a tool that can be used as a competitive advantage (Amis, Slack, & Berrett, 1999). For example, sponsorship-linked marketing has been found to influence attitudes towards the sponsor, albeit less so for brands with very little or very strong attitudes established towards the brand (Nickell et al., 2011). Likewise, there is evidence that experience with SLM communications assists in the development of brand equity in the mind of the consumer; however, the existing brand equity a sponsor carries into an association affects information procession of that association (Cornwell et al., 2005).

Importantly, however, sponsorship-linked marketing literature has to date offered little understanding of the spending and marketing activities that follow the agreement of a sponsorship contract, typically resulting from attempts to build awareness of the partner associations (brand and event) through advertising and promotion (Cornwell, 2008). To reiterate, organizations use SLM to communicate their sponsorship. This often occurs through leveraging, the macro-level marketing communications intended to communicate a sponsorship partnership (Cornwell & Kwon, 2020); and activation, the micro-level, consumer-engagement based marketing activities (Weeks et al., 2008). However, Cornwell (2008) argues that little research has addressed the integrative effects of sponsorship in consolidation with leveraging, and that scholars have limited knowledge how each element in the sponsorship arsenal communicates. Further, it appears that “we know next to nothing about how they communicate in combination, [while] practitioners also face challenges in managing them” (Cornwell, 2008, p. 470).

## **Leveraging**

Sponsorship leveraging is defined as “the act of using collateral marketing communications to exploit the commercial potential of the association between a sponsee and sponsor” (Weeks et al., 2008, p. 639). To illustrate, UPS promoted their Olympic sponsorship deal by placing signage on their delivery vehicles, while SoBe, a beverage company, leveraged their sponsorship of an extreme sports competition by using media advertising, radio promotions, on-site signage, etc. (Cornwell et al., 2005; Brockington, 2003). Sponsors do not invest their entire budget in attaining a sponsorship contract, but rather a significant share is allocated to leveraging the sponsorship to maximize potential advantages of the sponsorship agreement (Sephapo, 2017; Urriolagoitia & Planellas, 2007). Crimmins and Horn (1996) bluntly state that “If the brand cannot afford to spend to communicate its sponsorship, then the brand cannot afford sponsorship at all” (p. 16). There is certainly a need to explore combined effects of sponsorship and other promotional tools (Cornwell et al., 2005). According to IEG (2018), the preferred channels that firms utilize to leverage their sponsorships are social media, public relations, hospitality, and on-site/experiential. According to surveyed respondents, the specific social media platforms that firms typically use are Facebook and Twitter (IEG, 2018). Although sponsorship leveraging is an area of research that has received the attention of limited studies (Ballouli et al., 2018), it appears that leveraging communications commonly aid in promoting positive sponsorship outcomes (Weeks et al., 2008).

Leveraging has been interpreted as valuable in the promotion of sponsorship awareness and identification (Quester & Thompson, 2001), guarding against ambush marketing (Meenaghan, 1996), and the enhancement of sponsor image and audience attitudes (Quester & Thompson, 2001; Gwinner & Eaton, 1999). Quester and Thompson (2001) investigated the topic

of leveraging outcomes at the 1998 Adelaide Festival of the Arts held in Australia for three companies that differed in the amount spent on leveraging activities such as advertising, public relations activities, and sales promotions. Results found a positive relationship between leverage spending and improved sponsor awareness and pre- and post-event attitudinal measures. Further, in examining leveraging activities at the 2001 Alpine Ski World Championships held in Austria, Grohs et al. (2004) found that sponsors who leveraged their sponsorships to a greater extent were more successful in bolstering image transfer from event to brand. The potential for positive sponsorship outcomes entices firms to leverage their sponsorships. Four out of ten sponsors surveyed claimed they are increasing their budget spending on leverage and activation in 2018 (IEG, 2018). While leveraging encompasses the macro-level marketing communications of a sponsorship; it is equally important to examine the micro-level consumer-engagement based marketing activities known as activation.

### **Activation**

Weeks et al. (2008) define activation as a subcategory of leveraging. Activations are “communications that promote the engagement, involvement, or participation of the sponsorship audience with the sponsor” (p. 639) and are becoming increasingly prevalent in sport sponsorship. According to a sponsorship decision-maker survey, respondents claim they will spend \$2.20 on activating sponsorships for every \$1 spent on rights fees: suggesting that sponsors will continue to invest in activation to achieve their objectives (IEG, 2018).

Shank (2005) explains that Olympic sponsors execute various types of sponsorship activation programs to maximise their partnerships. Sport event sponsorship in particular “can be activated in any form of marketing communication, such as advertising, sales promotion, and on-



site activities to encourage interaction between sport consumer and sponsor” (Kim & Kaplanidou, 2014, p. 280). For example, HypoVereinsbank and FC Bayern activated their partnership to allow their FC Bayern credit card customers to apply for exclusive home match tickets, including matches already supposedly sold out (Dreisbach et al., 2018). Research has shown that activational leveraging outperforms nonactivational leveraging (signage, sponsor name mentions, public address, etc.) through reported higher ratings towards sponsor attitudes, word of mouth, and purchase intentions (Ballouli et al., 2018). Activational leveraging may require further time or resources to expand a sponsorship’s influence (Dees, 2011); but, Vargo and Lusch (2004) suggest that core marketing activities have developed to now include concepts of interactivity, integration, customization, and coproduction.

Unfortunately, however, research on the leveraging and activation of sponsorship is largely an underexplored area, one that is still in its infancy in the sport marketing and event management literature (Ballouli et al., 2018). In general, there is a lack of research concerning sponsorship investment into events outside of the obtained rights to sponsor (Nickell et al., 2011), and limited studies have examined on-site sponsorship activation at a sport event specifically (Kim & Kaplanidou, 2014). The poor understanding of event activation has restricted the ability to determine the true effectiveness and impact of SLM (Cornwell, 2008). Kuzma et al. (1993) claim that learning about which sponsorship activation works best usually occurs by “trial and error”, exemplifying the need for a more comprehensive evaluation strategy. There is a need to further research activations to better understand their influence on attitudes towards the brand and activation, because, as of now there is no clear understanding of what constitutes the determinants (Kim & Kaplanidou, 2014).

From an industry-perspective, sponsors likewise have continued to seek out new opportunities for leveraging and activation activities, commonly looking for ways to activate their sponsorships at event sites to engage consumers. Ferrand, Chappelet, and Seguin (2012) define on-site sponsorship activation as a marketing communication tactic to maximize sponsors' investments in sport events and properties by presenting product sales or showcases at the event venue during the sporting event. Scholars suggest that on-site sponsorship activities generate positive changes in audience attitudes towards sponsors (Choi, 2008).

Moreover, on-site sponsorship activation acts as a part of the sport event experience and possesses unique characteristics as an experiential marketing stimulus (Schmitt, 2000). For instance, Kim and Kaplanidou (2014) explain that "Olympic sponsors build their brand exhibition sites at the Olympic venues and provide various types of activities during the Games (e.g., live shows, virtual games, film screenings, and autograph signings by the athletes)" (p. 281). The goal is to establish relationships with consumers through the creation of experiences (Gillooly et al., 2017), and these customer experience places provide opportunities to facilitate the achievement of relational aims (Crowther, 2010). The above activations have the ability to provide a vast range of emotions to spectators (Newell, Henderson, & Wu, 2001) and understanding the role of emotions in shaping sport consumer attitudes towards sponsorship activation and the sponsor brand is vital (Kim & Kaplanidou, 2014).

### **Experiential Marketing**

Through examining the nature of sport sponsorship, including trends within the industry, there has been a notable move to an experiential marketing philosophy. This trend has emerged partly due to the challenge of providing customers with unique and memorable experiences with the goal of establishing positive two-way relationships (Wiedmann et al., 2018). Experiential

marketing is designed to evoke imaginative and emotional responses during the decision-making process (Tsaour et al., 2007); this becomes even more crucial in a time where mere logo exposure is no longer enough due to ad clutter and limited attention spans (Dreisbach et al., 2018). Schmitt (1999) claims that traditional marketing views consumers as rational decision-makers focused on functional features and benefits, whereas experiential marketers recognize consumers as rational and emotional who are concerned with achieving pleasurable experiences. Schmitt (1999) explains that “Experiences occur as a result of encountering, undergoing or living through things,” and “[they] provide sensory, emotional, cognitive, behavioural, and relational values that replace functional values” (p. 57).

Sponsorship activation design has notably evidenced a shift towards this experiential approach as sponsors continually look for increasingly effective ways to leverage their sponsorship to engage target stakeholders (Gillooly et al., 2017). Examples most often discussed within the literature concern the formation of sponsor exhibitions that offer the opportunity for audiences to interact with sponsor products (Close & Lacey, 2014; Sneath, Finney, & Close, 2005). Close and Lacey (2014), for example, examined Ford’s title sponsorship at the Tour de Georgia cycling race:

Ford established interactive exhibits at each host city, featuring new models, music, and entertainment. The sponsor allowed consumers to see forthcoming designs, sit in these new vehicles, obtain information from sales personnel, and receive promotional materials. To add to the experience, consumers could obtain photographs featuring attendees, friends, and new Ford vehicles. Ford printed the photos on a \$1,000 rebate voucher for the vehicle. Ford packaged the rebate to look like a backstage VIP pass, to

spark word-of-mouth promotion during the event and provide a photograph souvenir of the experience at the race. (p. 216)

Ford's activation exhibits clear experiential elements through enabling participants to interact with their products on-site: potentially establishing positive relationships with new or existing consumers.

There are notable benefits to incorporating an experiential approach into activation design. Experiential marketing can evoke emotions in audiences: allowing them to escape from reality while providing entertainment, education, and aesthetic places or objects to see (Yazici et al., 2017). Tsaur et al. (2007) examine the effect of experiential marketing on participant behaviours and the authors' findings suggest that experiential marketing influence consumers' emotional responses and subsequently shape their attitudes and behaviours in a positive manner. Yazici et al. (2017) recommend to sport event organizers to construct their event programs to promote "experiencing different types of experiences with regard to senses of feeling (entertainment), learning (education), being (esthetic), and doing (escapist) [because] the more experience dimensions an event incorporates the more individuals become satisfied and repeat attendance behavior in the future" (p. 171).

To achieve these benefits, Gilmore and Pine (2002) recommended that marketers should create experience places, as in real or virtual locations, that are both absorbing and entertaining, and provide consumers with the ability to inspect offerings as they immerse themselves in the experience. These experiences, both real and virtual, further provide organizations with new revenue streams and can drive sales, depending on what the company offers (Gilmore & Pine, 2002). Further, sports are experiential and intense in nature and provide a variety of opportunities

to deliver experiences (Yazici et al., 2017); and, while sport events are often considered to be perfect locations for short-term creative settings that attract individuals, such as on-site sponsor activations, with the rise of new media and the COVID-19 pandemic, sport consumption is everchanging. It is likely that researchers and sport sponsors alike will shift focus from real event locations to further examine more accessible online experiences provided by virtual locations. Pine and Gilmore (2014) likewise stated that some of the most important value-creating opportunities lie in creating customizable experiences, fusing digital technology with reality, and transformative experiences. The biggest driver of these value-creating opportunities is the development of new media.

### **New Media**

As sponsorship rights fees increase and leverage costs far eclipse initial sponsorship investments, it is imperative for companies to find alternative methods to reach their target market and communicate effectively and efficiently (Dees, 2011). As a result, new media technologies are transforming the production, delivery, and consumption of sport while establishing “a new dynamic between sports fans, athletes, clubs, governing bodies and the mainstream media” (Dart, Leonard, & Cole, 2014, p. 528). This transformation has advanced the fragmentation of media channels worldwide and inspired a symbiotic relationship between new media and sports sponsorship (Santomier, 2008). Dart et al. (2014) state that:

The initial position of mainstream media organizations was typically one of hostility in seeking to protect their product [however] this position soon shifted when it was seen that new media technology could create multiple opportunities to market sport, especially to the younger generation as future audiences. (p. 533)

Dart et al. (2014) further argue that the leverage these new technologies provide, along with the certainty that if organizations choose not to adopt them, someone else would, has led to sponsors embracing these technologies and adopting them as activation opportunities.

A significant amount of sport is now being consumed by audiences through mobile phones, laptops, tablets, digital radio, and interactive television (Hutchins & Mikosza, 2010), leading to suggestions that such digital adoption has negatively affected game attendance in most of the major North American professional sport leagues (Gunnion, 2015). Sport content remains overwhelmingly popular; however, the rise in technology usage has forged new opportunities for sport marketers to serve consumers (Gunnion, 2015). Rather than sitting passively, reading, listening, or watching advertisements, fans would prefer to interrelate with teams, sponsors, and brands through actively experiencing the product or service offerings: determining for themselves how companies can best meet their individual needs and wants (Dees, 2011). Sport sponsors are utilizing new technologies to further relationship marketing objectives (Dees, 2011). For example, new media technologies are providing fans with extraordinary insight and access into the lives of their favourite teams/athletes, and athletes themselves are monetizing new media platforms to promote their brand and their sport (Dart et al., 2014).

Presently, corporate sponsors actively implement and utilize new media technology to engage consumers, manage their brand, and deliver unique content (Westberg, Stavros, Smith, Munro & Argus, 2018; Komańda, 2017; Dees, 2011; Santomier, 2008). Santomier (2008) argues that organizations are shifting focus from traditional methods of advertising, and a “new paradigm is emerging in sports sponsorship which involves thematically linked, integrated, strategic global marketing initiatives driven by new media applications” (p. 16). For example, sponsor activation has traditionally been limited to immediate event-based audiences; however,

sponsors have begun to leverage sponsorships through their websites, among other media platforms, to enable activation at the mass-media audience level (Weeks et al., 2008). This type of activation has been the richest vein of academic study recently, with many researchers examining online activation on social media (Abeza, O'Reilly, & Seguin, 2019; Gillooly, Anagnostopoulos, & Chadwick, 2017).

Moreover, stadium technology has evolved over time to replace fixed banners and signage with HD monitors that display customizable marketing messages to promote products and services to fans. These customizable marketing messages can occur at “preferred points of time within the game or event (pre-game, time-outs, halftime, and intermissions)” (Dees, 2011, p. 282). Successful brands have integrated new media as a central component to their marketing mix and have generated branding benefits and revenue (Santomier, 2008). Santomier (2008) predicts that “sports sponsorship will maintain its synergistic relationship with new media and continue to enable sponsors and sponsees to enhance communications through the use of multiple channels and to develop products and services specific to their core consumers” (Santomier, 2008, p. 16). In addition, a study conducted by Yim et al. (2011) examining the effectiveness of innovative and new media found that the novelty effect of new media possesses the power to attract consumers’ attention and increase engagement. Thus, it is important for sport marketers to understand the role of these innovative new media channels and how they can best be utilized.

### **Virtual Reality**

An example of an emerging new media channel is virtual reality, and it is among the most promising technological innovations in business. Virtual reality can be defined as “an environment that is created by a computer or other media and in which the user has a feeling of

being present in the environment [Biocca, 1992],” (Roettl & Terlutter, 2018, p. 2). VR can be further described as an immersive and interactive experience in a simulated world (Mazuryk & Gervautz, 1996). A VR headset, or HMD (head-mounted display), conceals an individual from their real physical surroundings while simulating a person’s physical presence in a virtual environment (Wei, 2016).

It is important to note the exponential growth of VR as an industry. The total worldwide market size for VR is forecasted to nearly triple from a \$6.2 USD billion in 2019, to an expected \$16.3 USD billion in 2022 (Statista, 2018). This has drawn the attention of marketers as a new medium to advertise brands and products (Adams, 2016). This growth coincides with the technology becoming more affordable and with consumers increasingly gaining access to this technology. Google and Samsung are two leaders in developing VR hardware and have begun to provide the technology to consumers at a low cost (Pierce, 2015). In addition, content designers are now able to create and disseminate VR content to consumers through streaming to smartphones (Pearce, 2015).

Among the newer forms of virtual reality, and one of the newest trends in online marketing, is 360-degree video (Gudacker, 2016). Castellanos, Ausin, Guixeres, and Bigne (2018) explain that:

Compared to traditional videos in which the point of view is a focal one determined by the director, in a 360-degree format the viewer has a free and omnidirectional viewpoint. In this way, the viewer can decide at every moment the point of view to see the video scenes, being able to move their viewpoint in an arbitrary way to each one of the angles



of a 360-degree radius. This change in the point of view means a new interactive experience with the advertisements that was not achieved before. (p. 1)

360-degree video provides a sense of freedom to consumers to explore content, deciding “where and what” to look at, without being confined by a creator’s choices (Su & Grauman, 2017). It should be noted that although 360-degree video is commonly associated with VR, users of laptops/desktops and mobile phones/tablets are able to navigate this content as well. These videos can be navigated by mouse or keyboard using a laptop/desktop computer, while smartphones and tablet computer users can either swipe the screen to “pan around” or move their device in the desired viewing direction (Gold & Windscheid, 2020). 360-degree video has not been explored by researchers in a sport marketing context; however, an early study conducted by Castellanos et al. (2018) comparing 360-degree video to traditional video found that 360-degree video ads seem to produce more positive emotions in participants.

While researchers have examined virtual reality’s marketing potential in other industries such as advergames (Roettl & Terlutter, 2018) and tourism (Yung, Khoo-Lattimore, & Potter, 2021), none have examined VR in a sport sponsorship context or how VR could be effectively utilized as a form of activation for sport sponsors. According to XOS Digital (2016), in a sponsorship activation context VR is theorized to: enhance fan experiences, help organizations drive sponsorship dollars, impress shareholders, promote viral sharing, and improve fan engagement. Although sport marketers predict that VR will offer the above benefits to fans and sport organizations, “these expectations have not yet been empirically examined” (XOS Digital, 2016, p. 473). Virtual reality is, however, beginning to be integrated by sport organizations in their marketing initiatives (IEG, 2016; RBC, 2016; Zaldivar, 2015; AIG, 2015), signalling a growing shift in sponsor VR use as a component to activation campaigns, and highlighting the

potential for sport organizations and sponsors to engage with consumers through this new medium. With sport organizations beginning to integrate VR, it is critical to examine if sport consumers are willing to adopt this new technology. If they are not, organizations will use their resources elsewhere; however, if they are, consumers might look more favorably on teams and sponsors that offer such experiences. Recent studies suggest that sport fans are willing to adopt VR and findings encourage adoption of VR as a new channel, “as it is likely to improve sports fan experiences related to information seeking and sports service consumption” (Rynarzewska, 2018, p. 472). In turn, more research is required examining how exactly sport organizations and sponsors can effectively utilize this technology to achieve specific objectives.

To date, the value of VR for marketers has been theorized to stem from several variables inherent to the VR user experience, including concepts of immersion and presence. According to Roettl and Terlutter (2018), “The concept of presence in virtual environments has received a lot of attention during the last decades, especially with the rise of interactive technologies in the 90s, and has been debated from different perspectives” (p. 3). Sanchez-Vives and Slater (2005) describe presence as the sense of being in a virtually mediated world instead of being in the real world where the person is physically located. For example, a user may be located on the seventh floor of an office building, yet while using a VR device such as the Oculus Go, perceive themselves to be on a golf course thousands of miles away or a completely simulated world that does not exist. The capabilities of this technology appear to dovetail with the rise of experiential marketing and grant marketers the means to create easily accessible virtual experiences for consumers in hopes of evoking those desired imaginative and emotional responses. Particularly, the concept of presence is theorized to be a significant component to that process.

VR evokes the sensation of presence, which comprises both vividness and interactivity (Cummings & Bailenson, 2016; Steuer, 1992). Vividness is attributed to the sense of movement in an environment and quality of the images (Cheng, Chieng, M. & Chieng, W., 2014), while interactivity is the extent to which consumers can modify the form and substance of an environment in real time (Cummings & Bailenson, 2016; Steuer, 1992). Roettl and Terlutter (2018) examined user feelings of presence in a videogame played in HMD VR, 3D, and 2D and found that user feelings of presence were significantly higher in the VR video game. In addition, Grigorovici (2003) suggests that virtual environments, such as those experienced in VR, provide users with higher levels of presence and immersion compared to classical media. This conforms to the idea of VR being an inherently immersive, vivid, and interactive experience in a simulated world (Mazuryk & Gervautz, 1996) due to its capabilities of shielding an individual from their actual physical surroundings while simulating a person's physical presence in a virtual environment (Wei, 2016). Interestingly, viewers of 360-degree video using a laptop computer have also reported higher levels of presence compared to traditional video (Gold & Windscheid, 2020). It may be possible that 360-degree video narrows the theorized presence gap between immersive VR and non-immersive two-dimensional media, and in turn, may produce similar relational outcomes. However, thus far, this has not been explored in a marketing context.

To date, research has examined presence and its potential to generate a diverse range of advertising effects. Studies have found that presence evokes involvement, arousal, and persuasion in terms of attitudes toward brands and advertisements (Nelson, Yaros, & Keum, 2006; Daugherty et al., 2005; Grigorovici & Constantin, 2004; Klein, 2003). For example, Nelson et al. (2006) investigated the relationship between presence and gamer evaluations of real and fictitious brands. Results indicated that presence is positively associated with attitudes

toward the brands seen in the videogame. That said, research regarding the concept of presence as it relates to sport, or how it might be applied as an activational component to achieve sponsor objectives, is non-existent. This is a significant gap in the literature that should be investigated further to potentially capitalize on the aforementioned benefits of incorporating presence: enhancing the effectiveness of brand communications. Further, presence appears to be a natural fit with experiential marketing in terms of providing consumers with increasingly vivid and interactive experiences. New media technologies, such as VR and 360-degree video, have shown to instill feelings of presence (Gold & Windscheid, 2020; Roettl & Terlutter, 2018), and in turn, potentially evoke more powerful emotional responses like arousal (Yim et al., 2011): a key objective of experiential marketing (Tsaour et al., 2007). Nonetheless, this potential link has largely been ignored in the literature.

## **Emotions**

Along with presence, emotions are a key factor in predicting consumer attitudes towards a marketing stimulus (Kim & Kaplanidou, 2014). Emotion “refers to the coordination of cerebral, physiological, and behavioral changes that facilitate an external or internal response of significant relevance (Davidson, 2004)” (Castellanos et al., 2018, p. 4). In many instances, pleasure and arousal are enough to depict emotional responses (Russell & Pratt, 1980). The pleasure-arousal (PA) framework defines pleasure as “the degree to which a person feels good, joyful, or happy in a situation, whereas arousal as the degree to which a person feels physically stimulated and active [Russell & Pratt, 1980]” (Kim & Kaplanidou, 2014, p. 284). Experiential marketing related studies (Kim & Kaplanidou, 2014; Bigne, Mattila, & Andreu, 2008) have utilized bi-dimensional PA measurements: congruent with the Russell and Pratt (1980) view that the above two dimensions (pleasure and arousal) denote the internal emotional state. Zajonc and

Markus (1984) detail the relationship between pleasure and arousal where, at first, arousal is a fundamental consequence of the formation of emotion, then arousal influences pleasure thereafter. While researchers have speculated that the influence of arousal on pleasure has the potential to be either positive or negative (Chebat & Michon, 2003); Bigne et al. (2008) propose that the effect should be positive if the experience is amusing/enjoyable.

Emotions are critical while examining experiential marketing initiatives because experiential marketing is designed to evoke emotional responses during consumers' decision-making process (Tsaour et al., 2007). Experiential marketers perceive consumers as rational and emotional beings that are concerned with achieving pleasurable experiences (Schmitt, 1999). Additionally, emotions have been examined in other contexts pertaining to new media technologies. Castellanos et al. (2018) for example, investigated emotional responses to 360-degree video compared to traditional video and found that 360-degree videos appear to produce more positive emotions. Further, Grigorovici (2003) found that virtual environments provided users with increased levels of perceptual and psychological immersion and presence, which leads to more intense emotions (Yim et al., 2011; Visch, Tan, & Molenaar, 2010). Yim et al. (2011) claims that presence evokes arousal, and in turn, arousal increases pleasure (Kim & Kaplanidou, 2014). Roettl and Terlutter's (2018) findings suggest that VR is associated with higher levels of presence compared to standard 2D video; however, user levels of arousal did not differ when comparing user measures experiencing VR, 3D, or 2D videogames. There needs to be more research conducted in this area to examine if there is any significant effect; however, it is hypothesized that:

**Hypothesis 1:** Virtual reality experiences will impact user ratings of arousal in sponsorship activation.

**Hypothesis 2:** Virtual reality experiences will impact user ratings of pleasure in sponsorship activation.

### **Attitudes**

Kuzma et al. (1993) claim that learning about which sponsorship activations work best usually occurs by “trial and error”, illustrating the unfortunate reality of activation research. The persuasion of attitudes is an important objective of sponsors because, as Nickell et al. (2011) suggest, attitudes are comprised of an individual’s actions and beliefs. Thus, “we can measure attitude by determining one’s beliefs and/or intended behavior [because] intentions and attitudes are the antecedent to behavior” (Nickell et al., 2011, p. 581-582). Since attitudes are antecedent to behaviour, it is critical to examine how sponsor activations can positively persuade consumer attitudes to lead to the accomplishment of other actionable objectives.

Sport marketing researchers have traditionally focused on the effects of sponsorship advertising on attitudes towards events and sponsors (Soderman & Dolles, 2010; McDaniel, 1999). However, Kim and Kaplanidou’s (2014) pioneering study is the only example of researchers examining the determinants of attitudes towards sponsorship activations. These authors are the first researchers to examine attitudes towards on-site sponsorship activation (A<sub>on-site</sub> sponsorship): derived by attitudes toward the ad (A<sub>ad</sub>). A<sub>ad</sub> has been defined by Lutz (1985) as a “predisposition to respond in a favourable or unfavourable manner to a particular advertising stimulus during a particular exposure occasion” (p. 46). Lutz (1985) further suggests that A<sub>ad</sub> aids in demonstrating the effects of an advertising exposure on brand attitudes and purchase intentions.

MacKenzie and Lutz (1989) presented a structural model for disclosing antecedents of Aad. Kim and Kaplanidou (2014) suggest that:

In their model, 'execution characteristics' was one of the predictors of Aad which ties directly with the sponsorship context where the direct interaction between product and consumers is the unique execution characteristic of marketing within the sport event. On-site sponsorship activation enables the brand to interact with its consumers and to stimulate them to try the product. (p. 283)

However, there remains a lack of knowledge regarding event activations, and that has limited the ability for researchers to assess the true effectiveness and impact of sponsorship-linked marketing (Cornwell, 2008). Thus, "we need to conduct additional research to better understand how activations influence attitudes towards the brand" (p. 581); this is of particular importance given that that attitudes toward the brand have been deemed to be the most valuable metric in evaluating sponsorship (IEG, 2018). This is further supported by Speed and Thompson (2000) who claim that attitude towards the sponsor brand is one of the most significant factors influencing consumer behaviours related to sponsorship activation and a valuable indicator of a sponsorship's effectiveness.

Researchers have examined the relationship between emotion and consumer attitudes towards their experience (Bigne et al., 2008; Wirtz, Mattila, & Tan, 2000; Wirtz & Bateson, 1999). Emotions play an important role in consumer response as increasers of brand attitude (Russell, 2002). In advertising, researchers indicate that emotional responses such as pleasure and arousal can be determinants of aolnettitudes towards advertisements (Olney, Holnbrook, & Batra, 1991; Lutz, 1985). Moreover, Kim and Kaplanidou (2014) investigated the factors

(emotions, interactivity, fit) driving consumers' attitudes towards on-site sponsorship activation and sponsor brand at the Olympics; the authors found that pleasure influences attitudes towards on-site sponsorship activation, which eventually influences attitude towards sponsor brand.

Lastly, Yim et al. (2011) have stated that presence evokes arousal, which Lee, Suh, and Whang (2003) claim to significantly influence positive consumer attitudes. Therefore, it is hypothesized that:

**Hypothesis 3:** Virtual reality experiences will influence participant attitudes towards sponsorship activation.

**Hypothesis 4:** Virtual reality experiences will influence participant attitudes towards the brand.

## **Conclusion**

Overall, while sponsorships are viewed as strategic investments by management to accomplish corporate or marketing objectives, there is currently no comprehensive model to assess the effectiveness of sponsorship deals (Christensen, 2006). Upon reviewing existing literature examining common sponsorship objectives, metrics such as the persuasion of more positive attitudes towards experiences and brands have become a central focus of sport marketers and sponsors (IEG, 2018). Tactics and methods designed to provide consumers with more memorable and impactful experiences have risen in popularity to more effectively influence attitudes. Due to factors such as advertising intensity and clutter, sport fans' attention capacities have become increasingly limited and mere logo exposure is no longer enough (Dreisbach et al., 2018). Sport teams and sponsors will need to continually evolve and become more innovative in their approach to reach consumers in meaningful ways. Experiential marketing has thus emerged as a means for marketers to evoke emotions in people during the consumer decision-making



process (Tsaour et al., 2007) and to provide consumers with more interactive and immersive experiences. Consequently, evoking positive emotions in consumers has been shown to be a key contributor in influencing attitudes towards partnerships, brands, and products (Lee et al., 2003).

Unfortunately, however, this area of marketing and sponsorship remains largely unexplored in the academic research. The study of new media platforms, specifically virtual reality, and their potential integration into firms' sponsorship-linked marketing strategy remain a significant gap in the sport sponsorship literature. This research will attempt to satisfy this gap utilizing a quantitative survey approach examining consumer responses to this technology in a sport sponsor activation context; and in so doing, endeavours to further contribute to research examining consumer responses to sponsor activations such as Kim and Kaplanidou (2014). With tens of billions of dollars being invested into sponsorship (IEG, 2018) there is a grave need for a comprehensive strategy to achieve specific organizational objectives. This study seeks to examine how an emerging media platform, such as virtual reality, can be effectively utilized to achieve important sponsor outcomes such as influencing emotions and attitudes. The next chapter offers the methodological framework informing this research.

### **Chapter Three: Methodology**

Given the limited research examining the strategic application of new media technologies in a sport sponsorship context, this research sought to advance insights into the potential integration of new media technologies as part of sport sponsorship-linked marketing strategy. The focus of this research was on the use of 360-degree video and virtual reality as activation components, and if traditional non-immersive and immersive technologies differ in terms of their influence on important sponsor outcomes such as eliciting emotions and influencing attitudes. In so doing, the present study was guided by two research questions:

***Research Question 1:** Do virtual reality activation experiences influence emotions?*

***Research Question 2:** Do virtual reality activation experiences influence attitudes?*

#### **The Paradigm: A Positivist Study**

A paradigm or worldview is defined as a lens through which people observe the world, that holds the power to construct, characterize, and command academic dialogue through its ingrained assumptions and values (Costa, 2005). This study took a positivist perspective; “According to this paradigm, research starts with theory building, which helps specify the relationship among the variables and formulate some predictions” (Chang, 2017, p. 2). In addition, Humphrey (2013) explains that positivists “adopt a naïve realism insofar as they assume that things are as they appear to be and exist independently of the perceiver” (p. 5). A discord is established between knower and known, together with an assumption that knowledge can be communicated “in the universal language of statements and statistics and rendered transparent to all, generating consensus on ‘the facts’” (p. 5). Positivist methodologies are

commonly associated with a testable theory, and projects are designed to investigate hypothetical relationships between variables as presupposed from an existing theory (Humphrey, 2013).

This research study investigated relationships between type of activation experience and emotions evoked, as well as attitudes influenced, as deduced from prior theory (i.e., PA framework). Positivist researchers “must either gather data on large representative samples in order to discern statistically significant correlations, or else undertake randomised controlled trials (RCTs) in order to confirm or disconfirm cause–effect relationships” (Humphrey, 2013, p. 5). To illustrate, RCTs include the random assignment of subjects (i.e., sport fans) to different treatment groups (i.e., immersive versus non-immersive) including a control group (i.e. traditional non-immersive) so that differences in emotions elicited and attitudes can be attributed to differences in activation experience. Humphrey (2013) suggests:

The virtues of positivist research reside in the promise of securing objective knowledge, i.e., the clarity of research processes enables studies to be replicated by others; the use of representative samples means that findings can be generalised to wider populations; and only RCTs can prove causal relationships. (p. 5)

### **Sampling Procedure**

In determining the most appropriate sampling approach for the study, a purposive sampling method was selected, common in both in qualitative and quantitative research. According to Tongco (2007) “the purposive sampling technique is a type of non-probability sampling that is most effective when one needs to study a certain cultural domain with knowledgeable experts within” (p. 147). In this case, self-identifying sport fans sought as the primary sampling variable, reflective of the study’s aims and context. The video used in this study was a Red Bull sponsored Formula 1 sport activation. Given the target audience of such a

sponsorship activation, intended for a sport audience with familiarity of motor sports and Formula 1 racing, sport fans were identified as an important sample to target. Furthermore, it was presumed likely that consumers of these videos, and others like it, identify as sport fans; thus, they were considered more knowledgeable experts in this domain compared to the general population. Further, it was more relevant to examine the attitudes and emotions of those who had higher degree of interest and experience viewing sport content, rather than those that may have been indifferent to the entire concept of sport and sport content. In this way, it was possible to better isolate users' experience with the virtual environments studied, rather than sporting interest or brand familiarity. Participants only received access to the study if they met the sample criteria; in this case, those who identified as sport fans, claimed to watch and/or participate in sports, and were at least 18 years of age. In addition, participants were again asked to confirm this information once provided access to the full study. These criteria were also determined based upon logistical considerations, to further ensure consistency across the sample and access to a large sample population.

Participants were recruited through two separate programs. First, Amazon's Mechanical Turk (MTurk) was used to recruit participants for the traditional non-immersive, two-dimensional viewing group. This group included those participating using their phone, tablet, laptop, or desktop. The use of MTurk as a platform has become increasingly prevalent in social science research and has even emerged in the field of sport management (Brown, Bennett, & Ballouli, 2016). MTurk is a crowdsourcing marketplace in which people can post tasks to be completed for a specified price and is an inexpensive yet useful platform for researchers using surveys to collect data online (Brown et al., 2016). MTurk participants were screened using a demographic survey (Appendix A) that was open to all users on the marketplace. Participants

that met the sample criteria (sport fans 18 years of age or older) were assigned to a custom qualification and given access to the complete survey: ensuring that only individuals previously screened were able to participate. MTurk users have been shown to be more attentive than traditional samples (Hauser & Schwarz, 2016), and a significant factor in driving this user attentiveness is the financial compensation users receive for completing jobs. Brown et al. (2016) explained that “Participants visit the MTurk website as a means to participate in research and survey questionnaires for rewards in the form of cash incentives that are paid directly from Amazon (researchers pay a fee to Amazon to utilize MTurk platforms)” (p. 143). The compensation was approximately \$2 CAD considering the projected time of completion (under ten minutes). Incentives are considered a proven method of generating increased interest and participation among individuals for research studies (Singer & Ye, 2013), and the incentive was conditional upon the person’s completion of participation. A notable downside to the use of this platform was its lack of focus on VR and its inability to verify what device the participants used to view the survey content; thus, the need for a second platform to be used in conjunction. While using datasets from multiple platforms is uncommon, it is not unprecedented (Redmiles, Kross, & Mazurek, 2019).

Research Access Portal (RAP) was used to recruit participants for the immersive viewing group. This group included those who are participating using a virtual reality head-mounted display device. RAP is a new platform that allows researchers to create, launch, and collect data from global demographics. The RAP platform was established in 2020; however, the company behind RAP, XpertVR, has been executing research with academic institutions (Brock University, University of Toronto, Conestoga College) and private businesses (3M, Red Bull, Explorer Research) for over three years. The platform was tailor-made for virtual reality research

and is well positioned to connect VR researchers with participants that have access to their own VR hardware. Allowing participants to experience the VR treatment with their own equipment in a safe and secure environment was vital during the COVID-19 pandemic. Currently, the RAP platform has over 600 VR users with more being added every day; thus, there was no issue meeting the minimum required sample size (51) necessary for statistical significance. In addition, RAP was able to verify the device participants used to participate in the study including the specific VR HMD model. RAP users were further screened through questions provided to them by RAP upon sign-up on the portal and the aforementioned demographic questionnaire to determine their age and sport fandom. Once the qualifications were met, the complete study was accessible to the user. Similar to MTurk, the researcher paid a fee to RAP to use their platform, and in turn, participants were compensated by the platform directly upon completion of the study. However, rather than direct financial compensation, participants were given credit that they can use for gift cards online and in stores. The exact amount per participant depended on the length of the study and how specific the demographic pool was. In this case, the amount was estimated to be \$15 CAD.

### **Sample Size**

Sample and group sizes were determined using G\*Power 3.1.9.4, a free-to use software used to calculate sample size and statistical power. Sample size can be calculated using effect size, standard error probability (or significance level), and power level. An effect size is an objective and typically standardized measure of the significance of an observed effect and is typically based on extant literature (Field, 2009). Considering the lack of research regarding VR in this context, there was no effect size that could be drawn from extant literature; thus, for the purposes of this research, it was estimated to be a medium effect size ( $d = .50$ ). In contrast, the

power level is considered to be the ability of the test to identify an effect of that size (Field, 2009). An often-recommended power level to be used is .80, meaning the test has an 80 percent chance of detecting an effect if one genuinely exists (Field, 2009); however, a power level of .75, or even .70, is considered reasonable. That said, a lower power level would increase the probability of type II error: when one accepts a null hypothesis that is actually false (Field, 2009). Lastly, a significance level of  $p = .05$  is the probability level at which most researchers will generally accept an effect as being statistically significant (Field, 2009). For the purposes of this study, sample size was calculated using an estimated medium effect size ( $d = .50$ ), a standard error probability of  $p = .05$ , a power level of .70-.80, and the assumption of equal group sizes. G\*Power results determined a targeted estimated sample size of  $n = 128$  (64 in each group), and a minimum of  $n = 102$  (51 in each group) for two-way independent sample t-tests. Upon completion of the study, and after data cleaning, the researcher was able to achieve a sample size of  $n = 114$  (57 in each group): falling short of the targeted estimate, but well clear of the minimum. The design remained powerful enough to discover a medium sized (.50) significant effect, albeit with a slight increase in the probability of type II error.

## **Procedure**

After the respondents had completed the demographic questionnaire (Appendix A) on Qualtrics and had met the qualifications to participate in the study, they needed to first consent to the study (Appendix C). After consenting, participants were granted access to the full study, including the activation video embedded within the study where they viewed the video (<https://www.youtube.com/watch?v=2M0inetghnk>) using traditional non-immersive or immersive technologies. The video was consistent with other recent marketing initiatives leveraging 360-degree video and immersive technologies (IEG, 2016; RBC, 2016; Zaldivar,

2015; AIG, 2015) and further reflected the shift from event-based activation to leveraging sponsorships through online media platforms (Weeks et al., 2008). Considering this study was not a true experimental design, it was impossible to control for all extraneous variables (i.e. viewing environment of the user) and completely isolate the effect of the VR stimulus; however, the video was the same in both groups to better control for additional systematic variation and maintain a consistent level of brand exposure during the experience. Both groups were able to navigate the 360-degree video activation. The traditional non-immersive group was able to maneuver using their mouse and/or keyboard, while the immersive group maneuvered through head movement. Instructions on how to navigate the video were given to both groups prior to being granted access to the video.

The activation used was a 4K Red Bull experiential marketing activation created for 360-degree video use and it was accessible in all forms of new media, including virtual reality. The video takes the viewer on a ride at Circuit Zandvoort with Red Bull Formula 1 driver Max Verstappen. It begins with the viewer focused on the Red Bull garage where the crew prepares the car ahead of the race. Red Bull branding is easily visible in the garage and on the front of the driver's jacket and helmet. The video then transitions to the point-of-view (POV) of the driver as he exits the garage and begins the lap. At this point, the Red Bull logo is again clearly visible on the front of the car. Further, additional graphics are introduced and prominently displayed in the forward view such as kilometres per hour (KPH), race time, and brake pressure. The video progresses as the driver continues his lap around the track, and then concludes as he finishes his lap. The total length of the video is one minute 54 seconds long.

Upon completion of the video, participants were given immediate access to a questionnaire (Appendix B) that sought to evaluate their emotional and attitudinal responses



toward the sponsor brand and experience. The entire process was estimated to take approximately ten minutes, and yet, both groups were given 20 minutes to complete the survey to ensure participants did not feel rushed.

### **Data Collection**

Congruent with a positivist paradigm, this study utilized online surveys to assess the degree to which “individual items represent the construct being measured, and cover the full range of the construct” (Field, 2009, p. 12). A survey is a “system for collecting information to describe, compare, or explain the knowledge, attitudes, and/or behaviors of a particular group” (Fogli & Herkenhoff, 2018, p. 3). Researchers often use surveys to reveal vital information by asking people questions about their motivations, plans, feelings, beliefs, and backgrounds (Fogli & Herkenhoff, 2018). Surveys ask respondents for information by presenting a list of questions; in this case, the questions were presented in an online questionnaire developed on and hosted by Qualtrics where responses were also collected and stored upon completion. A demographic questionnaire was first distributed to participants to collect their demographic information. Consequently, this study sought to ask respondents for their self-reported levels of emotions and attitudes. Excluding the demographic questionnaire, the survey consisted of four questions, each comprising multiple items. Three questions comprised of a total of 16 items: ten examining emotional responses and six examining attitudinal responses. Following that, an additional question was posed to respondents asking them if they would like to see more 360-degree content related to their favourite sport. Responses to this final question were analyzed to gauge the general level of interest from sport fans in this type of content. Further, the responses were compared across groups.

Emotions were measured with two subscales: arousal and pleasure. These subscales were adopted from Bigné et al. (2008) who used a ten-item semantic-differential scale examining experiential marketing. The scale was later adopted by Kim and Kaplanidou (2014) and adapted for the on-site sponsorship activation context. Participants were asked to answer a series of questions regarding their feelings toward the experience they had with the activation video based on the subsequent sets of opposite adjectives to evaluate pleasure (Appendix B: items 1-6): angry-content, unhappy-happy, displeased-pleased, sad-joyful, disappointed-delighted, and bored-entertained. The aforementioned items were aggregated to achieve an overarching value for pleasure and then compared across groups. In addition, arousal was assessed using the following four sets of adjectives (Appendix B: items 7-10): depressed-cheerful, calm-enthusiastic, passive-active, indifferent-surprised. Similarly, the items were aggregated to develop an overarching value for arousal. All were measured on a seven-point semantic differential scale.

Likewise, attitudinal metrics such as attitude towards activation and attitude towards brand were measured with three items adapted from studies conducted by Kim and Kaplanidou (2014) and MacKenzie and Lutz (1989). Participants were asked their thoughts on the activation experience based on the following opposite adjectives (Appendix B: items 11-13): bad-good, unpleasant-pleasant, unfavourable-unfavourable. Next, participants were asked how they feel about the sponsor brand displayed in the activation (Red Bull) using the same set of opposite adjectives (Appendix B: items 14-16). Similar to the emotion metrics, the above items were aggregated to achieve overarching values for attitude towards activation and attitude towards brand and then compared across groups.

## **Validity and Reliability**

Kim and Kaplanidou (2014) present the values for CR, AVE, Cronbach's alpha, and item loadings of the scales to be used in this survey. Internal consistency levels are considered acceptable with Cronbach's alpha ratings ranging from .75 to .90 and CR ranging from .76 to .91. AVE values are all above .50. Overall, the scales used in this study have been determined to have an acceptable construct reliability (Kim & Kaplanidou, 2014). In terms of the emotion metrics, the range of the item loadings of the scale are from .63 to .80 for arousal and .66 to .83 for pleasure. Regarding the attitudinal metrics, item loadings of the scale range from .72 to .89 for attitude towards brand, and .78 to .92 for attitude towards activation. This signifies the measures of each construct maintain convergent validity (Kim & Kaplanidou, 2014). Each construct's item loadings are higher than Kline's (2005) recommended value of .60.

Moreover, the validity and reliability of MTurk as a platform has been assessed. Upon examination of the platform's internal and external validity, Berinsky, Huber, and Lenz (2012) found MTurk to be a valid online platform for data collection. Additionally, in an analysis of MTurk's data quality and reliability, the platform has shown to meet or exceed the psychometric standards corresponding with published research (Buhrmester, Kwang, & Gosling, 2011) and is especially reliable for social science experimental data (Paolacci, Chandler, & Ipeirotis, 2010). In contrast, the validity and reliability of the RAP platform has yet to be assessed due to the newness of the platform.

That said, a validity check question was included for both groups of participants. The validity check was used to ensure that the respondents both watched and fully understood the instructions on how to navigate the 360-degree video activation. The question was: what number appears on the back of the driver's helmet? The answer to this question could only be found if

the participant successfully followed instructions and shifted their view downward after the driver began the race. Only responses that correctly answered the validity check question were recorded.

### **Pilot Study**

Prior to commencing data collection, the researcher conducted a pilot test intended to evaluate the procedural components of the study's methods (e.g., content delivery, user accessibility, clarity of instructions). Pilot tests are smaller studies that test research protocols and data collection instruments, as well as other research methods, to prepare for a larger study (Hassan, Schattner, & Mazza, 2006). Pilot tests are vital in identifying potential problem areas and deficiencies in the research methods prior to the full study, and the tests aid researchers in achieving familiarity with procedures (Hassan, Schattner, & Mazza, 2006). The pilot test in this study followed the procedure outlined above with 12 participants rather than the targeted 128 participants in the full study. Since the data collection instruments and measures are well established, the most critical component was to ensure that all respondents understood the instructions on how to view and operate the 360-degree video activation through the analysis of the validity check responses.

The results of the pilot study suggested that MTurk participants had issues navigating the 360-degree video content. Although each immersive participant from the RAP platform correctly answered the validity check question, 50 percent of respondents from MTurk using non-immersive media failed to answer, implying that they either did not read or understand the instructions. To remedy this prior to the full study, the researcher made the navigation instructions more prominent and clearly explained before giving access to the video, including the use of larger bolded text to attract the attention of non-immersive respondents. The remedy

was successful and led to a reduction in the number of failed validity check responses in the non-immersive group, bringing the failure rate from 50 percent to under ten percent, and no other concerns were identified. Regarding the data itself, the mean scores and standard deviations were assessed, but no issues of note were found that would suggest respondents were inconsistent in how they understood the concepts.

### **Data Analysis**

Data analysis was conducted using SPSS utilizing independent sample t-tests. T-tests are often used to test whether there is a difference between two group means (Field, 2009). This study sought to compare both traditional non-immersive and immersive group means across the following four metrics: pleasure, arousal, attitude towards brand, and attitude towards activation. Further, since the hypotheses presented ( $H_1$ - $H_4$ ) are considered non-directional (i.e., investigating an increase or decrease in immersive group mean compared to the non-immersive viewing group), the researcher conducted two-tailed tests: a statistical model that tests a non-directional hypothesis (Field, 2009).

Specifically, an independent sample t-test is employed when there are two conditions and different participants are assigned to each condition. For example, two samples of data were collected and the sample means were then calculated across each metric. These means could have differed by a little or a lot; however, because the samples were from the same population (sport fans), it was expected the means will be roughly equal (Field, 2009). Field (2009) explains that it is possible for their means to differ purely by chance, but it is expected that significant differences between sample means occur very infrequently. According to the null hypothesis ( $H_0$ ), it is assumed that the manipulation would have no effect on participants; thus, it was expected that the sample means would be very similar (Field, 2009). To compare, the alternative

hypotheses (H<sub>1</sub>-H<sub>4</sub>) assumed that the type of viewing (immersive versus non-immersive viewing) would have an effect on participants; thus, it was expected that the sample means would be different when rating these two different types of viewing (Field, 2009).

Independent sample t-tests are parametric tests with the assumptions of normality, homogeneity of variances, equal group sizes, and independence of observation (Field, 2009). The process of conducting the test involved testing the aforementioned assumptions and comparing the differences between sample means that are collected to the differences between the sample means that we would expect to obtain if there is no effect (i.e. if H<sub>0</sub> were true) (Field, 2009). Further, the standard error (SE) is used as a measure of variability between the sample means. The smaller the SE, the more we expect samples to have more similar means; compared to a larger SE where large differences in sample means are more likely (Field, 2009). When the difference between samples is larger than expected based on the SE, we can assume one of two things. First, there is either no effect and sample means in the population fluctuate considerably and that they are unusual of the population represented. Or second, the two samples come from different populations yet are typical of their parent population (Field, 2009). In the latter scenario, the difference between samples depicts a legitimate difference between the samples, therefore, the null hypothesis is rejected. Additionally, when the observed difference between sample means becomes more substantial, it becomes more likely that the null hypothesis should be rejected (i.e., there is in an existing effect due to the manipulation imposed) (Field, 2009).

### **Methodological Conclusion**

The methods used in this study as outlined above, were designed to achieve the goals of this research and fulfill a gap in existing literature. A positivist, quantitative methodology was utilized to investigate the following two central research questions: (RQ<sub>1</sub>) Do virtual reality

activation experiences influence emotions? (RQ<sub>2</sub>) Do virtual reality activation experiences influence attitudes? A survey design methodology was used to assess sponsorship effects. Online surveys were distributed on two separate platforms, MTurk and RAP, to expose two different groups of participants to one of two video experiences. This researcher applied a purposive sampling method and achieved a sample of 114 participants. Self-identifying sport fans were recruited for their expertise in this domain. Data collection involved the completion of quantitative surveys that measured self-reported levels of emotion as well as participant attitudes toward the activation and brand displayed. Data analysis included the testing of the researcher's hypotheses (H<sub>1</sub>-H<sub>4</sub>) using two-tail independent sample t-tests to determine any significant differences in group means across conditions. The resultant findings contribute valuable information to sport sponsors and sport organizations which can be applied to strategic initiatives, such as a firm's sponsorship-linked marketing strategy.

## Chapter Four: Results

To reiterate, this study sought to examine whether virtual reality activation experiences influence consumer emotions and attitudes. In this section, the findings of the study are introduced; most notably, the four independent sample t-tests employed to compare scores of arousal, pleasure,  $A_{ad}$ , and  $A_{brand}$  between immersive and non-immersive groups. First, profiles of both groups of respondents are presented, followed by a discussion of the assumptions of the tests utilized, the results of the tests, and whether or not the hypotheses of the study were supported.

### Respondents Profile

Table 1 provides the demographic profile of the traditional (two-dimensional video) sample group. Of note, participants from the traditional non-immersive group were skewed to males in terms of sex (71.9% male). The average age of respondents was 35 years ( $SD = 11.26$ ), with a median age of 33 years and a range of 19-64 years of age. The majority of participants identified as college/university graduates (57.9%), followed by those with some college/university education (17.5%), advanced degree holders (15.8%), and high school graduates (8.8%). All respondents self-identified as sport fans, with the majority of respondents from the traditional cohort indicating that they had at least some Formula 1 knowledge (63.2%). The majority, however, did not consider themselves to be Formula 1 fans (59.6%). Further, almost all respondents were already aware of the Red Bull brand (98.2%), and most respondents possessed positive views toward the Red Bull brand (64.9%), followed by (29.8%) indifferent, and lastly (5.3%) negative. Amongst those viewing the activation video using traditional media, the majority viewed the content using a laptop or desktop device (80.7%) compared to mobile or tablet (19.3%).



**Table 1***Respondents profile – traditional group n =57*

	<i>n</i>	Percentage	
<b>Sex</b>			
Male	41	71.9	
Female	16	28.1	
<b>Education</b>			
High school graduate	5	8.8	
Some college/university	10	17.5	
College/university graduate	33	57.9	
Advanced degree holder (Masters/PhD)	9	15.8	
<b>Formula 1 knowledge</b>			
Yes	36	63.2	
No	21	36.8	
<b>Formula 1 fandom</b>			
Yes	23	40.4	
No	34	59.6	
<b>Red Bull awareness</b>			
Yes	56	98.2	
No	1	1.8	
<b>Red Bull image</b>			
Positive	37	64.9	
Negative	3	5.3	
Indifferent	17	29.8	
<b>Media device</b>			
Laptop/Desktop	46	80.7	
Mobile/Tablet	11	19.3	
	Mean (SD)	Median	Range
Age	35.3 (11.26)	33	19-64

Table 2 showcases the demographic profile of the immersive sample group. Participants in this group were again skewed to males in terms of sex (77.2% male). The average age of respondents was 27 years ( $SD = 8.64$ ), with a median age of 25 years and a range of 18-58 years of age. As compared to the traditional viewing group, more participants in the immersive sample were college/university graduates (36.8%), followed by those with some college/university education (35.1%), high school graduates (22.8%), and lastly, advanced degree holders (5.3%). Again, all respondents self-identified as sport fans; the majority had at least some Formula 1 knowledge (56.1%), however most did not consider themselves to be Formula 1 fans (66.7%). Moreover, all respondents in the immersive group were aware of the Red Bull brand (100%), and most respondents possessed positive views toward the Red Bull brand (73.7%), followed by (26.3%) indifferent. None possessed negative views toward the Red Bull brand (0%). Amongst those viewing the activation video using immersive media (VR HMD), the majority viewed the content using an Oculus Quest headset (87.7%), followed by Oculus Rift (10.5%), and Valve Index (1.8%). In summary, for the most part, both groups of participants appeared to be similar in terms of their characteristics, such as their view of the Red Bull brand, Formula 1 knowledge, Formula 1 fandom, and sex. That said, with no serious discrepancies between the groups, there was no need for further analyses of these characteristics regarding their impact on the results.

**Table 2***Respondents profile – immersive group n =57*

	<i>n</i>	Percentage	
<b>Sex</b>			
Male	44	77.2	
Female	13	22.8	
<b>Education</b>			
High school graduate	13	22.8	
Some college/university	20	35.1	
College/university graduate	21	36.8	
Advanced degree holder (Masters/PhD)	3	5.3	
<b>Formula 1 knowledge</b>			
Yes	32	56.1	
No	25	43.9	
<b>Formula 1 fandom</b>			
Yes	19	33.3	
No	38	66.7	
<b>Red Bull awareness</b>			
Yes	57	100	
No	0	0	
<b>Red Bull image</b>			
Positive	42	73.7	
Negative	0	0	
Indifferent	15	26.3	
<b>VR HMD device</b>			
Oculus Quest 1/2	50	87.7	
Oculus Rift	6	10.5	
Valve Index	1	1.8	
	<b>Mean (SD)</b>	<b>Median</b>	<b>Range</b>
Age	27.4 (8.64)	25	18-58

### Independent Sample T-Tests

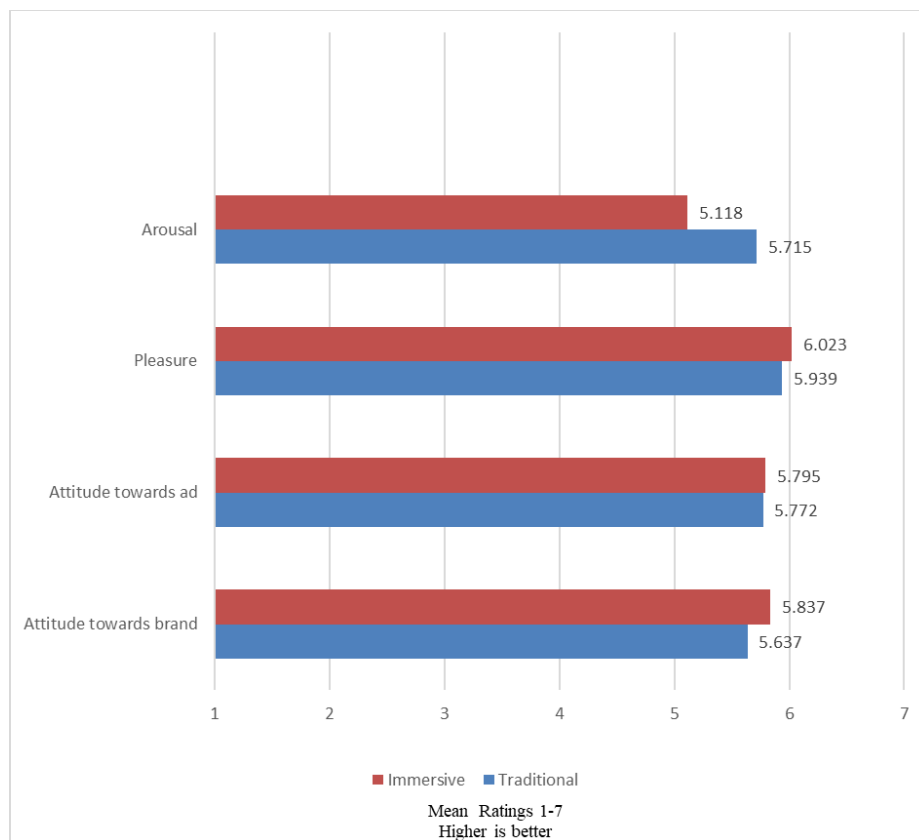
In exploring the data further, a series of two-independent sample t-tests were first conducted in order to test the researcher's alternative hypotheses ( $H_1$ - $H_4$ ). The results of these tests are presented in Table 3, and metric mean scores are further displayed in Figure 1. In conducting these tests, the primary goal was to determine the existence of, if any, potential significant differences between non-immersive and immersive groups across aggregated levels of arousal, pleasure, attitudes towards the activation, and attitudes toward the brand. Effect sizes are objective and often standardized measures of the magnitude of an observed effect (Field, 2009), and the estimates based on the analyses conducted are presented in Table 4 as Cohen's *d*. Further, t-test assumptions of independent observations and equal group sizes are met ( $n = 57$ ).

**Table 3**

*Two-way independent sample t-test results*

	Traditional		Immersive		<i>t</i> (112)	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
<b>Arousal</b>	5.715	.719	5.118	1.198	-3.223	.002	-.604
<b>Pleasure</b>	5.898	.751	6.042	.640	.656	.513	.123
<b>Aad</b>	5.772	.756	5.795	.884	.151	.880	.028
<b>Abrand</b>	5.637	1.008	5.837	.845	1.142	.256	.214

*Note.* Aad represents attitude towards the sponsorship activation video, while Abrand represents attitude towards the sponsor brand. Mean parameter values for each of the analyses are shown for the traditional non-immersive group ( $n = 57$ ) and immersive group ( $n = 57$ ), as well as the results of t tests, assuming equal variance (with the exception of Arousal) comparing the parameter estimates between the two groups.

**Figure 1***Emotion and attitude score group means***Table 4***Independent samples effect size estimates*

	Standardizer	Point Estimate	95% Confidence Interval of the Difference	
			Lower	Upper
<b>Arousal</b>	.98795	-.604	-.227	-.978
<b>Pleasure</b>	.69009	.123	.490	-.245
<b>Aad</b>	.82240	.028	.395	-.339
<b>Abrand</b>	.93051	.214	.582	-.155

*Note.* Effect sizes are based on Cohen's *d*.

**Hypothesis 1:** Virtual reality experiences will impact user ratings of arousal in sponsorship activation.

First, the assumption of normality was tested. According to Field (2009), a Kolmogorov-Smirnov (KS) test is used to test this assumption by comparing scores in the sample to a normally distributed set of scores with the same standard deviation and mean. If the test is non-significant ( $p > .05$ ), it is likely that the distribution of the sample is normal. In this case, the KS test determined  $D(57) = .086, p > .05$  for non-immersive participant arousal ratings, and  $D(57) = .084, p > .05$  for immersive participant arousal ratings, indicating that both samples were normally distributed. As a result, the null hypothesis was accepted, and the assumption of normality was met. Next, the assumption of homogeneity of variance was tested. To test this assumption, a Levene's test for equality of variances was utilized. Field (2009) explains that a Levene's test is "conducted on the deviation scores; that is, the absolute difference between each score and the mean of the group from which it came", and that it "tests the null hypothesis that the variances in different groups are equal (i.e. the difference between the variances is zero)" (Field, 2009, p. 150). According to Levene's test, the present study's results yielded,  $t(112) = 10.386, p(.002) < .05$ , therefore the null hypothesis was rejected and equal variances could not be assumed. Owing to this violated assumption, a  $t$  statistic not assuming homogeneity of variance was computed. Independent sample  $t$ -test results showed that immersive participant arousal ratings ( $M = 5.118; SD = 1.198$ ) compared to traditional non-immersive participant arousal ratings ( $M = 5.715; SD = .719$ ) were significantly lower,  $t(112) = -3.223, p = .002; d = -.604$ . Since  $p(.002) < .01$ , the null hypothesis was rejected and H1 was supported. The effect size for this analysis ( $d = .604$ ) exceeded Cohen's convention for a medium effect ( $d = .50$ ).

Upon completion of the tests for normality and variance, further analyses and comparisons between groups were conducted to determine any significant differences in group mean scores between individual arousal question items. KS tests were conducted and found violations of the assumption of normality across each of the four items. In cases of normality violations that cannot be remedied, there exists non-parametric alternatives that are mostly assumption-free. One of these alternatives, the Mann-Whitney U test, is considered to be the non-parametric equivalent of independent t-tests (Field, 2009). The researcher conducted Mann-Whitney U tests for each question item and results are displayed in Table 5. Tests indicated that item nine ratings (passive-active) were significantly greater for participants in the traditional group ( $M = 5.947$ ) than for the immersive group ( $M = 4.772$ ),  $U = 996.5$ ,  $p(.000) < .01$ . Further, a Mann-Whitney test indicated that item ten ratings (indifferent-surprised) were significantly greater for participants in the traditional non-immersive group ( $M = 5.351$ ) than for the immersive group ( $M = 4.702$ ),  $U = 1273.5$ ,  $p(.042) < .05$ .

**Table 5**

*Independent samples Mann-Whitney U test results – arousal question items*

Question Item	Null Hypothesis	Sig.	Decision
Q. 7 depressed-cheerful	The distribution of Q. 7 is the same across categories of Group.	.910	Retain the null hypothesis.
Q. 8 calm-enthusiastic	The distribution of Q. 8 is the same across categories of Group.	.209	Retain the null hypothesis.
Q. 9 passive-active	The distribution of Q. 9 is the same across categories of Group.	.000	Reject the null hypothesis.
Q. 10 indifferent-surprised	The distribution of Q. 10 is the same across categories of Group.	.042	Reject the null hypothesis.

**Hypothesis 2:** Virtual reality experiences will impact user ratings of pleasure in sponsorship activation.

As with H<sub>1</sub>, analysis for H<sub>2</sub> began with a KS test, conducted to test the assumption of normality. Traditional non-immersive participant pleasure ratings yielded a score of  $D(57) = .200, p > .05$ , and  $D(57) = .184, p > .05$  for immersive participant pleasure ratings were both normally distributed. As such, the null hypotheses were accepted. Therefore, the assumption of normality was met. Next, the assumption of homogeneity of variance was tested. According to Levene's test for equality of variances, the findings here yielded,  $t(112) = .370, p(.545) > .05$ , therefore the null hypothesis was accepted and equal variances were assumed.

Upon completion of these initial tests, independent sample t-tests were again run to assess users' pleasure. Results showed that immersive participant pleasure ratings ( $M = 6.042; SD = .640$ ) compared to traditional non-immersive participant pleasure ratings ( $M = 5.898; SD = .751$ ) were not statistically different,  $t(112) = .656, p = .513; d = .123$ . Since  $p(.513) > .05$ , the null hypothesis was accepted and H<sub>2</sub> was not supported.

**Hypothesis 3:** Virtual reality experiences will influence participant attitudes towards sponsorship activation.

Again, analysis of H<sub>3</sub> began with a KS test. Results of the test indicated a  $D(57) = .085, p > .05$  for traditional participant A<sub>ad</sub> ratings, and  $D(57) = .164, p > .05$  for immersive participant A<sub>ad</sub> ratings, suggesting that both were normally distributed. As such, the null hypotheses were accepted and the assumption of normality was met. Next, the assumption of homogeneity of variance was tested according to Levene's test for equality of variances; the findings of this test [ $t(112) = 1.154, p(.285) > .05$ ] meant that the null hypothesis was accepted and equal variances



were assumed. Independent sample t-test results then showed that immersive participant  $A_{ad}$  ratings ( $M = 5.795$ ;  $SD = .884$ ) compared to traditional non-immersive participant  $A_{ad}$  ratings ( $M = 5.772$ ;  $SD = .756$ ) were not statistically different,  $t(112) = .151$ ,  $p = .880$ ;  $d = .028$ . Since  $p(.880) > .05$ , the null hypothesis was accepted and  $H_3$  was not supported.

**Hypothesis 4:** Virtual reality experiences will influence participant attitudes towards the brand.

Finally, in testing the fourth hypothesis, a KS test was again conducted to test the assumption of normality. The resultant findings indicated a  $D(57) = .095$ ,  $p > .05$  for traditional participant  $A_{brand}$  ratings, and  $D(57) = .091$ ,  $p > .05$  for immersive participant  $A_{brand}$  ratings were both normally distributed. As such, the null hypothesis was accepted. and the assumption of normality was met. Next, the assumption of homogeneity of variance was tested following Levene's test for equality of variances and yielded,  $t(112) = 1.990$ ,  $p(.161) > .05$ ; the null hypothesis was therefore accepted and equal variances were assumed. Independent sample t-test results showed that immersive participant  $A_{brand}$  ratings ( $M = 5.837$ ;  $SD = .845$ ) compared to traditional non-immersive participant  $A_{brand}$  ratings ( $M = 5.637$ ;  $SD = 1.008$ ) were not statistically different,  $t(112) = 1.142$ ,  $p = .256$ ;  $d = .214$ . Since  $p(.256) > .05$ , the null hypothesis was accepted and  $H_4$  was not supported.

### **Content Interest**

As well as exploring users' responses across the four central hypotheses test, participants were asked whether they were interested in seeing more 360-degree content related to their favourite sport. Respondents in the traditional non-immersive group overwhelmingly stated that they would like to see more (93%), while few were indifferent (3.5%) or did not want to view more of this content (3.5%). The immersive group also overwhelmingly declared they would like

to see more (94.7%), and few were indifferent (5.3%) while no respondents did not want to see more 360-degree content. Given the significant interest professed by respondents across both samples, no notable variance or differences were uncovered according to the samples' demographics or participant make-ups. Rather, the interest in 360-video activations espoused by respondents was consistent between sexes and across age groups.

## Chapter Five: Discussion

The goal of this study was to serve as a basis of valuation of virtual reality as a mode of communication for sport marketers and sponsors. There have been no studies to this point that have investigated how virtual reality could be effectively utilized as a form of activation for sport sponsors. Consequently, research regarding the concept of presence as it relates to sport sponsorship, and its potential to be an activational component and achieve sponsor objectives, has been non-existent to this point. As one of the first to examine 360-degree video and virtual reality technology in a sport marketing environment, this study is the first to examine virtual reality in a sponsorship activation context. In so doing, this study investigated if virtual reality activation experiences influence consumer emotions and attitudes.

In addition, this study sought to address an important gap in the existing literature through examining a largely underexplored area: sponsorship activation. Ballouli et al. (2018) have noted that research on the leveraging and activation of sponsorship is one that remains in its infancy in sport marketing literature. Likewise, there has been a significant lack of research regarding sponsorship investment into events outside of the obtained rights to sponsor (Nickell, et al., 2011). In the past, Cornwell and Maignan (1998) have observed an abundance of field studies that yield unreliable results due to factors such as a lack of control for extraneous variables like competing activations, promotional material, and signage. However, this study attempted to address this issue by enabling respondents to interact with the activation content from their own homes. This coincides with the transition from event-based activation to leveraging sponsorships through online media platforms (Weeks et al., 2008) and a significant amount of sport being consumed by audiences through mobile phones, laptops, tablets, and other media devices (Hutchins & Mikosza, 2010).

Until this point, Kim and Kaplanidou (2014) was the only example of researchers examining the determinants of attitudes towards sponsorship activations. In addition, a lack of research regarding the mode of communication that sponsors choose to employ to communicate their partnership and meet their objectives has been identified. Instead, most of the literature concentrates on the content of the advertisement, consumer characteristics, and information processes (Yim et al., 2011). While VR remains a largely unexplored platform in sport marketing research, it is particularly compelling in that it immerses the user in a virtual environment and evokes the sensation of presence (Cummings & Bailenson, 2016; Steuer, 1992). These unique capabilities could possibly provide consumers with unique and memorable experiences that elicit positive emotional responses, making this platform a natural fit as an experiential marketing tool. Such a tool may prove valuable to sport marketers looking to capitalize on the shift in sponsorship activation design to an experiential approach (Gillooly et al., 2017) through creating virtual experiences that otherwise would only be accessible by attendants at sporting events. This study thus investigated if the mode of communication used to experience a sponsorship activation, whether immersive or non-immersive media, affected consumer emotions and attitudes.

In light of these limitations within the extant literatures on sponsorship and virtual reality, this research sought to answer two central research questions which guided the study's methods and findings. A discussion of the study's findings, and their significance in situating virtual reality within sponsorship activation practices and viability, is presented below.

***Research Question 1: Do virtual reality activation experiences influence emotions?***

The first question the researcher set out to examine was if virtual reality activation experiences influence consumer emotions. Self-reported measures adopted from Kim and

Kaplanidou (2014) were utilized to denote the emotional state of respondents in accordance to Russel and Pratt's (1980) pleasure-arousal framework. To begin, sport fans' aggregated scores of arousal were analyzed between groups. The first hypothesis that was investigated was that virtual reality experiences would impact respondents' ratings of arousal in sponsorship activation ( $H_1$ ). Results of an independent sample t-test supported this hypothesis, indicating that arousal levels were significantly lower for virtual reality users when compared to traditional media users while viewing the same 360-degree video sport sponsorship activation. Significantly lower arousal ratings in the immersive group compared to the traditional non-immersive was perhaps unexpected, and was therefore further investigated. Post-hoc Mann-Whitney U tests were employed to locate the specific significant differences in the arousal question item scores. No significant differences were discovered between group scores in item seven (depressed-cheerful) and item eight (calm-enthusiastic), thus suggesting that sport fans' levels of cheerfulness and enthusiasm were the same regardless of the media device they used to view the sport sponsorship activation video. However, there were significant differences in the scores of items nine (passive-active) and ten (indifferent-surprised), wherein the immersive group indicated higher levels of passivity and indifference. These findings suggest that respondents viewing the activation video in virtual reality felt less active and surprised compared to those experiencing the activation on a laptop/desktop or mobile/tablet. Familiarity, or a lack thereof, with this type of content may be an underlying factor in these results.

These findings are somewhat surprising considering the existing literature. Most existing research states that virtual environments, such as those experienced in VR, provide users with heightened levels of perceptual and psychological immersion and presence (Grigorovici, 2003). In turn, this heightened sense of immersion and presence has been shown to lead to more intense

emotions (Yim et al., 2011; Visch et al., 2010). Yim et al. (2011), for example, state that presence evokes arousal, and virtual reality as a mode of communication inherently elicits the sensation of presence (Cummings & Bailenson, 2016; Steuer, 1992), including elevated levels of presence as compared to more traditional modes or media (Roettl & Terlutter, 2018). The results of this study appear to contradict these findings with immersive media users feeling equal levels of pleasure, and even less active and surprised compared to non-immersive media users.

Virtual reality has historically been considered to be an inherently more interactive experience (Mazuryk & Gervautz, 1996). That said, recent studies such as Castellanos et al. (2018) noted 360-degree video provides users with the ability to change their point of view, therefore creating a new interactive experience for viewers compared to a fixed point of view in standard video. These results suggest that in the context of sport sponsorship, sport fans believed that interacting with 360-degree activation videos using non-immersive media and changing their view with a keyboard or by shifting their mobile device provided a more interactive experience compared to using virtual reality headsets. It must be noted that, by definition, the activation video used for this study is a passive VR experience (Rousseau & Slater, 2020). Respondents' were immersed within the virtual environment but had no ability to interact with the environment itself other than to shift their gaze. It is possible that results could differ if the activation experience gave users more control over their environment; however, it is rather interesting that all else being equal, users of immersive media perceived the experience to be less active.

In addition, sport fans felt less surprised viewing the 360-degree activation video in virtual reality compared to non-immersive methods. This could be attributed to the fact that the virtual reality respondents were more experienced with 360-degree activation content, similar to what was utilized in this study, compared to non-immersive respondents. Virtual reality

respondents were assumed to be experienced users and participated with their own virtual reality head-mounted displays. It is entirely possible that the non-immersive respondents have never interacted with 360-degree video before, and the entire concept is novel to them. Yim et al. (2011) explained that the novelty effect possesses the power to attract consumers' attention and increase engagement: a possible explanation as to why non-immersive users felt more active and surprised compared to immersive users after having had more control over their content navigation experience than they are acclimated to.

The next hypothesis investigated was that virtual reality experiences would impact respondents' ratings of pleasure in sponsorship activation (H<sub>2</sub>). The results determined that this hypothesis was not supported; pleasure levels did not significantly differ in virtual reality users compared to users of traditional media while viewing the same 360-degree sponsorship activation. This was an especially interesting finding in that although non-immersive users possessed higher levels of self-reported arousal compared to immersive users, it did not appear to influence the levels of pleasure as theorized by much of the existing literature. Arousal is often considered to be an antecedent to pleasure. Zajonc and Markus (1984) for example, claimed that arousal is a fundamental consequence of the formation of emotion, and in turn, influences pleasure. Bigne et al. (2008) proposed that the influence of arousal on pleasure should be positive, assuming the experience is enjoyable. Moreover, Chebat and Michon (2003) have suggested that the influence has the potential to be either positive or negative. In an on-site sponsorship activation context, Kim and Kaplanidou (2014) found that arousal evokes pleasure. However, the findings of this study suggest that there was no influence of arousal on pleasure. While non-immersive media users felt more active and surprised, it did not seemingly translate into a more pleasurable experience compared to virtual reality users. This could be due to the

overall intuitiveness of the VR experience, with VR users able to navigate the video more efficiently and naturally by merely shifting their gaze and more accurately simulating the experience of the driver. However, this needs to be further explored in future studies.

***Research Question 2: Do virtual reality activation experiences influence attitudes?***

The second question that was explored was if virtual reality activation experiences influence attitudes. Attitudinal metrics such as attitude towards the sponsorship activation and attitude towards the brand were measured by items adopted by Kim and Kaplanidou (2014) and MacKenzie and Lutz (1989). These metrics were determined to be the most valuable in evaluating sponsorship, and as a result, have become a central focus to sport marketers and sponsors (IEG, 2018) because of their role as an antecedent to behavior (Nikell et al., 2011). The aggregated scores of sport fans' attitudes were examined and compared between groups. Initially, the hypothesis that was investigated was that virtual reality experiences will influence participant attitudes towards the sponsorship activation (H<sub>3</sub>). The results of this study, however, did not support this hypothesis. Respondents' attitudes toward the sponsorship activation did not differ between groups. Finally, it was hypothesized that virtual reality experiences would influence participant attitudes towards the brand (H<sub>4</sub>). Once again, the results did not support this hypothesis. Sport fans' attitudes toward the brand did not significantly differ between groups.

Considering the previous results regarding sport fans' emotions toward the activation experience, these results are not entirely surprising. Historically, it has been noted that emotions play a crucial role in consumer responses as increasers of brand attitudes (Russel, 2002) and determining attitudes towards advertisements (Olney, Holnbrook, & Batra, 1991; Lutz, 1985). While arousal has previously been found to significantly influence positive consumer attitudes (Lee et al. 2003); more recent research conducted in an on-site sponsorship activation context did



not necessarily support those findings. Most notably, Kim and Kaplanidou (2014) concluded in their study that arousal did not appear to be significant predictor of sponsorship relevant outcomes such as attitudes towards the on-site sponsorship activation and brand; rather, the authors determined that pleasure was the critical factor that elicited positive consumer responses toward the on-site sponsorship activation. This study supports the findings of Kim and Kaplanidou (2014) considering that, despite a significant difference in terms of arousal between immersive and non-immersive groups, the pleasure results did not differ, and therefore, attitudes towards the sponsorship activation and brand were also not affected.

That said, the results are still somewhat surprising in the sense that virtual reality has been considered to inherently evoke the sensation of presence, which has been shown to elicit persuasion in terms of attitudes towards advertisements and brands (Nelson et al., 2006; Grigorovici & Constantin 2004). Perhaps there is an underlying effect on presence that exists in regard to 360-degree video navigation on traditional non-immersive media devices. Very little research exists in terms of investigating how 360-degree video on non-immersive media affects the sensation of presence. However, a recent study conducted by Gold and Windscheid (2020) examined the potential relationship within a classroom setting. The authors found that 360-degree video elicited a higher degree of presence while using a laptop. To reiterate, presence is comprised of interactivity and vividness (Cummings & Bailenson, 2016; Steuer, 1992). It could be that the presence gap that is inherent in virtual reality is minimized by the interactivity offered by 360-degree video in non-immersive media: in 360-degree setting, the user possesses the ability to either navigate the video with mouse and keyboard, or by swiping the screen or moving their mobile device. Another recent study conducted by Yung, Khoo-Lattimore, and Potter (2021) theorized that “the significance of engagement as a presence factor may also explain

findings of non-significant emotional response differences in previous studies comparing VR to traditional media” and that “the differentiator could be the levels of interactivity that different VR platforms offer” (p.168). With 360-degree video offering a higher degree of interactivity to non-immersive media users, perhaps this causes these users to be more engaged and further minimizes the theorized presence gap between the two communication modes. This lends credence to the significant arousal results and the insignificant results in terms of pleasure and attitudes.

Another factor that may have contributed to the non-significant attitude towards the brand results is the popularity of the Red Bull brand itself. All respondents, with the exception of one, were already aware of the Red Bull brand, and a combined 69.3% of respondents declared that they viewed the brand positively, compared to 28.1% who were indifferent, and just 2.6% who viewed the brand negatively. Nickell et al. (2011) have previously stated that sponsorship-linked marketing efforts have been found to influence attitudes, but less so for brands with very strong or very little established attitudes towards the brand. As such, the use of 360-degree video activations as a driver of brand attitude may be less impactful for known or established brands, where sponsorship-linked marketing efforts may yield diminished returns. Rather, such activations may be of greater utility to emerging brands or new entrants seeking to drive brand awareness and attitude through sponsorship activations.

Lastly, in an effort to understand how sport fans perceive 360-degree sponsorship activation content and gauge their general interest towards the content, they were asked if they would be interested in seeing more 360-degree content related to their favourite sport. Respondents in both the immersive and non-immersive groups were in a near consensus with a combined 93.9% of respondents claiming yes, they would be interested in seeing more of this

content related to their favourite sport. Previously, studies such as Rynarzewska (2018) have suggested that sport fans are likely to adopt virtual reality for sport consumption. The results of this study further support those findings as there appears to be a definite willingness from sport fans to adopt virtual reality and encompassing new media such as 360-degree video.

As such, the results presented here provide managers with a potential basis of valuation for virtual reality, and perhaps even 360-degree video, as a communication mode to achieve important relational objectives. While it appears VR may not have inherent benefits in eliciting stronger emotions or attitudes compared to traditional non-immersive media in this context, there is a clear desire from sport fans for VR related content, such as 360-degree video, as an activation component. This is crucial considering over twice the financial investment goes toward sponsorship activation compared to the actual rights fees (IEG, 2018). These results provide sport organizations and sponsors with supporting information to propose the inclusion of VR content as a part of their sponsorship-linked marketing strategy. Although this study was preliminary, it suggests a positive outlook for organizations who are considering the adoption of VR content, such as 360-degree video. That said, it is apparent that sport managers need to be thoughtful in how they incorporate this content as the overall level of interactivity and engagement of the experience are likely to be vital in facilitating those key relational aims (influencing attitudes and emotions).

With 360-degree video activations providing sport fans an increased sense of freedom to explore content how they see fit, such experiential activations allow marketers to “level the playing field” so to speak, and utilize more interactive communications to achieve those key relational aims such as emotional and attitudinal outcomes. Sport marketers should look to leverage 360-degree video in creative ways to meet the desires of consumers. This is critical in a

time where sport is increasingly being consumed by audiences through new media (Hutchins & Mikosza, 2010), and this trend is likely to accelerate during and after the COVID-19 pandemic. It may be advantageous for brands to further invest in 360-degree video activation experiences by integrating new features that make consumers feel more engaged and by constructing a more accessible experience for users of non-immersive media. Further, sport organizations and sponsors that utilize VR and 360-degree video could perhaps instil a perception of innovation, and in turn, garner interest from unfamiliar spaces, meaning markets in which they are not typically accustomed. Dart et al. (2014) have claimed that traditionally, sport organizations have chosen to adopt new technologies for the leverage they provide and the fear that if they did not adopt them, others would. It is reasonable to assume that in time sponsors will embrace and adopt VR and encompassing technologies as activation opportunities, and it is difficult to imagine them becoming the exception.

## Chapter Six: Conclusion

This study sought to advance insights into the potential integration of VR and 360-degree video as part of sport sponsorship-linked marketing strategy. Further, this study is one of the first to examine virtual reality technology in a sport marketing context. In so doing, this study investigated if virtual reality activation experiences influence consumer emotions and attitudes.

The core findings of this study are as follows. First, sport fans viewing the 360-degree activation using traditional non-immersive media (laptop/desktop or mobile/tablet) had higher self-reported measures of arousal compared to those viewing the activation using virtual reality head-mounted displays. Interestingly, no other significant differences were found, and this did not translate into higher levels of pleasure or more positive attitudes towards the activation or brand as suggested by other researchers.

Second, further analysis of the significant arousal effect revealed that although there were no differences between groups in terms of cheerfulness, and enthusiasm; sport fans using non-immersive media felt more active than those using a VR HMD. This could possibly be attributed to the activation being considered a passive virtual reality experience because although the user was immersed in the virtual environment and able to rotate their view, they had no ability to interact with it; compared to traditional media users navigating their view using mouse and keyboard or by rotating their mobile device and perceiving the experience to be more active. The other component identified during the analysis of the significant arousal effect was that traditional non-immersive media users felt more surprised. However, the novelty effect could be a factor in these results since the virtual reality participants were assumed to be experienced users and thus more familiar with 360-degree video content compared to those in the traditional non-immersive group. This familiarity, or lack thereof, with 360-degree video content could also partly

explain why non-immersive users felt more active compared to immersive users, after being granted more control over their content navigation experience than they are perhaps accustomed to.

Third, and perhaps most important, sport fans in both non-immersive and immersive groups overwhelmingly stated that they were in favour of seeing more 360-degree video content related to their favourite sport. This suggests that at the very least there is a significant appetite for 360-degree video activations among sport fans, and sport marketers and sponsors should rise to meet that desire. Sport organizations that produce and incorporate 360-degree video as an activational component and integrate it into their sponsorship-linked marketing strategy would fill a need from immersive and non-immersive media users alike. Further, organizations that employ this new media technology could be viewed as innovative and generate additional interest in unfamiliar spaces: a potentially significant competitive advantage.

Finally, these findings challenge the existing interpretation of the pleasure-arousal framework and the relationships that exist between the two dimensions. There appears to be a near consensus in the literature that arousal influences pleasure in some way, whether positive or negative. In this case, significant differences in arousal had no effect on levels of pleasure. Perhaps bi-dimensional measurements are not enough to denote the internal emotional response in this context and in a comparison between media modes. This could be because of the rapid evolution of technologies, or how users experience these dimensions on different platforms. After all, new media developments have enabled these platforms to incorporate new dimensions themselves, such as presence. That said, this could be something to explore in future studies.

## **Limitations and Future Research Directions**

Although this research presented several contributions to the extant literature, this study possessed some limitations. First, this study was conducted amidst the COVID-19 pandemic, and while the original intention was to employ a true experimental design (conducting the experiment on-site and randomly assigning subjects to both groups), the researcher was forced to adapt and collect data remotely. As a result, this study was unable to completely isolate the effect of the VR treatment and control for all potential random variation that may have existed between groups. However, this may have been beneficial in the sense that this study enabled respondents to participate in the activation from their own homes using their own devices: reflecting the shift in sponsorship activation from event-based audiences to online audiences through websites and other media platforms. Still, the need for more experiments in sponsorship research has been identified in the past (Walliser, 2003), and it is recommended that future researchers should attempt to address this gap to completely isolate the effect of VR.

Moreover, it was assumed that VR evoked the sensation of presence more than the traditional non-immersive media (Roettl & Terlutter, 2018; Cummings & Bailenson, 2016), and therefore, must be more interactive and vivid. However, these results suggest that the interactivity offered by 360-degree video using non-immersive media may narrow the presence gap that has been noted in the extant literature. Future studies should attempt to measure presence directly to further investigate this potential phenomenon. Qualitative interviews may be of use to explore how sport fans perceive this content using both types of media and further understand why they may feel more active and surprised in non-immersive media. The second component to presence may also be worthy of examination in future studies. Vividness refers to the sense of movement in an environment and quality of the images (Cheng et al., 2014). While

this study utilized 4K video, a resolution that is considered exceptional using traditional media, this resolution is often considered the minimum acceptable quality in VR. Future studies should attempt to utilize higher quality resolutions, such as 8K, especially as the technology and content continues to progress.

Another limitation was the sample size of the study. Although the size of the sample was sufficiently large to allow for statistically significant findings of medium-large effect sizes, small effect sizes require a larger sample. Also, a larger group of respondents may generate greater variance. The proportion of male participants was also much higher than female participants which could be a cause of concern in the representativeness of the results. Future studies of this nature should be replicated with a larger more representative sample. In addition, most participants already had prior awareness of and positive views of the Red Bull brand. There may be value in future studies utilizing less popular brands to view the potential influence in participant brand attitudes (Nickell et al., 2011). That said, a noted benefit of this study is that it utilized a genuinely relevant sample of self-identified sport fans of all ages who participated in and/or watched sports. The statistically significant results that surfaced despite the sample size demonstrate their strength and applicability.

Finally, it should be noted that the study results and discussion are found on self-reported data on emotional responses and attitudes. Emotional measures such as arousal may be more susceptible to social desirability bias (SDB) (Hernandez & Minor, 2011), where in this case, respondents may over-report their emotional responses if they suppose that is what the researcher desires. However, in this case, SDB was limited using forced-choice items, randomized (anonymous) responses, and self-administration of the questionnaire (Nederhof, 1985). That said, circumstances prevented the use of more rigorous psychophysiological measures such as facial



expressions examination, electroencephalogram tests (EEG), and heart rate tests (ECG).

Researchers should attempt to employ a compound approach consisting of multiple different measures in future studies to further control for any potential biases.

Indeed, this study possessed some limitations; however, it proved valuable in creating new avenues for research. Future studies should attempt to fully isolate the effect of VR and control for all extraneous variables and random variation between groups by implementing a true experimental design. It would be interesting to see if the results differ or prove the same. In contrast, it may be necessary to observe the effects in an on-site event-based context in a post-pandemic world. Further, this theorized minimization of the presence gap between immersive and non-immersive media through 360-degree video is worth exploring further. Operationalizing and directly testing for presence is something future studies could address as it may be important in understanding the implications of these results. In addition, future studies utilizing qualitative methodologies may prove effective in further understanding why non-immersive participants reported higher ratings of feeling active and surprised. Lastly, future research should employ a more compounded approach in investigating emotional measures, as well as a larger sample to aid in discovery of smaller effects in the data, if any.

### **Managerial Implications**

Despite these acknowledged delimitations, this research presents contributions to managers considering the implementation of new media technologies such as VR. As previously stated, these results showcase an evident desire from sport fans for VR related content, such as 360-degree video, as an activation component. While the use of VR related content in sponsorship activation is still a relatively novel concept, sport marketers and sponsors are always searching for innovative ways to attract the attention of and establish relationships with

consumers. Developing easily accessible and interactive VR related content could be an effective way to achieve those goals and may prove to be worth the investment; especially with activations increasingly shifting from events to online pre-pandemic (Weeks et al., 2008), and the trend likely to accelerate post-pandemic. Content of this nature may prove to be beneficial in implementing experiential marketing initiatives away from event sites by giving fans the ability to partake in experiences that they may not otherwise be able to, and further explore content how they see fit: potentially achieving those important relational aims that marketers so often desire.

With that said, it is recommended that sport marketers apply VR related content in creative ways to meet this appetite from sport fans. 360-degree video may be intended for VR audiences; however, content producers should look to make this content easily accessible and explainable to users regardless of media mode. With interactivity being proposed as a significant factor in influencing attitudes and emotions in sponsorship activation research (Kim & Kaplanidou, 2014), it is recommended that marketers and content producers make these 360-degree video activations as interactive and engaging as possible: potentially prioritizing VR audiences who are more accustomed to the standard 360-degree passive experience. Placing an emphasis on interactivity and engagement during these experiences and allowing users to further manipulate their virtual environments is likely critical in achieving the maximum desired effect. Additionally, organizations that choose to implement these new media technologies may even discover additional image benefits through the development of new perceptions stemming from early adoption. With technology driven innovation becoming the norm across the globe, it seems inevitable that VR and encompassing technologies will be adopted as activation opportunities.

Considering the exponential growth of the VR industry, and how little it has been examined in sponsorship literature to this point, it was important to examine the implications of

this increasingly adopted new media mode in a sponsorship context. The goal of this study was to advance insights into these technologies and how they could be integrated within a sport sponsorship-linked marketing strategy. The focus of this research was the use of 360-degree video and VR as activation components, and if traditional non-immersive and immersive technologies differ in terms of their influence on important sponsor outcomes such as eliciting emotions and influencing attitudes. Using an online survey methodology, this research allowed respondents to utilize their own media devices to view the activation video content from the comfort of their own home: a trend noted by researchers in the field (Weeks et al., 2008). Results of this study provide sport organizations and sponsors with supporting information to propose the inclusion of VR content as a part of their SLM strategy: suggesting a positive outlook for organizations who are considering the adoption of VR content. Overall, this study fulfilled a significant gap within the sponsorship literature and serves as preliminary basis for VR's valuation and potential implementation in a firm's sponsorship-linked marketing strategy.

## References

- Abeza, G., O'Reilly, N., & Seguin, B. (2019). Social Media in Relationship Marketing: The Perspective of Professional Sport Managers in the MLB, NBA, NFL, and NHL. *Communication and Sport*, 7(1), 80–109. <https://doi.org/10.1177/2167479517740343>
- Abratt, R., & Grobler, P. S. (1989). The evaluation of sport sponsorships. *International Journal of Advertising*, 8(4), 351-362. <https://doi.org/10.1080/02650487.1989.11107119>
- Activative. (2017). *Sponsorship activation, partnership leverage, & sports marketing*. <http://www.activative.co.uk/wp-content/uploads/2017/01/Activative-Annual-2016-2017-Interactive1.pdf>
- Adams, R. L. (2016, October 17). *Five ways virtual reality will change the world*. Forbes. <https://www.forbes.com/sites/robertadams/2016/10/17/5-ways-virtual-reality-will-change-the-world/#311e2cc2b018>
- Amis, J., Slack, T., & Berrett, T. (1999). Sport sponsorship as distinctive competence. *European Journal of Marketing*, 33(3/4), 250–272. <https://doi.org/10.1108/03090569910253044>
- Ahmed, M. (2019). *Olympics takes gold with \$3bn Mengniu Dairy-Coca-Cola deal*. Financial Times. <https://www.ft.com/content/11568a4a-95a7-11e9-9573-ee5cbb98ed36>
- AIG. (2015). *AIG Launches World First 360° Haka Experience*. <https://www.aig.co.nz/news/aig-launches-world-first-360-degree-haka-experience>
- Athanasopoulou, P., & Sarli, E. (2015). The development of new sponsorship deals as new business-to-business services. *Journal of Business & Industrial Marketing*, 30(5), 552–561. <https://doi.org/10.1108/JBIM-08-2012-0127>

- Ballouli, K., Koesters, T. C., & Hall, T. (2018). Leverage and Activation of Sport Sponsorship through Music Festivals. *Event Management*, 22(2), 123.  
<https://doi.org/10.3727/152599518x15173355843299>
- Bennett, R. (1999). Sports sponsorship, spectator recall and false consensus. *European journal of marketing: EJM*, 33(3-4), 291-313.
- Berinsky, A. J., Huber, G. A., & Lenz, G. S. (2012). Evaluating online labor markets for experimental research: Amazon.com's Mechanical Turk. *Political Analysis*, 20(1), 351–568. <https://doi.org/10.1093/pan/mpr057>
- Bigné, J. E., Mattila, A. S. and Andreu, L. (2008). The impact of experiential consumption cognitions and emotions on behavioural intentions. *Journal of Services Marketing*, 22(4), 303–315. <https://doi.org/10.1108/08876040810881704>
- Biocca, F. (1992). Communication within virtual reality: creating space for research. *Journal of Communication*, 42(4), 5-22.
- Boeuf, B., Carrillat, F., & D'astous, A. (2018). Interference effects in competitive sponsorship clutter. *Psychology & Marketing*, 35(12), 968–979. <https://doi.org/10.1002/mar.21149>
- Brockington, L. (2003). SoBe's Deal Nabs Summer, Winter Games. *Street and Smith's Sports Business Journal*, 6(2), 6.
- Brown, B., Bennett, G., & Ballouli, K. (2016). Examining the effects of advertisement setting and actor race on African Americans' intentions to consume baseball. *Sport Marketing Quarterly*, 25(3), 139–151.
- Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data. *Perspectives on Psychological Science*, 6(1), 3–5.  
<https://doi.org/10.1177/1745691610393980>

- Castellanos, M. C., Ausin, J. M., Guixeres, J., & Bigné, E. (2018). Emotion in a 360-degree vs. traditional format through EDA, EEG and facial expressions. *Advances in Advertising Research*, 9(5), 3–15. [https://doi.org/10.1007/978-3-658-22681-7\\_1](https://doi.org/10.1007/978-3-658-22681-7_1)
- Chae, I., Bruno, H., & Feinberg, F. (2019). Wearout or Weariness? Measuring Potential Negative Consequences of Online Ad Volume and Placement on Website Visits. *Journal of Marketing Research*, 56(1), 57–75. <https://doi.org/10.1177/0022243718820587>
- Chang, C. (2017). Methodological Issues in Advertising Research: Current Status, Shifts, and Trends. *Journal of Advertising*, 46(1), 2–20. <https://doi.org/10.1080/00913367.2016.1274924>
- Chebat, J. C., & Michon, R. (2003). Impact of ambient odors on mall shoppers' emotions, cognition, and spending: a test of competitive causal theories. *Journal of Business Research*, 56(7), 529–539. [https://doi.org/10.1016/S0148-2963\(01\)00247-8](https://doi.org/10.1016/S0148-2963(01)00247-8)
- Cheng, L., Chieng, M., and Chieng, W. (2014). Measuring virtual experience in a three-dimensional virtual reality interactive simulator environment: A structural equation modeling approach. *Virtual Reality*, 18(3), 173-188. <https://doi.org/10.1007/s10055-014-0244-2>
- Choi, J. (2008). Coca-Cola China's Virtual Olympic Torch Relay programme at the 2008 Beijing Olympic Games: adding interactivity to a traditional offline Olympic activation. *International Journal Of Sports Marketing & Sponsorship*, 9(4), 246–255. <https://doi.org/10.1108/IJSMS-09-04-2008-B004>
- Christensen, S. R. (2006). Measuring Consumer Reactions to Sponsoring Partnerships Based upon Emotional and Attitudinal Responses. *International Journal of Market Research*, 48(1), 61–80. <https://doi.org/10.1177/147078530604800105>

- Close, A. G. & Lacey, R. (2014). How the anticipation can be as great as the experience: explaining event sponsorship exhibit outcomes via affective forecasting. *Journal of Current Issues & Research in Advertising*, 35(2), 209-224.  
<https://doi.org/10.1080/10641734.2014.900294>
- Close, A., Finney, R. Z., Lacey, R. & Sneath, J. (2006). Engaging the consumer through event marketing: linking attendees with the sponsor, community, and brand. *Journal of Advertising Research*, 46(4), 420–433. <https://doi.org/10.2501/S0021849906060430>
- Cornwell, T. B. (2008). State of the Art and Science in Sponsorship-Linked Marketing. *Journal of Advertising*, 37(3), 41–55. <https://doi.org/10.2753/JOA0091-3367370304>
- Cornwell, T. B. (1995). Sponsorship-Linked Marketing Development. *Sport Marketing Quarterly*, 4(4), 13–24.
- Cornwell, T. B., & Maignan, I. (1998). An International Review of Sponsorship Research. *Journal of Advertising*, 27(1), 1–21.
- Cornwell, T. B., Roy, D. P., & Steinar II, E. A. (2001). Exploring Managers' Perceptions of the Impact of Sponsorship on Brand Equity. *Journal of Advertising*, 30(2), 41–51.  
<https://doi.org/10.1080/00913367.2001.10673636>
- Cornwell, T. B., Weeks, C., & Roy, D. (2005). Sponsorship-Linked Marketing: Opening The Black Box. *Journal of Advertising*, 34(2), 21–42.  
<https://doi.org/10.1080/00913367.2005.10639194>
- Cornwell, T., & Kwon, Y. (2020). Sponsorship-linked marketing: research surpluses and shortages. *Journal of the Academy of Marketing Science*, 48(4), 1–23.  
<https://doi.org/10.1007/s11747-019-00654-w>

- Costa, C. (2005). The status and future of sport management: A Delphi Study. *Journal of Sport Management, 19*(2), 117-142. <https://doi.org/10.1123/jsm.19.2.117>
- Crimmins, J., & Horn, M. (1996). Sponsorship: From management ego trip to marketing success. *Journal of Advertising Research, 36*(4), 11–21.
- Crowther, P. (2010). Strategic application of events. *International Journal of Hospitality Management, 29*(2), 227–235. <https://doi.org/10.1016/j.ijhm.2009.10.014>
- Cummings, J., & Bailenson, J. (2016). How Immersive Is Enough? A Meta-Analysis of the Effect of Immersive Technology on User Presence. *Media Psychology, 19*(2), 272–309. <https://doi.org/10.1080/15213269.2015.1015740>
- Cuneen, J., & Hannan, M. (1993). Intermediate Measures and Recognition Testing of Sponsorship Advertising at an LPGA Tournament. *Sport Marketing Quarterly, 2*(1), 47-56.
- Dart, J., Leonard, D., & Cole, C. (2014). New Media, Professional Sport and Political Economy. *Journal of Sport & Social Issues, 38*(6), 528–547. <https://doi.org/10.1177/0193723512467356>
- Daugherty, T., Li, H., & Biocca, F. (2005). Experiential Ecommerce: A Summary of Research Investigating the Impact of Virtual Experience on Consumer Learning. *Online Consumer Psychology: Understanding and Influencing Consumer Behavior in the Virtual World, 428-459*. <https://doi.org/10.4324/9781410612694>
- Davidson, R. J. (2004). What Does the Prefrontal Cortex 'Do' in Affect: Perspectives on Frontal EEG Asymmetry Research. *Biological Psychology, 67*(1), 219-33. <https://doi.org/10.1016/j.biopsycho.2004.03.008>



- Dees, W. (2011). New media and technology use in corporate sport sponsorship: performing activation leverage from an exchange perspective. *International Journal of Sport Management and Marketing*, 10(3/4), 272–285.  
<https://doi.org/10.1504/IJSMM.2011.044795>
- Dolphin, R. (2003). Sponsorship: Perspectives on its Strategic Role. *Corporate Communications*, 8(3), 173-186. <https://doi.org/10.1108/13563280310487630>
- Dreisbach, J., Woisetschlager, D. M., Backhaus, C., & Cornwell, T. B. (2018). The role of fan benefits in shaping responses to sponsorship activation. *Journal of Business Research*, 124, <https://doi.org/10.1016/j.jbusres.2018.11.041>
- Eisner, S. P. (2005). Managing generation Y. *SAM Advanced Management Journal*, 70(4), 4.
- Eventbrite. (2014). *Millennials: Fueling the experience economy*. [http://eventbrite-s3.s3.amazonaws.com/marketing/Millennials\\_Research/Gen\\_PR\\_Final.pdf](http://eventbrite-s3.s3.amazonaws.com/marketing/Millennials_Research/Gen_PR_Final.pdf)
- Farrelly, F., & Quester, P. (2005). Investigating large-scale sponsorship relationships as co-marketing alliances. *Business Horizons*. 48(1), 55-62.  
<https://doi.org/10.1016/j.bushor.2004.10.003>
- Ferrand, A., Chappelet, J., & Séguin, B. (2012). *Olympic marketing*. Routledge, London.
- Field, A. (2009). *Discovering statistics using IBM SPSS statistics* (3rd edition, North American edition.). Los Angeles, California: Sage Publications Inc.
- Fogli, J., & Herkenhoff, L. (2018). *Conducting survey research : a practical guide* (First edition.). Business Expert Press.
- Fry, R. (2020, April 28). *Millennials overtake Baby Boomers as America's largest generation*. Pew Research Center. <https://www.pewresearch.org/fact-tank/2020/04/28/millennials-overtake-baby-boomers-as-americas-largest-generation/>

- Gardner, M., & Shuman, P. (1988). Sponsorships and small businesses. *Journal of Small Business Management*, 26(4), 44.
- Gillooly, L., Anagnostopoulos, C., & Chadwick, S. (2017). Social media-based sponsorship activation – a typology of content. *Sport, Business and Management*, 7(3), 293–314.  
<https://doi.org/10.1108/SBM-04-2016-0016>
- Gillooly, L., Crowther, P., & Medway, D. (2017). Experiential sponsorship activation at a sports mega-event: the case of Cisco at London 2012. *Sport, Business and Management*, 7(4), 404–425. <https://doi.org/10.1108/SBM-04-2016-0015>
- Gilmore, J., & Pine, B. (2002). Customer experience places: the new offering frontier. *Strategy & Leadership*, 30(4), 4–11. <https://doi.org/10.1108/10878570210435306>
- Gold, B., & Windscheid, J. (2020). Observing 360-degree classroom videos – Effects of video type on presence, emotions, workload, classroom observations, and ratings of teaching quality. *Computers and Education*, 156, 103960–.  
<https://doi.org/10.1016/j.compedu.2020.103960>
- Grigorovici, D. (2003). Persuasive Effects of Presence in Immersive Virtual Environments. In G. Riva, F. Davide, & W. IJsselsteijn (Eds.), *Being there: Concepts, effects and measurement of presence in synthetic environments*. Amsterdam: Ios Press.
- Grigorovici, D., & Constantin, C. (2004). Experiencing Interactive Advertising beyond Rich Media: Impacts of Ad Type and Presence on Brand Effectiveness in 3D Gaming Immersive Virtual Environments. *Journal of Interactive Advertising*, 5(1), 22–36.  
<https://doi.org/10.1080/15252019.2004.10722091>

- Grohs, R., Wagner, U., & Vsetecka, S. (2004). Assessing The Effectiveness Of Sport Sponsorships – An Empirical Examination. *Schmalenbach Business Review*, 56(2), 119-138. <https://doi.org/10.1007/BF03396689>
- Gronroos, C. (1990). Service Management: A Management Focus for Service Competition. *International Journal of Service Industry Management*, 1(1),6-14. <https://doi.org/10.1108/09564239010139125>
- Gudacker, J. (August 23, 2016). *360 Degree Videos - An Online Marketing Revolution? A Critical Review and Outlook for Social Media Marketers*. <http://www.brandba.se/blog/2016/8/23/360-degreevideos-an-online-marketing-revolution-a-critical-review-and-outlook-forsocial-media-marketers>
- Gunnion, L. (2015). Delloite University Press. <https://dupress.deloitte.com/dup-us-en/economy/behind-the-numbers/us-professional-leagues-sports-and-technology.html>.
- Gwinner, K., & Eaton, J. (1999). Building brand image through event sponsorship: The role of image transfer. *Journal of Advertising*, 28(4), 47–57. <https://doi.org/10.1080/00913367.1999.10673595>
- Hassan, Z., Schattner, P., & Mazza, D. (2006). Doing A Pilot Study: Why is it essential? *Malaysian Family Physician*, 1(2-3), 70–73.
- Hauser, D., & Schwarz, N. (2016). Attentive Turkers: MTurk participants perform better on online attention checks than do subject pool participants. *Behavior Research Methods*, 48(1), 400–407. <https://doi.org/10.3758/s13428-015-0578-z>
- Henseler, J., Wilson, B., & Westberg, K. (2011). Managers' perceptions of the impact of sport sponsorship on brand equity. *Sport Marketing Quarterly*, 20(1), 7-21.

- Hernandez, M., & Minor, M. (2011). Investigating the effect of arousal on brand memory in advergames: Comparing qualitative and quantitative approaches. *Qualitative Market Research, 14*(2), 207–217. <https://doi.org/10.1108/13522751111120701>
- Hulks, B. (1980). Should the Effectiveness of Sponsorship be Assessed, and How? *Admap*, (December), 623-627.
- Humphrey, C. (2013). A Paradigmatic Map of Professional Education Research. *Social Work Education, 32*(1), 3–16. <https://doi.org/10.1080/02615479.2011.643863>
- Hutchins, B., & Mikosza, J. (2010). The Web 2.0 Olympics. Athlete blogging, social networking and policy contradiction at the 2008 Beijing Games. *Convergence: The International Journal of Research into New Media Technologies, 16*(1), 279-297.
- IEG. (2002). *Sponsorship Report*. [www.sponsorship.com](http://www.sponsorship.com)
- IEG. (2018). *What sponsors want & where dollars will go in 2018*.  
<http://www.sponsorship.com/IEG/files/f3/f3cfac41-2983-49be-8df6-3546345e27de.pdf>
- International Events Group. (2018). *Sponsorship spending on the NBA totals \$1.12 Billion in 2017-2018 season*. [http://www.sponsorship.com/Report/2018/05/14/Sponsorship-Spending-On-The-NBA-Totals-\\$1-12-Billi.aspx](http://www.sponsorship.com/Report/2018/05/14/Sponsorship-Spending-On-The-NBA-Totals-$1-12-Billi.aspx)
- Javalgi, R., Traylor, M., Gross, A., & Lampman, E. (1994). Awareness of Sponsorship and Corporate Image: An Empirical Investigation. *Journal of Advertising, 23*(4), 47-58.  
<https://doi.org/10.1080/00913367.1943.10673458>
- Jensen, J., Walsh, P., & Cobbs, J. (2018). The moderating effect of identification on return on investment from sponsor brand integration. *International Journal of Sports Marketing & Sponsorship, 19*(1), 41–57. <https://doi.org/10.1108/IJSMS-10-2016-0077>

- Kim, A., & Kaplanidou, K. (2014). Consumer responses to on-site Olympic sponsorship activation: the impact of interactivity, emotions, and perceived image fit on brand attitude formation. *International Journal of Sports Management and Marketing*, 15(5/6), 279-300. <https://doi.org/10.1504/IJSMM.2014.073207>
- Kim, Y., Lee, H. W., Magnusen, M. J., & Kim, M. (2015). Factors Influencing Sponsorship Effectiveness: A Meta-Analytic Review and Research Synthesis. *Journal of Sport Management*, 29(4), 408–425. <https://doi.org/10.1123/JSM.2014-0056>
- Klein, L. (2003). Creating Virtual Product Experiences: The Role of Telepresence. *Journal of Interactive Marketing*, 17(1), 41-55. <https://doi.org/10.1002/dir.10046>
- Kline, R. (2005). *Principles and practice of structural equation modeling* (3rd ed.). New York, NY: Guilford Press.
- Komańda, M. (2017). Brand Sponsorship and Social Media. Coca Cola and Carlsberg Illustrated with an Example of the European Football Championship 2016. *Trendy Ekonomiky a Managementu*, 11(28), 37–46. <https://doi.org/10.13164/trends.2017.28.37>
- Koronios, K., Vrontis, D., & Thrassou, A. (2021). Strategic sport sponsorship management – A scale development and validation. *Journal of Business Research*, 130, 295–307. <https://doi.org/10.1016/j.jbusres.2021.03.031>
- Kuzma, J. R., Shanklin, W. L., & McCally, J. F. (1993). Number one principle for sporting events seeking corporate sponsors: Meet benefactor's objectives. *Sport Marketing Quarterly*, 2(3), 27-32.
- Lee, M., Suh, K. & Whang, J. (2003). The impact of situation awareness information on consumer attitudes in the internet shopping mall. *Electronic Commerce Research and Applications*, 2(3), 254-65. [https://doi.org/10.1016/S1567-4223\(03\)00028-0](https://doi.org/10.1016/S1567-4223(03)00028-0)

- Lee, S., & Ross, S. D. (2012). Sport sponsorship decision making in a global market: An approach of Analytic Hierarchy Process (AHP). *Sport, Business and Management: An International Journal*, 2(2), 156-168. <https://doi.org/10.1108/20426781211243999>
- Lutz, R. J. (1985). Affective and cognitive antecedents of attitude toward the ad: a conceptual framework. *Psychological Processes and Advertising Effects*, Erlbaum, Hillsdale, NJ.
- MacKenzie, S. B., & Lutz, R. J. (1989). An empirical examination of the structural antecedents of attitude toward the ad in an advertising pretesting context. *The Journal of Marketing*, 53(2), 48–65.
- Mazuryk, T., & Gervautz, M. (1996). *Virtual Reality: history, applications, technology and future, technical report*. Vienna: Institute of Computer Graphics, Vienna University of Technology.
- McDaniel, S. R. (1999). An investigation of match-up effects in sport sponsorship advertising: the implications of consumer advertising schemas. *Psychology & Marketing*, 16(2), 163–184. [https://doi.org/10.1002/\(SICI\)1520-6793\(199903\)16:2<163::AID-MAR6>3.0.CO;2-Y](https://doi.org/10.1002/(SICI)1520-6793(199903)16:2<163::AID-MAR6>3.0.CO;2-Y)
- McDonald, C. (1991). Sponsorship and the Image of the Sponsor. *European Journal of Marketing*, 25(11), 31-38.
- Meenaghan, T. (1996). Ambush marketing - A threat to corporate sponsorship. *Sloan Management Review*, 38(1), 103–.
- Meenaghan, T. (2001). Understanding sponsorship effects. *Psychology & Marketing*, 18(2), 95–122. [https://doi.org/10.1002/1520-6793\(200102\)18:2<95::AID-MAR1001>3.0.CO;2-H](https://doi.org/10.1002/1520-6793(200102)18:2<95::AID-MAR1001>3.0.CO;2-H)
- Meenaghan, T. (2005). Evaluating sponsorship effects. In J. Amis, & T. B. Cornwell (Eds.), *Global Sport Sponsorship* (pp. 243-264). London, Oxford University Press.

- Mount, J., & Niro, B. (1995) Sponsorship: an empirical study of its application to local business in a small town setting. *Festival Management & Event Tourism*, 2.  
<https://doi.org/10.3727/106527095792315576>
- Nederhof, A. J. (1985). Methods of coping with social desirability bias: A review. *European Journal of Social Psychology*, 15(3), 263–280.
- Nelson, M., Yaros, R., & Keum, H. (2006). Examining the Influence of Telepresence on Spectator and Player Processing of Real and Fictitious Brands in a Computer Game. *Journal of Advertising*, 35(4), 87-99. <https://doi.org/10.2753/JOA0091-3367350406>
- Newell, S. J., Henderson, K. V. & Wu, B. T. (2001). The effects of pleasure and arousal on recall of advertisements during the Super Bowl. *Psychology & Marketing*, 18(11), 1,135–1,153.  
<https://doi.org/10.1002/mar.1047>
- Nicholls, J., Roslow, S., & Laskey, H. (2011). Sports Event Sponsorship For Brand Promotion. *Journal of Applied Business Research*, 10(4), 35-.  
<https://doi.org/10.19030/jabr.v10i4.5905>
- Nickell, D., Cornwell, T., & Johnston, W. (2011). Sponsorship-linked marketing: a set of research propositions. *Journal of Business & Industrial Marketing*, 26(8), 577–589.  
<https://doi.org/10.1108/08858621111179859>
- Olney, T. J., Holbrook, M. B., & Batra, R. (1991). Consumer responses to advertising: the effects of ad content, emotions, and attitude toward the ad on viewing time. *Journal of Consumer Research*, 17(4), 440–453.

- O'Malley, L. (2014). Relational marketing: development, debates and directions. *Journal of Marketing Management*, 30(11-12), 1220–1238.  
<https://doi.org/10.1080/0267257X.2014.939592>
- O'Reilly, N., & Madill, J. (2009). Methods and metrics in sponsorship evaluation. *Journal of Sponsorship*, 2(3), 215-230.
- O'Reilly, N., & Madill, J. (2012). The Development of a Process for Evaluating Marketing Sponsorships. *Canadian Journal of Administrative Sciences*, 29(1), 50–66.  
<https://doi.org/10.1002/cjas.194>
- Otker, T. (1988). Exploitation: The Key to Sponsorship Success. *European Research*, 16(2), 77-85.
- Paolacci, G., Chandler, J., & Ipeirotis, P. G. (2010). Running experiments on Amazon Mechanical Turk. *Judgment and Decision Making*, 5(5), 411–419.
- Pearce, D. (2015). *The Future of Virtual Reality is Inside Your Smartphone*. Wired.  
<http://www.wired.com/2015/03/future-virtualreality-inside-smartphone/>.
- Pine, B., & Gilmore, J. (2014). A leader's guide to innovation in the experience economy. *Strategy & Leadership*, 42(1), 24-29.  
<http://dx.doi.org.proxy.library.brocku.ca/10.1108/SL-09-2013-0073>
- Pope, N. K., & Voges, K. E. (1994). Sponsorship Evaluation: Does it Match the Motive and the Mechanism? *Sport Marketing Quarterly*, 3 (4), 37-45.
- Quester, P., & Thompson, B. (2001). Advertising and Promotion Leverage on Arts Sponsorship Effectiveness. *Journal of Advertising Research*. 41(1), 33-47.  
<https://doi.org/10.2501/JAR-41-1-33-47>



- RBC. (2016). *RBC's New Virtual Reality Experience Allows Clients to Immerse Themselves in the World of RBC Rewards*. <http://www.rbc.com/newsroom/news/2016/20161220-rbcrewards-virtual.html>
- Redmiles, E. M., Kross, S., & Mazurek, M. L. (2019). How Well Do My Results Generalize? Comparing Security and Privacy Survey Results from MTurk, Web, and Telephone Samples. *2019 IEEE Symposium on Security and Privacy (SP)*, 1326–1343. <https://doi.org/10.1109/SP.2019.00014>
- Roettl, J., & Terlutter, R. (2018). The same video game in 2D, 3D or virtual reality - How does technology impact game evaluation and brand placements? *PLoS ONE*, *13*(7). <https://doi.org/10.1371/journal.pone.0200724>
- Roussou, M., & Slater, M. (2020). Comparison of the Effect of Interactive versus Passive Virtual Reality Learning Activities in Evoking and Sustaining Conceptual Change. *IEEE Transactions on Emerging Topics in Computing*, *8*(1), 233-244.
- Roy, D., & Cornwell, T. (2004). The effects of consumer knowledge on responses to event sponsorship. *Psychology and Marketing*, *21*(3), 185-207. <https://doi.org/10.1002/mar.20001>
- Russell, C. A. (2002). Investigating the effectiveness of product placements in television shows: The role of modality and plot connection congruence on brand memory and attitude. *Journal of consumer research*, *29*(3), 306-318.
- Russell, J. A., & Pratt, G. (1980). A description of the affective quality attributed to environments. *Journal of Personality and Social Psychology*, *38*(2), 311-.

- Rynarzewska, A. (2018). Virtual reality: a new channel in sport consumption. *Journal of Research in Interactive Marketing*, 12(4), 472–488. <https://doi.org/10.1108/JRIM-02-2018-0028>
- Sanchez-Vives, M., & Slater, M. (2005). From presence to consciousness through virtual reality. *Nature Reviews Neuroscience*, 6(4), 332–339. <https://doi.org/10.1038/nrn1651>
- Santomier, J. (2008). New media, branding, and global sports sponsorship. *International Journal of Sports Marketing and Sponsorship*, 10(1), 15–28.
- Schmitt, B. (2000) *Experiential Marketing: How to Get Customers to Sense, Feel, Think, Act, Relate*. Simon and Schuster, New York, NY.
- Schmitt, B. (1999). Experiential marketing, *Journal of Marketing Management*, 15(1), 53–67. <https://doi.org/10.1362/026725799784870496>
- Sephapo, C. (2017). Sponsorship investments: Do they deliver brand awareness for all sponsors? *Management and Marketing*, 12(1), 103-123. <https://doi.org/10.1515/mmcks-2017-0007>
- Shank, M. (2005). *Sports marketing: a strategic perspective*. (3rd ed.). Upper Saddle River, NJ: Pearson/Prentice Hall.
- Singer, E., & Ye, C. (2013). The use and effects of incentives in surveys. *The ANNALS of the American Academy of Political and Social Science*, 645(1), 112-141.
- Sneath, J. Z., Finney, R. Z., & Close, A. G. (2005). An IMC approach to event marketing: the effects of sponsorship and experience on customer attitudes. *Journal of Advertising Research*, 45(4), 373-381.
- Söderman, S., & Dolles, H. (2010). Sponsoring the Beijing Olympic Games: patterns of sponsor advertising. *Asia Pacific Journal of Marketing and Logistics*, 22(1), 8–24. <https://doi.org/10.1108/13555851011013128>

- Speed, R., & Thompson, P. (2000). Determinants of sports sponsorship response. *Journal of the Academy of Marketing Science*, 28(2), 226–238.
- Statista. (2019). *Consumer virtual reality software and hardware market size worldwide from 2016 to 2022*. <https://www.statista.com/statistics/528779/virtual-reality-market-size-worldwide/>
- Steuer, J. (1992). Defining Virtual Reality. Dimensions Determining Telepresence, *Journal of Communication*, 42(4) 73-93.
- Su, Y. C., & Grauman, K. (2017). Making 360-degree Video Watchable in 2D: Learning Videography for Click Free Viewing. *2017 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 1368–1376. <https://doi.org/10.1109/CVPR.2017.150>
- Tsaur, S., Chiu, Y., & Wang, C. (2006). The Visitors Behavioral Consequences of Experiential Marketing: An Empirical Study on Taipei Zoo. *Journal of Travel & Tourism Marketing*, 21(1), 47. [https://doi.org/10.1300/J073v21n01\\_04](https://doi.org/10.1300/J073v21n01_04)
- Tongco, M. D. (2007). Purposive Sampling as a Tool for Informant Selection. *Ethnobotany Research and Applications*, 5(1), 147-158.
- Urriolagoitia, L., & Planellas, M. (2007). Sponsorship relationships as strategic alliances: A life cycle model approach. *Business Horizons*, 50(1), 157-166.  
<https://doi.org/10.1016/j.bushor.2006.10.001>
- Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing*, 68(1), 1–17.
- Visch, V. T., Tan, E. S., & Molenaar, D. (2010). The emotional and cognitive effect of immersion in film viewing. *Cognition and Emotion*, 24(8), 1439-1445.  
<https://doi.org/10.1080/02699930903498186>

- Walliser, B. (2003). An international review of sponsorship research: extension and update. *International Journal of Advertising*, 22(1), 5–40.
- Weeks, C., Cornwell, T., & Drennan, J. (2008). Leveraging Sponsorships on the Internet: Activation, Congruence, and Articulation. *Psychology and Marketing*, 25(7), 637 – 654.
- Wei, W. (2016). Review of Virtual Reality Enhanced Robotic Systems for Disability Rehabilitation. In F. Hu, J. Lu, & T. Zhang, (Eds.), (pp. 48–68). Idea Group Reference.
- Westberg, K., Stavros, C., Smith, A. C., Munro, G., & Argus, K. (2018). An examination of how alcohol brands use sport to engage consumers on social media. *Drug and Alcohol Review*, 37(1), 28–35. <https://doi.org/10.1111/dar.12493>
- Wiedmann, K., Labenz, F., Haase, J., & Hennigs, N. (2018). The power of experiential marketing: exploring the causal relationships among multisensory marketing, brand experience, customer perceived value and brand strength. *Journal of Brand Management*, 25(2), 101. <https://doi.org/10.1057/s41262-017-0061-5>
- Wirtz, J., & Bateson, J. E. (1999). Consumer satisfaction with services: integrating the environment perspective in services marketing into the traditional disconfirmation paradigm. *Journal of Business Research*, 44(1), 55–66.
- Wirtz, J., Mattila, A. S., & Tan, R. L. (2000). The moderating role of target-arousal on the impact of affect on satisfaction – an examination in the context of service experiences. *Journal of Retailing*, 76(3), 347–365. [https://doi.org/10.1016/S0022-4359\(00\)00031-2](https://doi.org/10.1016/S0022-4359(00)00031-2)
- Witcher, B., Craigen, G., Culligan, D., & Harvey, A. (1991). The Links Between Objectives and Function in Organisational Sponsorship, *International Journal of Advertising*, 10(1), 13-33. <https://doi.org/10.1080/02650487.1991.11104431>

- Whelan, S., & Wohlfeil, M. (2006). Communicating brands through engagement with “lived” experiences. *Journal of Brand Management*, 13(4-5), 313–329.
- XOS Digital. (2016). *3 Uses for Virtual Reality in Marketing*. <https://www.xosdigital.com/index.php/2016/12/02/3-uses-for-virtual-reality-in-marketing-plus-bonus-content/>
- Yazici, T., Koçak, S., & Altunsöz, I. H. (2017). Examining the effect of experiential marketing on behavioral intentions in a festival with a specific sport event. *European Sport Management Quarterly*, 17(2), 171-192. <https://doi.org/10.1080/16184742.2016.1247903>
- Yim, Y., Cicchirillo, V., & Drumwright, M. (2011). *The consumer media experience in innovative media: The impact of media novelty and presence on consumer evaluations*. ProQuest Dissertations Publishing.
- Yung, R., Khoo-Lattimore, C., & Potter, L. (2021). VR the world: Experimenting with emotion and presence for tourism marketing. *Journal of Hospitality and Tourism Management*, 46, 160–171. <https://doi.org/10.1016/j.jhtm.2020.11.009>
- Zajonc, R., & Markus, H. (1984). *Affect and cognition: the hard interface*. *Emotions, Cognition, and Behaviour*. Cambridge University Press.
- Zaldivar, G. (2015). *Amazing Technology Allows Fans To Play Tennis With Maria Sharapova At 2015 US Open*. Forbes. <https://www.forbes.com/sites/gabezaldivar/2015/08/18/amazing-technology-allows-fans-to-play-tennis-with-maria-sharapova-at-2015-us-open/#2e15a0605ec7>

## Appendix A: Demographic Questionnaire

Demographic Questionnaire for Participants in the research study “**Fan responses to virtual reality sport sponsorship activations: the influence of presence on emotion and attitude formation**”

*Reminder: Your responses will be kept completely confidential.*

1. What is your sex? Male  Female  Prefer not to answer
2. What is your age? \_\_\_\_\_
3. Which of the following best describes your current level of education?
  - Some high school
  - High school graduate
  - Some college/university Currently enrolled?  yes  no
  - College or university graduate
  - Advanced degree holder (Master’s/PhD)
4. Do you identify as a sports fan?  yes  no
5. Do you have any past experiences or knowledge of Formula One Racing?  yes  no
6. Do you identify as a fan of Formula One Racing?  yes  no
7. Are you familiar with the Red Bull brand and/or products?  yes  no
8. If yes, is your view of the brand positive or negative?
  - positive  negative  indifferent
9. What media device are you using to view this content?
  - Mobile or Tablet
  - Laptop or Desktop
  - Virtual Reality (VR) head-mounted display
  - Other

## Appendix B: Questionnaire

**Please circle the answer that best describes your thoughts on the experience**

**1. How did you feel about the experience based on the following adjectives?**

1	2	3	4	5	6	7
Angry						Content
1	2	3	4	5	6	7
Unhappy						Happy
1	2	3	4	5	6	7
Displeased						Pleased
1	2	3	4	5	6	7
Sad						Joyful
1	2	3	4	5	6	7
Disappointed						Delighted
1	2	3	4	5	6	7
Bored						Entertained
1	2	3	4	5	6	7
Depressed						Cheerful
1	2	3	4	5	6	7
Calm						Enthusiastic
1	2	3	4	5	6	7
Passive						Active
1	2	3	4	5	6	7
Indifferent						Surprised

**2. What are your thoughts on the sponsor activation video based on the following adjectives?**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
Bad						Good
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
Unpleasant						Pleasant
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
Unfavourable						Favourable

**3. How did you feel about the sponsor brand (Red Bull) displayed during the activation?**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
Bad						Good
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
Unpleasant						Pleasant
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
Unfavourable						Favourable

**4. Would you like to see more 360-degree video content related to your favourite sport?**

yes  no  indifferent

**Thank you for your time!**



## Appendix C: Informed Consent Form

### **Project Title: Fan responses to virtual reality sport sponsorship activations: the influence of presence on emotion and attitude formation**

*This study examines emotional and attitudinal responses toward a 360 degree sport sponsorship activation video, seeking to develop new insights into emerging platforms.*

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### **INVITATION**

You are invited to take part in an ongoing study into consumer responses toward new media platforms. The purpose of this research is to develop a greater understanding of how new media technologies can be effectively utilized to achieve important sponsor outcomes.

### **WHAT'S INVOLVED**

As a participant, you will be expected to complete a demographic questionnaire and then watch a two-minute sponsor activation 360 video. Following that, you will complete a short questionnaire. Participation will take approximately ten minutes of your time.

### **VOLUNTARY PARTICIPATION**

Participation in this study is voluntary. If you wish, you may decline to answer any questions or participate in any component of the study. Further, you may withdraw from this study at any time by simply closing the browser.

### **CONFIDENTIALITY**

Given the nature of the study, no personal data will be collected and all information gathered will be kept in strict confidentiality. The information collected will be stored securely and anonymously using password protected computers. Throughout the study, and any subsequent publications, all information will be kept strictly anonymous and confidential.

Access to the data will be restricted to myself, Troy Schlieman, and my faculty research supervisor, Dr. Nicholas Burton. Data will be stored securely in Amazon Web Services and in a locked file on a password protected computer, and after a maximum of two years, the data will be destroyed. Due to the anonymous nature of the data, you will not be able to withdraw your data once it is submitted.

### **COMPENSATION**

You will be compensated for your participation in this study and this compensation has been determined based on the expected time of completion. This compensation is contingent on your completion of the study. You may refuse to answer any questions if you feel uncomfortable and you will still be compensated; however, you will forfeit compensation if you do not submit the task.

**PUBLICATION OF RESULTS**

Results of this study may be published in professional journals and presented at conferences. Please feel free to contact either member of the research team at any time, should you have questions or concerns regarding the nature of the study, its results, or any future publications.

Feedback about this study will be available by April 2021 and can be accessed through contacting Principal Student Investigator, Troy Schlieman, using the information provided above.

**CONTACT INFORMATION AND ETHICS CLEARANCE**

If you have any questions about this study or require further information, please contact Troy Schlieman using the contact information provided above. This study has been reviewed and received ethics clearance through the Research Ethics Board at Brock University [file #20-065]. If you have any comments or concerns about your rights as a research participant, please contact the Office of Research Ethics at (905) 688-5550 Ext. 3035, reb@brocku.ca.

**INFORMED CONSENT**

**NOTE:** If participating in virtual reality; in rare cases, virtual reality participation can cause motion sickness, dizziness, nausea, eye strain, and/or headaches. Video exposure time will be very limited, and the perspective will be stationary; however, if you have a history of vertigo or any of the above caused by computer/VR use, you should **not** participate in this study.

By completing this survey, you agree to participate in this study as described, and have made the decision based on the information contained herein. You may withdraw this consent at any time.

**YES**, I agree to participate in this study [\_\_\_\_]

**NO**, I do not agree to participate in this study [\_\_\_\_]