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CROSSFIT ATHLETIC IDENTITY'S RELATIONSHIP TO SPONSORSHIP

RECALL AND RECOGNITION

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CROSSFIT ATHLETIC IDENTITY'S RELATIONSHIP TO SPONSORSHIP
RECALL AND RECOGNITION

A THESIS APPROVED FOR THE
DEPARTMENT OF HEALTH AND EXERCISE SCIENCE

BY

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Abstract

Introduction: The CrossFit Open is possibly one of the most inclusive participation sport events ever, as it allows CrossFit athletes from across the world to compete against each other to test their fitness abilities. The Open consists of 5 weeks with 5 different workouts, existing both in the physical space where the workouts are completed and online where the uploaded scores are posted to the leaderboard. Participant sport events that rely heavily on sponsorship to successfully operate have been the subject of some previous research, but no apparent studies have examined event sport event sponsorship effectiveness in a case such as the CrossFit Open where sponsor messages are primarily, and almost exclusively, delivered through online website content.

The Athletic Identity Measurement Scale (AIMS) was created to measure an individual's identification with an athlete role (Brewer). An early study measuring AIMS (modified for running athletes) and participants' ability to recall and recognize event sponsors, suggested that the total identity score of the participant positively influences their ability to recall and recognize sponsors, as well as their purchase intentions (Lough). As the identity of an athlete can increase as involvement in sport grows, it is important for sponsors and event organizers to consider the differential impact of athletic identity on the effectiveness of sponsor messaging.

Purpose. The purpose of this study was to examine the relationship between an individual's level of Athletic Identity and their ability to recall and recognize official sponsors of a participant event presented in an online environment.

Methods. A cross-sectional research design was used, with a qualitative treatment validation. A questionnaire respondent sample (N = 170), was collected via convenience sampling of local CrossFit Open participants from 36 CrossFit affiliates in Oklahoma and North Texas. Additionally, a subset of four subjects participated in laboratory eye-tracking to qualitatively assess the attention and viewing patterns associated with their typical interaction.

The survey consisted of 24 questions measuring the participant's involvement in CrossFit and the CrossFit Open, their website interaction (number of visits and time spent), CrossFit Athletic Identity (CAI), unaided sponsor recall, sponsor recognition, purchase intention of the CrossFit Open sponsors, CrossFit Open sponsor previous familiarity, and demographics (gender and age).

Results and Conclusion: CAI was not a statistically significant predictor for sponsor recognition or recall, but when participants were divided into tertile CAI levels (low, mid, high), there was a statistically significant difference between the low and high levels when measuring purchase intention of the CrossFit sponsors. Count of previously familiar brands was the only significant predictor for predicting recall of sponsors, while age and count of previously familiar brands were significant predictors in predicting recognition of sponsors. After strictly controlling for prior brand familiarity, i.e. considering only previously unfamiliar brands, the number of website visits had a negative impact on number of brands correctly recognized and gender was a significant predictor in sponsor recognition. CAI was not associated with sponsor recognition and recall variation in this sample, but based on the qualitative assessment of the case study's website interactions it is believed that participants in this study may

not have been exposed to enough sponsor signage in the online environment to create

the memory processes needed to later recall and recognize sponsors.

Chapter 1: Introduction

CrossFit was developed as a fitness business by Greg Glassman in 2000; his goal was to "forge a broad, general and inclusive fitness supported by measurable, observable, and repeatable results" (2005). CrossFit workouts are designed to be in a class or group setting at a CrossFit affiliated gym with certified CrossFit coaches leading the members through the workout. A normal CrossFit class lasts from 45 minutes to an hour. A typical class is divided up into three or four sections. First, coaches lead members through a dynamic warm up that prepares them for a "workout of the day" (WOD), which includes functional movements, stretches, and mobility that complement the movements of the WOD. The second section is either strength or skill work, which allows members to improve on strength movements or working on a physical skill (pull-ups, handstand walks, etc.). The third, and main section, is the WOD, which varies from day-to-day. An example of a CrossFit WOD is in Figure 1.1 below.

Figure 1.1
Example of CrossFit WOD (Third Section of Class)

500 meter row for time
At the 7 minute mark:
      15 dumbbell thrusters (50 lb.)
      15 chest-to-bar pull-ups
      12 dumbbell thrusters
      12 chest-to-bar pull-ups
      9 dumbbell thrusters (50 lb.)
      9 chest-to-bar pull-ups

The fourth, and optional section, is stretching and cooling down after the WOD. If members want to, they can take a few walking laps around the gym, do some active mobility, or rest and bring their heart rate back down to a normal rate. There are 10

inter-related areas of training that CrossFit focuses on to create the best all-around athletes: cardiovascular/respiratory endurance, stamina, strength, flexibility, power, speed, coordination, agility, balance and accuracy ("Origins of CrossFit", 2012). The WOD emulates the intensity of a competitive environment while creating a group of workout comrades who push each other to continually improve. Although, there are elite athletes that participate in the sport of CrossFit, there are "average" people participating in the sport as well. Currently, there are about 4 million active CrossFit participants that are members of nearly 13,000 CrossFit affiliated gyms across the world (CrossFit, 2017a; Thurston & Kuile, 2016).

CrossFit launched the CrossFit Games to determine who the "fittest" man, woman, and team on Earth. The CrossFit Games happens in three stages: The Open, Regionals, and the world championship, also known as *the Games*. The CrossFit Open is a 5-week long competition requiring athletes to complete a different workout each week starting in late February and ending in March. The CrossFit Open allows athletes of all levels and ages to compete against each other in a competition to determine the fittest person on Earth. The CrossFit Open has been suggested to be the "most inclusive sporting event in the world", as in 2016 there were 324,307 people from 175 countries from North America, South America, Europe, Asia, Africa and Australia who competed in the Open (CrossFit, 2016). A unique factor of the CrossFit Open is that even though participants are doing the designated workouts in their local physical gym space, the true event participation exists online and globally, as competitors must enter each of the five workout scores on the official CrossFit games website (www.games.crossfit.com). Athletes sign up and submit their scores (normally number of repetitions or time

completed) from the workout every week to remain and potentially advance, in the competition. They can compare themselves to other people in their region, as well as people in their age group or occupation.

With CrossFit's vast reach of members across the world and the CrossFit Open event that has grown to over 300,000 participants, CrossFit is capitalizing in on sponsorship deals. For example, one of the publically advertised sponsorship properties priced at $16,500 gives a company their logo and link to their company website on the CrossFit Games Exhibitor webpage (they would also have a 10' X 20' booth at the 2017 CrossFit Games World Championship in Madison, Wisconsin) (CrossFit, 2017b). In September 2010, Reebok and CrossFit made a 10-year, $150 million partnership, Reebok has been the title sponsor of the CrossFit games since that time, as well as the holder exclusive rights to create CrossFit-branded footwear and apparel (Markelz, 2016; Imbo, 2015).

Companies participate in sponsorship activities to achieve certain strategic business objectives such as: increasing awareness of their brand or product, connecting the brand with a certain market segmentation, and increasing brand involvement in the community (Mullin, Hardy, Sutton, 2007). Companies want to make sure that the money they are spending is furthering these goals by providing a return on investment (ROI). As sponsorship is a large component of total revenue for sport events, it is crucial for managers to quantify, optimize, and market their sponsorship to increase organization performance. In IEG'S 31st annual year-end review and forecast, they predicted that global sponsorship spending would reach $60.2 billion in 2016, this would be a 4.7% increase from 2015 ($57.5 billion). In North America, IEG has

projected that $15.74 billion would be spent in the sport sponsorship domain (a 5% increase from 2015, $14.99 billion), which would account for 70% of the North American sponsorship market. (IEG, 2016).

In addition to mass market exposure, part of sponsorship effectiveness is derived from reaching an intended target market. Sport business managers likely have many different market segmentations of consumers based on product fit or strategic target, so potential consumers are not all created equal. Market segmentation is important for business managers to understand and use, because it creates categories of different consumers and helps to find groups of similar consumers (Murphy, 2010). These segments can be grouped together by many categories: demographics, lifestyle activities, attitudes, and interests. Of specific interest in this study, there are different psychological factors that differ between sport event participants. Researchers have found evidence that finding a new segmentation through an individual's perception of themselves in the athletic domain, i.e. *athletic identity*, is associated with measureable value (Lough, Pharr, & Owen, 2014). This could lead to the opportunity for companies to sponsor certain events due to the unique market segmentation of the event participants. The measureable value also contributes to the company to be able to provide ROI for sponsorship opportunities. Results of this study may help managers realize how to find use those unique segmentations.

Purpose of the Study

The purpose of this study was to examine the relationship between an individual's level of Athletic Identity and their ability to recall and recognize official sponsors of a participant event presented in an online environment.

Research Questions

1. Is there a relationship between an individual's level of CrossFit Athletic Identity (CAI) and ability to correctly recall official CrossFit Games sponsors?

2. Is there are a relationship between an individual's level of CAI and ability to correctly recognize official CrossFit Games sponsors?

3. Will a higher CAI result in greater purchase intention of official CrossFit Games sponsors?

Hypotheses

H1: There will be a positive relationship between CAI and sponsor unaided recall

H2: There will be a positive relationship between CAI and sponsorship recognition (aided recall)

H3: There will be a positive relationship between CAI and sponsor purchase intention

Significance of the Study

There is a significant amount of research covering team identification, sponsorship effectiveness, and spectator events. However, little apparent research of athletic identification and participation sport event sponsorship (Lough et al., 2014) or online environment sport sponsorship. Research on online sport of sponsorship has had a heavy emphasis on the sport of gambling rather than participation sport (Sportsbusiness International, 2006; Church-Sanders, 2011; Glendinning, 2009). Some of the limited work has also examined online sponsorship for professional teams' websites hosting sponsorship (Yu & Stotlar, 2000). There is an apparent lack of research on online sponsor messaging for participation sporting events. A major goal of this study is to help sport event managers make better strategic marketing decisions. If

discernible differences exist across participants' athletic identity, they could potentially be able to modify their current sponsorship marketing plans to maximize sponsorship revenue and provide improved return on investment (ROI) satisfaction to the sponsoring companies.

Delimitations

1. The study focused only on CrossFit Open participants and not CrossFit participants in general

2. Participants were recruited from 36 gyms in Oklahoma and North Texas

3. Participation in the study was restricted only to those participants who completed and recorded a majority of the CrossFit Open workouts

Limitations

1. The convenience sample approach is a limitation because the survey was distributed only within Oklahoma and North Texas.

2. The study only surveyed those individuals who are at least 18 years old, so the study does not represent CrossFit participants under the age of 18.

3. The general Athletic Identity Measurement Scale was modified for CrossFit participants, because of this the results may not be generalized to other participation sports.

Assumptions

1. It is assumed that all participants answered the survey questions honestly and to the best of their knowledge.

2. It is assumed that the measurement of CrossFit Athletic Identity is an accurate representation of the athletic identity construct modified to the specific role of CrossFit athlete.

3. It is assumed that all participants are proficient in the English language.

4. It is assumed that all participants have no visual impairments.

5. It is assumed that all participants are accurate in their behavior recall

Operational Definitions

1. Athletic Identity: the degree to which an individual identifies with the athlete role. Individuals with strong athletic identity attributes great importance to involvement in sport/exercise and is especially attuned to self-perceptions in the athletic domain. (Brewer, Van Raalte, & Linder 1993).

2. Brand Awareness: A qualitative measure of how well a brand name is connected with a product type or class of products by consumers (Kolkata Social Media, 2013).

3. CrossFit Level 1 Certificate: the introductory education to become a certified CrossFit trainer, trainers are provided with knowledge and foundational education to train others using CrossFit training philosophy (CrossFit, 2017c).

4. Purchase Intent: willingness of an individual to buy a certain product or service (Mullin et al., 2007).

5. Return on Investment (ROI): The expected dollar-value return on the financial cost of an investment; the achievement of specific marketing and sales objectives from a sport sponsorship (McKelvey, 2015).

6. <u>Sponsorship:</u> the acquisition of rights to affiliate or directly associate with a product or event for the purpose of deriving benefits related to that affiliation or association (Mullin et al., 2007).

7. <u>Sponsorship Recall:</u> the ability of an individual to correctly retrieve from memory the sponsor name without any cognitive, visual, or auditory assistance.

8. <u>Sponsorship Recognition:</u> the ability of an individual to correctly select the sponsor name among a list of other companies.

Chapter 2: Literature Review

The study's purpose was to examine the relationship between an individual's CrossFit Athletic Identity and their ability to recall and recognize official CrossFit Open sponsors. This study evaluated how an individual's involvement and self-reflection of CrossFit affects their ability to process and remember stimuli (logos and signage) of official sponsors. As there is no apparent literature examining CrossFit sponsorship specifically, the review examined the related topics of research. The literature review will begin with the history, culture, and growth of the sport of CrossFit and its competitions. The exploration of the Athletic Identity Measurement Scale (AIMS) will follow. Finally, the available literature related to defining aspects of sponsorship, including the different objectives of sponsorship, the different previous techniques used for studying sponsorship, and the different variables that are studied within sponsorship recognition and recall research, will be discussed.

Review Methods

This literature review was conducted using the University of Oklahoma's Library's online database and resources. The two main databases used for research were SPORTDiscus and PyschINFO.

The following search terms and combination of words were used to find research related to the subject matter of CrossFit: "CrossFit", "CrossFit History", "CrossFit Community", "CrossFit Culture", and "CrossFit Games". This search resulted in a total of 314 peer-reviewed papers. Studies covering the topics of injuries, performance, conditioning techniques, training techniques, body building, opinion pieces, and athlete specific were excluded. Yielding 5 papers for this review. A search for "CrossFit Game

Sponsors" and "CrossFit Games Sponsorship" both had 0 results. Eight other sources related to the topic of CrossFit came from CrossFit's own *CrossFit Journal,* and other informational magazines (Times, The Box Mag). These sources provided much of the background information about CrossFit.

Another search was conducted using the same databases, with the topic of sport sponsorship. Several different key words and other combinations were used: "sport sponsorship", "sport sponsorship recall", "sport sponsorship recognition", "sponsorship in participation sports", and "participation sport sponsorship" resulting in a total of 1,180 papers. Studies with the subject matter of gambling, and non-sport sponsorship were excluded from this research. A total of 16 papers containing the sport sponsorship key words were included in this review.

A subset of sponsorship research was also explored, with the focus of online sponsorship. A search of "Online sport sponsorship" and "online sponsorship" resulted in 163 papers. Papers with the subject matter of marketing, e-sports, online gambling, health, and non-sport sponsorship were excluded from this study, and 6 papers were ultimately included in this study.

A final search was conducted over the topic of athletic identity. "Athletic identity" resulted in 1,184 papers, 2 were included in this research, and others were excluded due to repeated results or subject matter (educational physical fitness, sport psychology, career decisions, disabilities, students, injuries, geographical studies, effects after participation ends). The term "Athletic Identity Measurement Scale" resulted in 543 papers, of which 2 were included in this review, and the remainder were excluded due to subject matter (disabilities, students, injuries, geographical studies).

Five additional papers discussed in this research review were shared with the author, as potentially relevant by other experts in the field of sport management. Four other sources were included in this research review to formulate operational definitions.

CrossFit History, Culture, Growth, and the "Games"

Most outsiders familiar with the CrossFit community consider the group to be "cult-like", as participants paying a substantial amount of money to do excruciating physical activity. Glassman describes the grueling workouts as focus days, "the workouts can be worked at such blistering intensity, and should be, so that on that on the following day some rest, or at least a change of tempo is needed" (Glassman, 2004). J.C. Herz, the author of *Learning to Breath Fire: The Rise of CrossFit and the Primal Future of Fitness*, credits 3 reasons why people are fixated with CrossFit: the physical results of the high intensity workouts, the social experience of a pack victory after a grueling workout, and the ritual sacrifice of human energy (Herz, 2014). He suggests these reasons are why people keep pushing themselves and coming back for more.

Heather Lawrence, a CrossFit trainer and professor of Sport Management at the Ohio University describes the blend of different level athletes as a "welcoming community of people bonding through shared experience of pushing their physical and mental limits" (Burton & O'Reilly, 2004). This feeling of community is more than just a motto; Picket, Goldsmith, Damon and Walker's study examining the influence of sense of community and different physical activities, found that CrossFit had strong perceptions of sense of community compared to individual gym goes and group fitness participants (2016). Participants gave CrossFit the highest emotional response value on the equity of decisions making and social spaces scales, which appears to make the

sense of community have a bottom-up nature, meaning that the bonding of CrossFit participants stems from the participants themselves and not necessarily the gym owners or coaches.

CrossFit began spreading their message and workouts through the internet in 2001 with plain white text on a blue background website, and within 4 years, CrossFit.com had over 1 million total site visits and 75,000 unique visitors to the site (Glassman, 2005). This was all done without any apparent paid advertising, marketing, or promotion. Word of mouth was the most powerful tool for the website's growth. The first physical CrossFit-affiliated gym opened in Seattle in 2000; and while these affiliated gyms are not corporate franchises, they are licensees of the CrossFit brand that share similar programming through coaching and owner certifications (Washington & Economides, 2016). There is an application process to become a CrossFit affiliated gym. An applicant must be a holder of at least a Level 1 CrossFit Certificate and have proof of insurance. In 2004 there were 7 CrossFit affiliates, in 2005 it grew to 49 (Glassman, 2005), and as of February 2017 there are 12,909 CrossFit affiliates worldwide (CrossFit, 2017a).

Growing within the realm of CrossFit exercise, a large-scale annual competitive event emerged in 2007, The CrossFit Games Series. The Games features standardized workouts that participants would undertake to ultimately compete against each other. In 2016, 324,307 people from 175 different countries competed in the CrossFit Open, the first phase of the competition. Of those people, there were 7,552 teenagers, 60,661 masters aged athletes (40 years or older), and 245,053 regular athletes (18 to 39 years

old) (CrossFit, 2016). The CrossFit Open has grown drastically since its start, below is a graph showing the growth of CrossFit Open participants over time (Achauer, 2014).

Figure 2.1
CrossFit Open Participation Growth
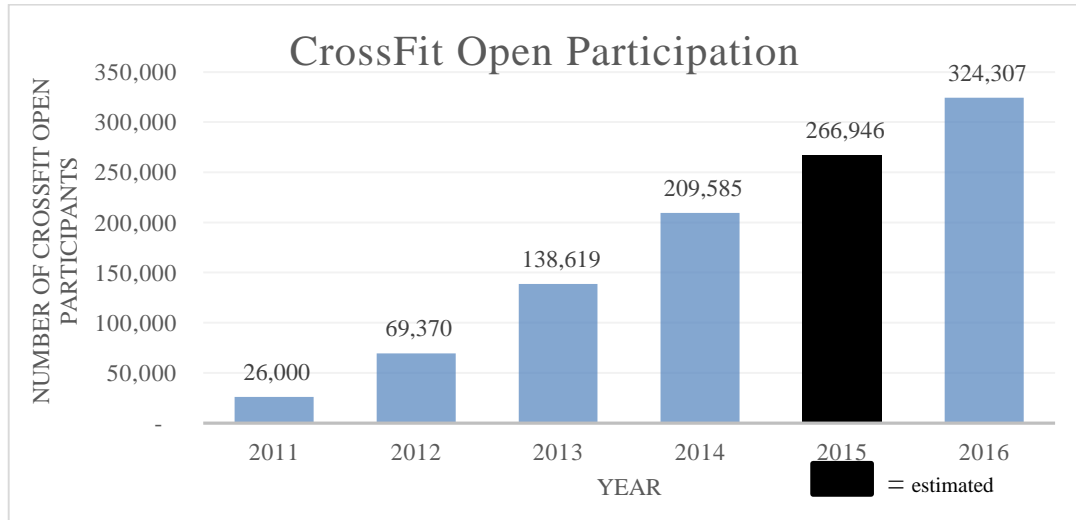
The top 40 athletes in each of the 10 U.S. regions from each division (men, women and 15 teams) are invited to compete in person at the CrossFit Regionals. The Regional competitions are completed in three days and the top athletes from there move on to the final CrossFit Games. The Games hosts the top five athletes from each region from across the world to compete against each other head-to-head, completing some of the most daunting and exhausting workouts of the entire competition. Below in Figure 2.1 is an example of one of the workouts from the 2016 CrossFit Games.

Figure 2.2
2016 CrossFit Games Workout "Murph"

For time:
         1 mile run
         100 pull-ups
         200 push-ups
         300 air squats
         1 mile run

While the Open may be arguably one of the most inclusive participation sporting events and it serves as a community builder for local gyms in a grass-root style competition, by the time the world championships Games come around, the competition has become a significant international event where only the best athletes will be awarded the "Fittest on Earth" title.

Athletic Identity

The Athletic Identity Measurement Scale (AIMS) is a ten-item questionnaire and was created as a measurable domain-specific perceived importance judgment construct of one's personal worth and competence by Brewer, Van Raalte, and Linder in 1993. The purpose of the scale is to measure an individual's athletic identity, which is "the degree of to which an individual identifies with the athlete role" (pg. 237). Brewer et al., conceptualized that an "individual with strong athletic identity ascribe great importance to involvement in sport/exercise and is especially attuned to self-perceptions in the athletic domain" (pg. 238). Athletic identity has been seen as cognitive structure where the identity is self-related (Markus, 1977), but it is also described as a social role, where the individual's extent of athletic identity is influenced by people in their social circle (friends, family, coaches, etc.) (Heyman, 1987). In past research, athletic identity and AIMS has been used repeatedly in the sport psychology domain, but little research has used AIMS in the sports business domain. The original AIMS has been established as a reliable and valid measure of athletic identity (Brewer et al., 1993), and since then, studies have modified AIMS from a general athlete role, to a sport specific identity role (Mack & Horton, 2000 & Lough et al., 2014). Both Mack & Horton (2000) and Lough et al., (2014) used a modified version of AIMS for runner athletes. Both of these studies

found their internal consistency to be the similar to the unmodified version of AIMS. The current study also uses a modified version of the AIMS, specific here to the CrossFit athlete, i.e. CrossFit Athletic Identity (CAI). This utilization will test whether the modified version of AIMS can be applied to other sports outside of running specifically. Also, using CAI in the sports business domain will help fill a knowledge gap in participation sport sponsorship research.

Sponsorship

There are many variations of the definition of sponsorship based on a wide range and different levels of support. For the purpose of this study, sponsorship is defined as "the acquisition of rights to affiliate or directly associate with a product or event for the purpose of deriving benefits related to that affiliation or association" (Mullin et al., 2007). This means companies are giving sport organizations financial support or other resources to gain the benefits of being associated with the organization. Companies are of course trying to capitalize on this relationship with a sport organization, so another important perspective is that sponsorship is an investment, in cash, in kind, or in activity that returns access to the utilizable potential associated with an activity (Meenaghan, 1991). When an organization and a business agree to a sponsorship deal, it gives the business the opportunity to leverage the affiliation with the sports property to achieve marketing objectives that can range from generating incremental sales to entertaining key customers (McKelvey, 2015). Business managers invest a lot of money and time into sponsorship, so it is important to make sure that the effort is matched to the reward. Businesses involved in sponsorship can vary from local service companies to globally recognized brands. There are different ways that companies can spend their sponsorship

money: naming rights of the event, on-site signage, online signage, promotional activities, beverage/food rights, and licensing opportunities. In addition to the cost of being associated with a sport organization the company must also incur any additional costs that would arise from the promotion of the affiliation. This study focused specifically on the online elements of sponsorship.

Objectives of Sponsorship

Sport sponsorship came from the basic notion that if an owner of a business had an interest in a specific team or sport, they would allocate funding from their marketing or advertising budget to sponsor a team with some type of support in exchange for association with the organization. However, today's businesses are very strategic about how, when, where, and why they spend money on sponsorships. Nevertheless, spending of sponsorship dollars is still on a steady rise, in 2015 the total sponsorship expenditure in all categories was $21.4 billion in the US alone (IEG, 2016). As the amount of money invested in sponsorship continues to increase, businesses want to be sure that their objectives and goals of sponsorship are being met. There are 6 areas that have been identified as the primary objectives of sponsorship: awareness, competition, reaching target markets, relationship building, image building, and sales increases (Shank, 2005). Another important component of understanding a business's decision to engage in sponsorship is to understand what is most important to the business, A study from Daniels, Baker, K. Backman and S. Backman (2007), showed that the top five reasons for sponsoring a tournament event were: entertainment for business clients, developing relationships with key customers, to do business/sales, exposing spectators to products, and creating product awareness. This study's primary focus is on the effectiveness for

building brand awareness and a solidifying link between sponsors the CrossFit Open.

Common metrics to evaluate the effectiveness of sponsorship include: unaided recall

responses, sponsor recognition (aided recall), and purchase intention.

Previous Sponsorship Research Areas

In the sporting event industry, there are numerous "big" events that capitalize

heavily on sponsorship sales. For example, The FIFA Men's World Cup which only

happens every 4 years and has the entire world's attention, is an opportunity for

sponsors to show their brand to a global audience. Dhurup, Surujlal and Rabale (2011),

sought to examine the extent of aided (recognition) and unaided recall of the official

sponsors of the 2010 FIFA World Cup. They developed a questionnaire to give to fans,

supporters, and followers of the World Cup who were over the age of 18, who either

watched the 2010 World Cup on TV, attended the game, or read the printed media

about the event. The survey had three components, the first collected demographic

information (gender, age, marital status, educational level, monthly income, and

ethnicity), the second asked participants to recall the name of the

companies/sponsors/brands, and lastly the third asked participants to correctly identify

the official sponsors from a list that had both official sponsors and non-sponsors. In

total, there were 462 completed questionnaires. Only 13% of participants could

correctly recall 3 official sponsors, and only 3% of the participants correctly identified

10 official sponsors, while there were 20 official sponsors of the 2010 World Cup. For

the recognition component, there were only 4 companies that were correctly recognized

as sponsors with over 90% of the participants (Coca-Cola, Adidas, MTN, and

McDonald's). When focusing on future research, the researchers mentioned that future

studies should examine highly involved customers who are knowledgeable about the sport of soccer and the relationship with purchase intention. This study attempted to follow this recommendation by studying customers who are highly involved in a sponsored sport.

Sport Participants. Another growing area of interest comes from the study of participants in a sport. Most previous research with recall and recognition focuses on participants watching a sport, and not competing or participating in a sport. From the research review, there seems to be virtually no research into CrossFit participation and sponsorship, however there are other participation sports, like running, with sponsorship research. Within the past 10 years, the running industry has seen and unprecedented and sustained growth, and the economic value of the participation sport has also continued to increase, leading to the research of the relationships between participants and sport sponsors. Lough et al. (2014), conducted a study with the purpose of examining if a participant's athletic identity, runner's identity, can be used to predict recognition, recall and purchase intentions among participants. The researchers sent out a survey to all the registered participants in the 2010 Las Vegas Rock 'n' Roll Marathon. The survey included a modified AIMS, the Runner Identity Scale, which yielded a participant runner IDs that ranged from 7 to 70. The survey also had recall questions where it asked the participants to recall the title sponsor, official bottled water sponsor, and energy supplement sponsor. The recognition portion had the 3 official sponsors and 7 non-sponsors or distractors, which were of similar company category to the official sponsors. Participants were asked to select the companies they believed were the official sponsors of the race. Purchase intention was measured by a seven-point Likert

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scale, which asked about visiting sponsors' websites, considering sponsor products, and their involvement in the race and how that would influence future purchases. The participants had an extremely high recall rate for the title sponsor (96.97%), and only total runner ID was a significant independent variable in predicting the correct recall of the title sponsor. For the recognition portion the participants recognized the title sponsor (97.48%), energy supplement sponsor (76.63%), and bottled water sponsor (80.62%), and once again only the total runner ID was a significant independent variable in the predicting ability to correctly recognize the official sponsors. For purchase intention, runner ID and gender were significant predictors for each of the purchase intention measures. The current study in some ways replicates Lough's study, but uses the unique sport of CrossFit and the alternative context of an online environment. This study therefore adds to the growing area of sport participation and consumption research.

Eye-Tracking. There have been different ways that researchers have studied the process of sponsorship recognition and recall. On the forefront of this research area is the use of eye tracking equipment to monitor how a spectator watches a television broadcast of a sporting event. Breuer and Rumpf (2012) used eye tracking techniques to explore the impact of sponsorship on the viewer's attention as a function of sponsor signage exposure and to model the process by which attention to sponsorship information (signage) leads to recalling the sponsor brand. Their first study's sample consisted of 85 participants, 46% male and 54% female and recruited participants in a purposeful manner based on age and educational level which resulted in contrasting test groups 'young academics' and 'old non-academics' (Breuer & Rumpf, 2012). Consumer's attention to the video being played is more than just looking at the screen.

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Eye-tracking is an important predictor in assessment of sponsorship because eye movements are direct indicators of visual attention. From their results, they concluded that a sponsor's signage impact on a viewer's attention is influenced by several factors including: total time on screen, size of signage, exclusiveness (lack of clutter) of signage, and the placement of the signage. With specifically predicting recall, they estimated that for every one second of increase in 'glance duration' the odds of sponsor recall (versus no sponsor recall) increased by 308.0%. This study added three main important components to this research field: the role of the viewer's attention, importance of placement variables, and the influence of exposure. The researchers have regarded the analysis of attention as "a mediator is crucial in identifying the complex process of sponsorship information processing". A second important finding of the research was the influence of sponsor clutter, as visual clutter increases (multiple sponsors in one place), viewer's attention will decrease. This is an important consideration for businesses that want to strategically place their sponsorship in the online environment, as they should negotiate for exclusivity in the placement of their signage.

A follow up to the previously mentioned study was conducted to analyze the impact of color and animation on a viewer's attention. The purpose of the study was to assess the impact of color on the viewer's attention to signage, examine the effect of animation types on the viewer's attention to signage, and to analyze the viewer's confusion as a reaction to the animation of signage (Breuer & Rumpf, 2015). The sample of this study consisted of 176 undergraduate and graduate students with a mean age of 24.4 years and was 56.3% male and 43.7% female. Using eye-tracking software,

the researchers manipulated sponsors signage to four different types of animation (blinking, running, twisting, and spotlight) with a static animation as the baseline category. They also manipulated the signage with different colors (blue, green, yellow, red) with a white signage as the baseline category. The researchers created five fictional brands to eliminate potential bias of previous brand awareness and exposure which addressed a major issue in sponsorship research. The hue or color of the signage was insignificant for all colors, but "luminance" and "color contrast" had a significant impact on glance duration. As in their previous study, on-screen clutter had a significant negative impact on attention. Two of the animations, blinking and running, had a significant impact on viewer attention, while the other two, spotlight and twisting, did not significantly increase viewer attention. In terms of viewer confusion, those who watched animation signage perceived significantly higher confusion than the participants that watched the color signage. This study mainly showed that more is not always better, especially when it comes to animations, as it can cause confusion for the sport viewer and confusion can create negative emotion towards the sponsor brand. From this study, there are three major implications for managers to consider when making color choices for signage: light colors over dark colors, illuminate the source of signage, and to control for color contrast between the signage and its surroundings. The additional research of dynamic signage is important for this study as it can potentially assist business managers in making a decision about the type of signage they want to display in an online environment.

Online Messaging. Online sponsorship can invoke action that differs from typical in-event sponsorship when sponsorship on a web-site is leveraged through

activation. Weeks, Cornwell and Drennan (2008), have defined activation as "communications that promote the engagement, involvement, or participation of the sponsorship audience with the sponsor" (pg. 639). Some examples of online activation sponsorship are: enter-to-win competitions, event-related giveaways, and online voting polls. According to Weeks et al (2008), sponsors can also leverage their sponsorship through non-activation communications "communications that promote the sponsorship association, but that may be passively processed by sponsorship audience" (pg. 639). Non-activation sponsorship includes on-site signage, sponsor branded content, and sponsor brand mentions. In Weeks' study, they found that when sponsors leverage their sponsorship through activation by designing their message to engage the sponsorship audience, the audience responded more positively (pg. 649). Researchers also found that these favorable attitudes can be continued after first exposure to the sponsorship message (pg. 652). This study has added the sponsorship audience's perspective of activation to sponsorship research. The current study elaborates on the audience's perspective by studying the relationship of how participants interact with activation and non-activation messages in the on-line environment.

As there many ways to create sponsorship messages at events, there are also many ways to create online sponsorship messages. Sponsors can sponsors a specific page of a site, they can place their logo along a site's banner or heading, and they can also create sponsored content. According to Kaloarama Information's report on "Advertising on the Internet: Implications for Marketers and Advertisers", sponsored content is considered a "text based message typically embedded in the context of a web site and related to the subject manner of the site" (as cited in Becker-Olsen, 2003, p.

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17). This kind of messages allows sponsors to create a relationship with the sponsor audience by telling a story or providing useful information. Becker-Olsen studied the attitudinal effects and belief measures (responsiveness, quality, leadership, trust) of mode of advertising (banner advertising or sponsored content) related to the sponsor and web site, she also explored the behavioral intentions of purchase intention of the sponsors and revisit intention of the website (pg. 18). In her first study, she printed out a web-page from a fictional site. The printout included static "buttons" that represented an advertising banner relevant to the participants, and the body of the website was an article written by a website community member or an identified corporate sponsor. She found that sponsors experienced the greatest benefits when using sponsored content, followed by banner advertising. For the sponsor, sponsored content also had more favorable results from the overall attitudinal effects and behavioral intent to purchase, while for the website revisit intention is diluted with sponsored content. Becker-Olsen repeated the study and the researchers conducted the experiment on the computer. The sponsored content article was changed to have a bold and large size type font so the participant could clearly identify it as sponsored content, while the advertising banner had an animated graphic and activation component (free giveaway) which participants could click on to enter (pg. 26). As in the first study, sponsored content lead to more favorable overall attitudinal effects researchers also found that 92% of participants (180 subjects) were aware than the content on the website was provided by a sponsor (pg. 26). From both studies, the conclusion can be drawn that sponsored content could be a potentially effective mode of advertising for sponsors to generate a positive response towards the sponsor and maybe most importantly, an increase in purchase intention.

The current study also attempted to address how sponsorship messaging on a website affects purchase intent of a sponsor's target market.

Sponsorship activation at major sport events is a common occurrence and has been for many years. With the growth of technology and internet access over the past decade, business managers have been challenged to think outside the box, both literally and figuratively, as sponsorships have shifted from majority on-site sponsorship to the increasingly online environments. According to IEG, in 2005 only 51% of sponsors used internet platforms to leverage their sponsorship (IEG, 2007). In 2015, social media was the channel with most sponsorship leverage (95%) among sponsorship decision makers, and for the first time, traditional advertising was ranked behind digital and mobile platforms (IEG, 2016). Online sponsorship has become a vastly more popular marketing tool over the last decade. As technology continues to change, business managers must be adaptive and be willing to create online messaging that will be more integrated and direct with the sponsorship audience, in hopes that it will lead to higher activation and an increased return on investment. To date, there has been no research that has measured the effectiveness of recall and recognition of sport event sponsorship messaging in an online environment. This study contributes to this research area.

Literature Summary

Due to the popularity of CrossFit as a participant sport, combined with the sponsorship of sport being a multi-billion dollar industry, it is important for researchers to strive to understand how sponsorship messaging is processed by the audience. Sponsorship can be created at different levels, locations and mediums. Researchers have tried to cover many of these areas of event sponsorship at different sporting events and

even target the type of participant and involvement of the participant receiving the sponsorship message. In an attempt to further understand the audience's process in receiving sponsorship messages, researchers have created surveys to measure memory and used eye-tracking equipment to measure attention. As sponsorship is present at both in-person sport events and in the online environment which has the potential to reach the masses with its message, it is important to try to fill the gaps in the current research to include these new prominent channels. This study attempted to focus on and study the relationship between the participant's athletic identify and the sponsorship message effectiveness in this online environment.

Chapter 3: Methods

There has been a considerable amount of research conducted measuring the recognition and recall of sport sponsorship in spectator sport. To date, there has been limited research analyzing how an individual's level of sport identity affects the participants' ability to recall and recognize sport event sponsors. The purpose of this study was to examine the relationship between an individual's level of CrossFit Athletic Identity (CAI) and sponsorship recall and recognition. The study evaluated how an individual's participation in this year's CrossFit Open and their CAI is related to their ability to process sponsor stimuli on the official CrossFit Open website, which is a required component of participating in the open. In the broadest overview, the study consisted of a post event online survey of CrossFit Open participants, and laboratory eye-tracking testing of a small subsample of that group. This chapter will describe the sample for the study, the instrumentation, measurement protocols, research design, data collection procedures, and finally data management and analysis.

Sample

The participants of this study were 2017 CrossFit Open participants from the Oklahoma and North Texas area. There were two components of the study, a survey and four case studies to explore qualitative treatment validation. The study recruited participants through non-probability sampling of convenience. Participants were recruited through social media posts to gym websites, and through word-of-mouth. A G power analysis was conducted using an F-test and linear multiple regression with the following parameters: power = 0.80, α = 0.05, small effect size = 0.05 (based on Lough et. al, 2014), 7 predictors (age, gender, number of years participating in the CrossFit Open, number of years participating in CrossFit, number of visits to the CrossFit Games website, average time spent on each visit to the CrossFit Games website, and previously familiar brands) and 1 tested predictor (CAI score) (Tabachnick & Fidell, 2013). This resulted in an *a priori* suggested sample size of 160 participants. Several studies examining sponsorship have had over 300 participants in their sample due to the large population size (Biscaia, Correia, Rosado, Ross & Maroco, 2013; Chanvat, Martinent & Ferrand 2010; Dhurup et al, 2011; Gwinner & Swanson, 2003; Hermann, Corneille, Derbaix, Kacha & Walliser, 2014; Maxwell & Lough, 2009). Also, there have been other studies that used convenience sampling for their sampling technique (Dhurup et al, 2011; Dlakas & Rose, 2003). Regarding the location of data collection, past studies have been conducted in a laboratory setting due to the nature of the study (eye-tracking, use of computer, or watching a sports broadcast) (Breuer & Rumpf, 2012; Breuer & Rumpf, 2015; Cornwell, Humphreys, Quinn & McAlister, 2012; Lardnoit & Derbaix, 2001). Other studies were conducted near the event or on-site to receive a diverse

sample of participants who would range from heavily involved with the event/team or exposed to sponsorship to other participants who would be expected to be less involved with the event/team or not exposed to sponsorship (Alexandris, Tsaousi & James 2007; Cornwell, Relyea, Irwin & Maignan, 2000; Dalakas & Rose, 2012; Gwinner & Swanson, 2003; Hermann et al, 2014; Maxwell & Lough, 2009). Others sent out their surveys to target event participants via mail (Biscaia et al, 2013; Biscaia et al, 2014) and email (Lough et al 2014). For the survey part of this study, participants completed the survey from anywhere they had access to the internet and the survey website link, and could be completed on their phone, tablet or computer. They were however cautioned to do so in a distraction free setting, without accessing other sources on the internet, e.g. checking for correct sponsors. For the individual case studies, participants were asked to visit the Sports Business Analytics Laboratory at the Sarkeys Fitness Center in Norman, Oklahoma.

Instrumentation and Measurement Protocol

The online survey portion of the study consisted of a 24-item questionnaire, with 9 sections. The first section (2 items) asked about respondent's participation in the 2017 CrossFit Open. The second section (3 items) asked participant about their interactions with the official CrossFit Open website and asked them to identify the affiliated gym where they completed the workouts. The third section (2 items) asked participants about their CrossFit involvement history. The fourth section (1 item) measured the participant's ability to use unaided recall to correctly identify the official sponsors of the 2017 CrossFit Open. The fifth section (10 items) was the Athletic Identity Measurement Scale that was modified for CrossFit participants. The sixth section (1

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item) explored the participant's ability to use aided recall to recognize a team's sponsors. The seventh section (2 items) covered the respondent's purchase intention for official sponsor brands. The eighth section (2 items) requested basic demographic information, and the last section (1 item) asked about the participant's previous familiarity of the official CrossFit Open sponsors. A copy of the complete survey is included in Appendix A.

The first question of the first section confirmed the respondent's participation in the 2017 CrossFit Open as a yes or no question. It directed respondents to an exit page if they did not actually participate in the Open. The second question measured their participation level of the Open, as the participants of the Open had 5 workouts for which they may have completed and recorded their scores online. Participants were asked to select all the workouts that they completed and recorded a score for and participants that didn't select any of the workouts had their survey excluded from data analysis.

The second section explored the participant's involvement with the online environment of the Open and the physical space where they completed their workouts. The first two questions measured their exposure to the CrossFit Open website in number of total visits and estimated time spent in number of minutes during each visit. The last part of this section asked participants to select which affiliated gym they completed the majority of their 2017 CrossFit Open workouts.

To measure unaided recall, participants were asked to name, without cues or stimuli, the official sponsors of the 2017 CrossFit Open. A maximum of 14 companies were possible to recall correctly. Participants entered their answers in a multi-line

textbox that had a character range from 0 to 300. This question was scored from 0 to 14 based on the total number of companies correctly identified as sponsors of the 2017 CrossFit Open. There was no penalty due to an incorrect answer or number of official sponsors not identified. This use of unaided recall measure has been reported to be valid in previous research of sport sponsorship (Biscaia et al, 2014; Ko, Kim K., Claussen & Kim T.H., 2008; Walsh, Ross & Kim, 2008).

The aided recall (recognition) questionnaire had a list of 26 company names and logos. Of those 26 companies, 14 were official sponsors of the 2017 CrossFit Open and the other 12 were non-sponsor distractors which were either competitors or brand of products similar to the true sponsor companies. Participants were asked to correctly identify which companies were official sponsors of the 2017 CrossFit Open. The responses were scored from 0 to 14, and the participant received 1 point for each correct sponsor they identified as an official sponsor. The use of this aided recall measure has also been suggested to be valid in previous research of sport sponsorship (Biscaia et al., 2014; Ko et al., 2008; Walsh et al., 2008).

The third questionnaire was the modified Athletic Identity Measurement Scale (AIMS) for CrossFit athletes. The Athletic Identity Measurement Scale is a 10-item questionnaire, originally developed in 1993 by Brewer, Van Raalte and Linder, it was created to measure the construct of athletic identity, which as state in the literature review is "the degree of to which an individual identifies with the athlete role". The 10 items are measured on a Likert scale from strongly disagree (1) to strongly agree (7). The AIMS score sums the number values of each question, scores range from 7 to 70. The 10 items of AIMS are listed in Appendix B. Brewer et al, conducted three studies to

evaluate the scale and found that AIMS was a reliable and valid measure of athletic

identity (1993). Since then, studies have modified the AIMS from a general athlete role,

to a sport specific identity role. Both Mack & Horton (2000) and Lough et al, (2014)

used a modified version of AIMS for marathon runners. Mack & Horton had a similar

internal consistency score ($\alpha = 0.86$) to Brewer's unmodified scale score ($\alpha = 0.93$). In

this study, AIMS was modified to assess the specific role of a "CrossFit athlete" instead

of the general role of "athlete". The internal consistency reliability and construct

validity for the modified scale were evaluated using Cronbach's alpha and factor

analysis respectively. The modified CrossFit athletic identity (CAI) questionnaire is

listed below:

1. I consider myself a CrossFit athlete.
2. I have many goals related to CrossFit.
3. Most of my friends are CrossFit athletes.
4. CrossFit is the most important part of my life.
5. I spend more time thinking about CrossFit than anything else.
6. I need to participate in CrossFit to feel good about myself.
7. Other people mainly see me as a CrossFit athlete.
8. I feel bad about myself when I do poorly in CrossFit.
9. CrossFit is the only important thing in my life.
10. I would be very depressed if I were injured and could not compete in CrossFit.

The purchase intention section of the survey asked two questions. The first was

about the respondent's likelihood of purchasing products from official 2017 CrossFit

Open sponsors and the second was the likelihood of the respondent considering official

sponsors of the 2017 CrossFit Open over non-sponsors. Lough et al., used similar

questions to measure purchase intention (2014). Both items were measured using a

Likert scale from extremely unlikely (1) to extremely likely (7) and were coded as

continuous variables. The purchase intention questions are listed below:

1. On a scale of not at all likely (1) to very likely (7), how likely are you to purchase products of the 2017 CrossFit Open partners and sponsors?

2. On a scale of not at all likely (1) to very likely (7), how likely are you to consider the products of the 2017 CrossFit Open partners and sponsors over non-sponsors?

The next section measured the demographics of the participants, which included age in years and gender. Gender was identified by asking which gender division of the CrossFit Open they participated in.

The final section prompted participants to select which of the 14 official CrossFit sponsors they were familiar with before participating in the 2017 CrossFit Open. This question was asked to gauge any new recognitions resulting specifically from the participant's involvement in the CrossFit Open.

Qualitative Analysis Methods

The second component of this study was the qualitative analysis of four case studies. Participants were recruited as a sub-sample of this study through local convenience sampling. Participants visited the Sports Business Analytics Laboratory to have an eye-tracking recording of their interaction with the 2017 CrossFit Open website on a desktop computer. This part of the data collection occurred during the last two weeks of the 2017 CrossFit Open. During the recruitment process, potential case study participants were asked if they were participating in the 2017 CrossFit Open and if they had most of their workouts online so far in the competition. Potential candidates were excluded if they were not participating or they had not logged most of their workouts, because participants needed to be able to interact with the website without any

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assistance from the researchers. Once the candidates had been recruited, they were asked to visit the Sports Business Analytics Laboratory at the Sarkey's Fitness Center in Norman, Oklahoma to record their week's scores. Participants were asked to wait to record their workout scores for the week until they had come to the laboratory. Once participants arrived in the laboratory, their eyes were calibrated for eye-tracking using the Gazepoint GP3 (60Hz) equipment. The software uses infrared technology to track the participant's eyes with the GP3 eye-tracker that is located underneath the computer monitor. When the calibration processed begins, a white dot appears on the screen and tracks eye movement with a 5-point calibration, with accuracy between 0.5 and 1 degree of the visual angle. Once calibrated, participants were asked to record their scores for the week and interact with the website as they normally had for previous duration of the competition. There was no time limit for the case study, participants could take as long as they normally would while interacting with the website. Participants were asked to give a pre-determined signal to let the researcher know they're done interacting with the website. After the interaction was done, the participants were asked to complete the full questionnaire described previously. The case study questionnaire responses were compared to the general characteristics of the survey respondents to evaluate their representation of an average participant, but the case study questionnaires were excluded from the overall quantitative analysis of the survey data due to the potential loss of ecological validity caused by the laboratory testing session.

Research Design

The research design for this study was classified as a cross-sectional descriptive and correlational design. Researchers attempted to minimize threats to external validity, particularly for case study participants by acting and responding in the same professional manner with all participants. Researchers also fully practiced and pilot tested the laboratory procedure so they conveyed identical information to each participant.

Data Collection Procedures

Data collection began in March 2017 and concluded by April 2017. The survey link was distributed to 36 different CrossFit affiliated gym owners in the Oklahoma and North Texas. The survey was hosted on the Qualtrics survey website. No individually identifiable data was collected, and data collected from the survey was password protected to ensure the confidentiality of the participants and their responses. The purpose of the study, consent request, and instructions for completing the questionnaire were included in the first page of the questionnaire. In accordance with the IRB approval process at the University of Oklahoma, the participants had the opportunity to decline to participate in the study at any time. There were no known psychological or physical risks associated with participating in this study.

Data Management

For data preparation, any incomplete surveys were dropped from the analysis of this study. The data were labeled and coded so that each variable that was analyzed was organized. The questionnaire regarding CrossFit Athletic Identity (CAI) was analyzed

first to determine the three groups of CAI. Respondents above the 67th percentile were grouped into high CAI, respondents between the 33rd and 67th percentile were grouped in mid CAI, and respondents below the 33rd percentile were considered low CAI. The percentile groups were constructed in the same manner as the Lough et al. study (2014).

To determine the participants' recognition (aided) scores, the researchers tallied the number of correctly identified sponsors to determine the overall recognition scores (0-14), and the same was done for recall (unaided) scores. The modified AIMS and purchase intention items were coded 1-7 on a Likert scale. There was no reverse coding as the original AIMS did not call for reverse coding. Respondent's recall and recognition count scores ranged from 0-14. New familiarity scores were either 1 or 0, the respondent scored a 1 if they recognized the brand as an official sponsor of the CrossFit Open but were not previously familiar with the brand before the CrossFit Open. New familiarity scores were done by brand and not an overall count. For coding the different groups of CAI scores, responses were coded in the following manner: CAI scores above the 67th percentile (high CAI) were coded as 3, for CAI scores between the 33rd percentile and 67th percentile were coded as 2 and CAI below the 33rd percentile were coded as 1.

Data Analysis

The descriptive statistics of the participants' demographic variables were calculated using SPSS 23.0. A summary of the results will be included in the Results chapter.

Factor Analysis

Factor analysis was conducted with the direct measures of CAI. Factor analysis is used to reduce large data sets into common components, it seeks to find multiple observed variables that have similar response patterns because they're associated with another latent variable. "Factor analysis removes redundancy among the measured variables and produces a set of derived variables called factors" (Vincent & Weir, 2012). Once factors are produced they're assigned an eigenvalue which "indicates the number of original variables that are associated with that factor" (Vincent & Weir, 2012). An eigenvalue below 1 was used as an indicator that a factor may not be stable and that it should not be used.

One-Way ANOVA

After the three CAI groups above were determined, an analysis of variance (ANOVA) test was used to determine if there was a statistical difference between the recall and recognition score between the different levels of CAI. Purchase intention was also analyzed using analysis of variance (ANOVA). ANOVA was used to determine if there is a statistical different between purchase intention and the different levels of CAI.

Poisson Regression

The purpose of Poisson Regression is to model count variables. It predicts the dependent count variable given that there are one or more independent variables. The researchers used Poisson regression because the number of correctly recognized and recalled sponsors as well as new familiarity of recognized and recalled brands was a count (0-14) outcome.

The researchers ran tests to make sure the assumptions of multiple regression and ANOVA were met, including, but not limited to: a Shapiro-Wilk test to determine if the measures are normally distributed with a p-value of 0.05, a test to determine if the residuals are homoscedastic, and multicollinearity diagnostics. Post-hoc analysis was performed on and group differences identified.

Chapter 4: Results

This chapter will describe the outcomes and findings from this study. The description of data preparation will include: missing data and how it was handled, testing for outliers, coding of the data, testing for validity. The outcomes will include: the direct results from CAI, and purchase intention, descriptive tables of all the data, regression analyses and qualitative analysis of the laboratory participant testing.

Missing Data

The results from this survey were exported from Qualtrics and processed in SPSS 23.0. Participants were able to skip any question except for the consent question at the beginning of the survey, so there were some missing data. Missing data was identified by running a frequency test on each question and a total of 4 respondents were removed from the analysis due to too much missing data from their responses, each respondent having a total of 4 questions without answers from their survey. After this process, there were 183 respondents in the sample. In other instances where respondents had some missing data but less than 4 missing values, a mean-replacement method was used. Table 4.1 shows the questions with missing results.

Table 4.1
Missing Data Results

Section and Item #		Number of Missing Data
CAI		
	Item 2	3
	Item 4	4
	Item 6	1
	Item 8	1
Purchase intention		
	Item 1	4
	Item 2	4
Demographics		
	Item 1 (Gender)	3
	Item 2 (Age)	4
CrossFit Participation	Item 1	3

Total		36

Outliers

Outliers were identified by running descriptive analyses. Responses greater than 2 standard deviations from the mean for continuous measures were classified as outliers. There were 8 respondents that were considered outliers for the item concerning the total number of visits to the official CrossFit Games website during the Open and 6 respondents were considered outliers for the item concerning the average amount of time spent during each visit to the official CrossFit Games website during the Open. A total of 13 outliers were removed from the data for analysis, leaving the remaining sample size of 170. Below is a table of the 13 outliers and their values.

Table 4.2
Outliers

Participant ID	Approximately how many times did you visit the official CrossFit Open website **in total**	Approximately how many minutes did you spend on the official CrossFit Open website **during each visit**
12	200	
38	200	
66		240
82	200	
96		1000
122	300	
137	200	
139	150	
141		360
160		300
172	300	360
179	180	
185		270
Mean	35.43	36.19
SD	47.43	93.752

Factor Analysis

Maximum likelihood factor analysis was conducted to determine that the components of CAI (the 10 questions), loaded onto one global factor. The 10 questions

of the modified AIMS (CAI) were scrutinized using principal axis analysis with varimax rotation. The analysis produced three factors explaining a total of 64.315% of the variance for all the variables in the set. The first factor was labeled social identity associated with CrossFit, it included items 1, 2, 3, and 4 of CAI and explained 37.59% of the variance. The second factor was labeled emotion affinity of CrossFit, it included items 6, 8, 9 and 10 of CAI, and accounted for 15.536% of the variance. The third factor was labeled singularity of self-reflection associated with CrossFit, it included items 4 and 5 of CAI, and explained 11.188% of the variance. Overall, the factor analysis revealed that the analysis met the Kaiser-Meyer-Olkin Measure of Sampling Adequacy of a suggested minimum of 0.6 (0.783). Below is a table showing the results from the factor analysis

Table 4.3
CAI Factor Analysis Results

	Rotated Factor Matrix		
	Factor 1: social identity associated with CrossFit	Factor 2: emotion affinity of CrossFit	Factor 3: singularity of self-refection associated with CrossFit
I consider myself a CrossFit athlete	0.748		
I have many goals related to CrossFit	0.652		
Most of my friends are CrossFit athletes	0.613		
CrossFit is the most important part of my life			0.657
I spend more time thinking about CrossFit than anything else			0.823
I need to participate in CrossFit to feel good about myself		0.620	
Other people mainly see me as a CrossFit athlete	0.494		
I feel bad about myself when I do poorly in CrossFit		0.807	
CrossFit is the only important thing in my life		0.470	
I would be very depressed if I were injured and could not compete in CrossFit		0.520	
Initial Eigenvalues	3.759	1.554	1.119

Internal consistency reliability was tested by using Cronbach's Alpha. The CAI had a Cronbach's Alpha equal to 0.801 for the AIMS modified specifically for CrossFit athletes. Below is a table with the Cronbach's Alpha results.

Table 4.4
Cronbach's Alpha Results

Cronbach's Alpha	N of Items
0.801	10

Cronbach's Alpha was also conducted for the three subscales discovered by the factor analysis. Below is a table with the results.

Table 4.5
Subscale Cronbach's Alpha Results

Factor	Cronbach's Alpha	N of Items
1	0.746	4
2	0.700	4
3	0.757	2

Descriptive Data

The respondents' mean age was 33 years, with the median years participating in CrossFit was 4 and the median years of participating in the CrossFit Open was 3. The respondents of this study were majority female (62.94%). The average reported number of visits for the 5 weeks of the CrossFit Open was 26 and the average reported number of minutes spent per visit was 22. The mean CAI score was 39.45 (SD = ± 9.574). The high CAI had a group size of 56, the mid and low CAI had group sizes of 57. The frequency of the CAI scores is included in Appendix C. Respondents had a high recall rate for the title sponsor of the CrossFit Games (Reebok, 71.2%), the next highest recall rate was at 44.7% for Rogue. Table 4.6 and Table 4.7 show the raw recall and recognition rates for the official sponsors.

Table 4.6
Recall Rates of Official CrossFit Games Sponsors

Company	N	%
5.11	3	1.8%
Airrosti	22	12.9%
Assault Fitness	47	27.6%
Compex	3	1.8%
Eggology	0	0.0%
FitAid	16	9.4%
Gatorz	9	5.3%
Paleo Ethics	6	3.5%
Reebok	121	71.2%
Rock Tape	5	2.9%
Rogue	76	44.7%
ROMWOD	21	12.4%
Trifecta	0	0.0%
Zevia	24	14.1%

Table 4.7
Recognition Rates of Official CrossFit Games Sponsors

Company	N	%
5.11	48	28.2%
Airrosti	75	44.1%
Assault Fitness	93	54.7%
Compex	21	12.4%
Eggology	4	2.4%
FitAid	67	39.4%
Gatorz	47	27.6%
Paleo Ethics	36	21.2%
Reebok	152	89.4%
Rock Tape	42	24.7%
Rogue	136	80.0%
ROMWOD	86	50.6%
Trifecta	10	5.9%
Zevia	66	38.8%

Gym Differences

Even though the competition was hosted in an online environment, the weekly physical tasks that the participants had to enter online were competed in many different physical spaces (CrossFit affiliate or otherwise). It was important to the integrity of the data to determine if the physical space had any statistical significant influence on the participants' recall and recognition scores. There could be substantial differences between the physical spaces from promotional material present (posters, flyers, etc.) or

brand of equipment used at the facility. Mean differences for the dependent variables (raw recall and recognition scores and unfamiliar brand recall and recognition scores) were tested across the physical spaces and there were no statistical significant differences ($p > 0.05$).

Multivariate Analyses

One-Way ANOVA

There was a statistically significant difference between the CAI groups regarding the measure of intent to purchase products of the 2017 CrossFit Open sponsors as determined by a one-way ANOVA ($F(2,167) = 3.378$, $p = .036$). A Tukey post hoc test discovered that the self-reported intent to purchase sponsor products was statistically significantly lower for a respondent with a "low" CAI score (3.95 ± 1.619, $p = .027$) compared to a respondent with a "high" CAI score (4.71 ± 1.510), with a $\eta^2 = 0.038$ effect size. There were no statistically significant differences between the "high" CAI score and "mid" CAI score groups. There were statistical differences between the groups regarding the consideration of the products of official 2017 CrossFit Open sponsors over non-sponsors.

There were no statistically significant differences between the CAI groups for the count of correctly recalled sponsor scores determined by an ANOVA. Also, there were no statistically significant differences between the CAI groups and count of correctly recognized sponsor scores. Outputs for the ANOVAs are depicted below in Table 4.8

Table 4.8
ANOVA Outputs

		N	Mean	SD	ANOVA Confidence Interval Mean 95%	
Purchase products of the 2017 CrossFit Open partners and sponsors	High CAI	56	4.71	1.51	4.31	5.12
	Mid CAI	57	4.35	1.575	3.93	4.77
	Low CAI	57	3.95	1.619	3.52	4.38
	Total	**170**	**4.34**	**1.591**	**4.09**	**4.58**
Consider the products of the 2017 CrossFit Open partners and sponsors over non-sponsors/partners	High CAI	56	4.55	1.56	4.14	4.97
	Mid CAI	57	4.16	1.509	3.76	4.56
	Low CAI	57	3.95	1.444	3.56	4.33
	Total	**170**	**4.22**	**1.517**	**3.99**	**4.45**
Recall Score Count	High CAI	56	2.05	1.227	1.72	2.38
	Mid CAI	57	2.25	1.258	1.91	2.58
	Low CAI	57	1.93	1.4	1.56	2.3
	Total	**170**	**2.08**	**1.296**	**1.88**	**2.27**
Recognize Score Count	High CAI	56	5.79	2.613	5.09	6.49
	Mid CAI	57	5.14	2.438	4.49	5.79
	Low CAI	57	4.67	2.593	3.98	5.35
	Total	**170**	**5.19**	**2.575**	**4.8**	**5.58**

Poisson Regression

Poisson regression was used because the outcome variables (recognition and recall) were count data and not overly-dispersed. The purpose of the Poisson regression is to model the relationship between predictors and the likelihood of certain outcomes. The first Poisson regression was run to predict the number of sponsor recall (unaided) counts based on the following predictors: CAI score, age, gender, number of years participating in the CrossFit Open, number of years participating in CrossFit, number of visits to the CrossFit Games website, average time spent on each visit to the CrossFit Games website and count of official sponsors previously familiar with before the CrossFit Open. The value of the Pearson Chi-Square value/df was 0.631, slightly under-

dispersed. A value of 1 means there is equal dispersion, but because of the smaller

sample size in this study, the value of 0.631 is unlikely to be consequential violation of

the dispersion assumption (Vincent & Weir, 2012). The Omnibus Test revealed that the

model was statistically significant with a *p*-value less than 0.001. The Test of Model

Effects showed that the count of brands previously familiar with ($p <= 0.001$) was

statistically significant. Below is the Poisson regression results for the raw recall count.

Table 4.9
Poisson Regression: Raw Recall Count
Dependent Variable: Raw recall score

	B	Std. Error	Sig.
(Intercept)	-0.077	0.3787	0.839
Number of Open Years Participation	0.086	0.058	0.140
Number of CrossFit Years Participation	-0.012	0.0395	0.756
CAI Score	-0.004	0.0062	0.496
Gender	0.034	0.1151	0.765
Age	0.006	0.0073	0.386
Count of Familiar Brands	0.083	0.0224	0.000
Avg. Time Spent per Website Visit	0.002	0.0015	0.137
Number of Visits to CrossFit website	-0.002	0.0024	0.378

Poisson regression was run again predict the number of sponsor recognition

(aided) counts based on the predictors mentioned above. The value of the Pearson Chi-

Square value/df of 1.017 means the data was slightly over dispersed, but because of the

sample size in this study, is unlikely to be consequential violation of the dispersion

assumption. The Omnibus Test revealed that the model was statistically significant ($p <$

0.001). The Test of Model Effects showed that age ($p = 0.024$) and count of brands

previously familiar with ($p< = 0.001$) were statistically significant. Below are the

Poisson regression results for the raw recognition count.

Table 4.10
Poisson Regression: Raw Recognition Count

Dependent Variable: Raw Recognition Count

	B	Std. Error	Sig.
(Intercept)	1.465	0.2435	0.000
Number of Open Years Participation	0.034	0.0381	0.370
Number of CrossFit Years Participation	-0.012	0.0257	0.630
CAI Score	0.001	0.0039	0.703
Gender	-0.098	0.0721	0.173
Age	-0.011	0.0049	0.024
Count of Familiar Brands	0.075	0.0142	0.000
Avg. Time Spent per Website Visit	0.001	0.0009	0.141
Number of Visits to CrossFit website	-0.001	0.0015	0.523

The researchers conducted another Poisson regression, but the dependent variable was the count of sponsors that were recognized and previously unfamiliar to the participant. This was done because the count of familiar brands was so dominant in the previous regressions. The Poisson regression for the new recognition count of brands previously unfamiliar to the respondent had Omnibus Test significance of $p=$ 0.009, indicating the model is statistically significant. Number of visits to the official CrossFit Games website ($p = 0.037$) and gender ($p = 0.022$) are statistically significant in predicting the number of new brands recognized. There was a total of 194 counts of newly recognized brands that participants were previously unfamiliar with, and 95 participants recognized at least 1 new brand. Below are the Poisson regression results for the newly recognized sponsor count.

Table 4.11
Poisson Regression: Newly Recognized Sponsor Count

Dependent Variable: Newly Recognized Sponsor Count

	B	Std. Error	Sig.
(Intercept)	1.516	0.51	0.003
Number of Open Years Participation	0.009	0.0792	0.910
Number of CrossFit Years Participation	-0.028	0.0537	0.601

CAI Score	-0.008	0.0081	0.316
Gender	-0.340	0.1488	0.022
Age	-0.021	0.0107	0.056
Avg. Time Spent per Website Visit	0.004	0.0019	0.057
Number of Visits to CrossFit website	-0.008	0.0039	0.037

Researchers were unable to run a Poisson regression for the count of newly recalled brands previously unfamiliar to the respondent due to the limited number of respondents having any newly recalled brand. There was a total count of 39 new brands recalled and only 29 (17.06%) participants recalled 1 or more brands they were previously not familiar with, and furthermore, 79.31 % of respondents who did recall previously unfamiliar brands only recall 1 brand.

Qualitative Analysis

Of the six case studies that were recruited, four of them were able to have their eyes calibrated to be tracked for the study. The interaction time on the website ranged from 1:08 to 6:44, with an average time of 3:40. The pages visited within the website included: home page, log-in page, score submission page, leaderboard page, and team page. None of the four case studies had any sponsor images present during their interaction time besides the CrossFit Games logo (Image 4.1 below) that was present on every single page visited by the case studies, but only had one fixation of 0.289 seconds.

Figure 4.1
CrossFit Games Official Logo (CrossFit, 2017e)

Chapter 5: Discussions and Conclusions

This chapter explores the implications of the results of the data collection analyses. The findings relative to the hypotheses of this study and the relevance to previous research will be discussed. This chapter also contains study limitations, recommendations for future research, implications for sport event management practitioners, and concluding remarks.

Descriptive Data Discussion

The recognition rate of the title sponsor for this study, was similar to Lough et al. (2014) results. Rebook (CrossFit Open title sponsor) was correctly recognized by 89.4% of the participants in this study, while Lough et al. had 97.48% of their participants correctly recognize the title sponsor of their event (2014). There is some evidence that the title sponsor would have the highest recognition rate due to the sponsor's involvement with the event (naming rights, signage placement, etc.). This is shown by the difference in the second highest brand recognized. In this study, Rouge was correctly recognized by 80.0% of the participants, and the Lough et al. secondary sponsor had a recognition rate of 80.62% (2014).

The median age of the study's sample (33 years) falls within the median range for the 2016 CrossFit Open participants (CrossFit, 2016). The study had a greater percentage of female participants (62.94%) compared to the 2016 CrossFit Open participants (42%). The study's sample for age and gender could generally be considered representative of the overall participant population.

Research Hypotheses and Results

The purpose of this study was to examine the relationship between an individual's level of Athletic Identity and their ability to recall and recognize official sponsors of a participant event presented in an online environment. Results from the sample data are not in agreement with the researchers' hypotheses 1 and 2 (insufficient evidence to reject the null), but the data is in agreement with hypothesis 3 (null hypothesis rejected).

Hypothesis 1 predicting that an individual's CAI score is a significant positive predictor in measuring unaided recall rates of event sponsors. The CAI score was not a significant predictor of unaided recall count when controlling for age, gender, website exposure (visits and average visit time), prior CrossFit participation (in general and in the CrossFit Open), and prior brand familiarity. This is not consistent with previous findings by Lough, et al. who found that Athletic Identity influenced recall rates of sponsors by sport event participants (2014). They found that Runner ID (modified CAI to runners specifically) was a significant variable ($p < 0.001$) in recalling the correct title sponsors, while age, gender, income, education, and relationship status were not significant ($p > 0.05$) (2014).

Hypothesis 2 predicting that an individual's CAI score is a significant positive predictor in measuring aided recall (recognition) rates of event sponsors. The CAI score was not a significant predictor in predicting aided recall count when controlling for age, gender, website exposure (visits and average visit time), prior CrossFit participation (in general and in the CrossFit Open), and prior brand familiarity. This is not consistent with previous findings by Lough, et al. (2014) who found that Athletic

Identity influenced recognition rates of sponsors by sport event participants. They found that Runner ID was the only significant variable for predicting recognition of event sponsors ($p<0.01$) and gender, age, income, education, and relationship status were not significant in predicting sponsorship recognition.

Hypothesis 3 predicting that an individual's CAI score is positively associated with sponsor purchase intention for an individual. As previously stated in the Results chapter, there was a statistical difference between individuals with "low" CAI and "high" CAI ($p = 0.027$) and no statistical difference between individuals with "mid" CAI versus "low" CAI and "high" CAI. This difference between "low" CAI and "high" CAI can potentially be used to create market segmentation within CrossFit Open participants.

Control Variables The control variables included in the analyses had mixed and/or ambiguous influences on the recall and recognition of sponsors. These included Age, Gender, website exposure (visits and average visit time), prior CrossFit participation (in general and in the CrossFit Open), and prior brand familiarity. As discussed earlier in the Literature Review, Breuer and Rumpf emphasized the importance of controlling for the influence of exposure, viewer's attention and placement of signage to the research area.

In both estimated regression models for brand recognition, Age displayed a negative relationship with recognition scores. Using the total recognition score, an additional year in age, was associated with respondent recognizing 0.011 (95% CI, -0.021 to -0.001) less sponsors (p = 0.024). In the case of new (previously unfamiliar) brand recognitions, although just short of statistical significance at the $\alpha = 0.05$ level,

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every additional year of age of respondents was associated with a decreased recognition count of unfamiliar sponsors by 0.021 (p = 0.056). These results could arise for two reasons, (1) older participants may be less involved in the event, therefore less likely to recognize sponsors, or (2) as participants get older, their memory of sponsors could simply be affected by natural aging declines. Future research should investigate not only this relationship but also whether or not it is actually linear in nature.

Prior brand familiarity was the strongest predictor of sponsor recall and recognition when included as a total score independent variable. For every additional previously familiar brand, respondents' count of recall sponsors would increase by 0.083 (95% CI, 0.039 to 0.127). For every additional previously familiar brand, respondents would have an increase count of 0.075 (95% CI, 0.047 to 0.103) recognized sponsors. This is expected, as sponsor brand familiarity would lead to an increase in recognition of event sponsors. This is consistent with prior studies which have either observed this relationship or statistically controlled for the effects (Breuer & Rumpf, 2012, 2015)

When the dependent measure of brand recognition was instead coded to remove previously familiar brands *a priori*, some other control factors emerged as significant, and/or potentially important, predictors of brand recognition. When considering only these "new" brand recognitions, the number visits to the official website was a significant predictor in recognizing sponsors brands that the participants were not previously familiar with. Seemingly counterintuitive, every additional website visit was associated with a decrease in the count of newly recognized brands of 0.008 (95% CI, -0.016 to 0.000). Closer examination of the website design offers a possible explanation.

Since the sponsor logos were not on every page of the website, it makes sense that the increased number of visits could be associated with fewer exposures to unfamiliar sponsor images. This could be directly related to the depth of interaction with the website, i.e. as visual attention and fixations would translate to better ability to recognize sponsors. If a participant's number of visits was high but time spent was low, they may simply have only had time to enter scores and check standings, and not necessarily explore the site and be exposed brand logos (see discussion of brand presentations below). Therefore, the number of visits could provide an invalid measure of high brand image interactions in this case, and not translate to increased recognition rates. Related to this concept of exposure though, and although not statistically significant, the estimated coefficient for average time on the site still suggested a potentially relevant positive relationship with recognition ($p = 0.057$), which is consistent with the overall brand exposure hypothesis. The latter finding is consistent with previous sponsor recognition research which also measured effects of brand exposure (Becker-Olsen, 2003, Breuer & Rumpf, 2012, 2015, Lardnoit & Derbaix, 2001). Gender was also a significant predictor of new brand recognition, as Males recognized about 0.34 (95% CI, 0.022 to 0.149) more brands than females. This was contrary to the Lough et al. study because they found that gender was not a significant predictor in sponsorship recall and recognition rates (2014).

Qualitative Analysis Conclusions

While the case study component of the overall study rules out inferential analysis, it did offer important insights into why sponsorship effects on brand recall and recognition we muted in this case. With only 1 fixation on the CrossFit Games logo

across all observed participants and no presence of any sponsors aside from Reebok in

the CrossFit Games logo, it appears that event participants were not getting enough

exposure to the sponsors in the online environment to induce memory coding.

Incidentally, the CrossFit Games website changed their layout from 2016, and there was

significant less visible signage for sponsors on the site. Specifically, on the previous

website there was a side banner on each page that had the logos of the partners and

sponsors of the CrossFit Games, depicted in the Figure 5.1 below. Another major

change to the sponsor signage is that in 2016 the signage was static, currently the

signage is on a rotating banner so that logos change every few seconds to reveal other

brands. The only static signage now is for Reebok, Rogue, and Airrosti (which are

considered "proud partners" sponsorship).

Figure 5.1
2016 CrossFit Games Sponsor Logo Banner (CrossFit, 2017e)
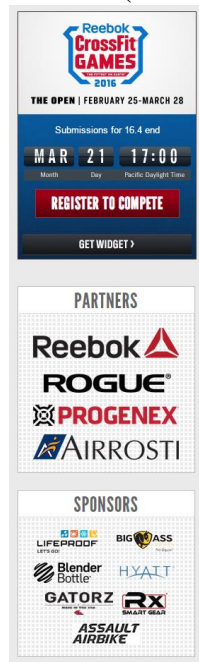
For future events in the online environment, managers should consider the impact of signage placement and animation within the website. An examination of the most visited pages within a website could be a good indicator on where to place sponsor

Limitations

The study had several limitations that need to be addressed for an appropriate conclusion of the study. First, the study's sample was achieved through convenience sampling in the Central Oklahoma and Northern Texas regions, which means that the results of this study may not be generalizable to participants in other geographic areas and/or participants in the CrossFit Open who would not volunteer for such a study. Second, the focus of the study was specifically on CrossFit Athletic Identity, so the findings of this study may not be generalizable to other sports or participation events. Third, the study had several questions with missing data. This could be attributed to a design flaw in the online survey, as the only question that was required was the question regarding consent of participating in the study. Lastly, two of the sponsors of the CrossFit Games (Trifecta and ROMWOD) had sponsor logos added two weeks into the competition so they had less exposure to the event participants. Ideally, all of the sponsors would have the same time of exposure for the entire duration of the event. An external threat to this study is the reflective effect of the experimental setting of the case studies. Participants involved in the case study might have interacted with the website differently in the lab setting than how they had interacted with the website previously during the 2017 CrossFit Open. Participants could be adjusted to using a different platform (tablet or phone) to interact with the website. Another external threat is the participant-research interaction effect for the case study participants. An internal threat

to validity could arise from other confounding variables not tested in this study that would cause participants with high CAI scores to have higher or lower recall and recognition scores. Therefore, only statistically predictive relationships were analyzed, and no causation was inferred.

Recommendations for Future Research

For sporting events that exist primarily in an online environment it could be beneficial for researchers to ask respondents if they recall seeing sponsors' logos or brands on the event website specifically, instead of asking them if they recall a brand being a sponsor of the event. A larger sample of the eye-tracking cases could also help event coordinators improve brand signage placement so that the most commonly visited pages have the presence of sponsors located on those pages.

Conclusions

In conclusion, sponsor recall and recognition rates of CrossFit Open participants cannot be attributed to the participant's CAI score either by simple tertile split for group mean comparisons, or by analyzing raw scores using multiple regression. Based on the qualitative assessment of website interaction, it is believed that the participants in this study context were not exposed to effective sponsor online signage which likely contributed to the low predictive rates of recognition and recall of sponsors based on CAI and other independent variables.

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Appendix A: Survey Instrument

Q0 Please print this document for your records. By providing information to the

researcher(s), I am agreeing to participate in this research.

❍ I agree to participate
❍ I do not want to participate

Q1 Did you sign up and register for the 2017 CrossFit Open?

❍ Yes
❍ No

Q2 Please select all that apply, which of the competition workouts did you complete

and record your score online during the 2017 CrossFit Open:

❑ 17.1
❑ 17.2
❑ 17.3
❑ 17.4
❑ 17.5
❑ None of the above

Q3 Approximately how many times did you visit the official CrossFit Open website in

total (http://games.crossfit.com/) from February 23, 2017- March 27, 2017?

Q4 Approximately how many minutes did you spend on the official CrossFitOpen

website (http://games.crossfit.com/) during each visit from February 23, 2017- March

27, 2017?

Q5 Please indicate the full name of the affiliation gym where you completed the

majority of the 2017 CrossFit Open workouts:

- ❍ 918 CrossFit
- ❍ CrossFit 405
- ❍ CrossFit 405 South
- ❍ CrossFit Alter
- ❍ Crossfit Ammo
- ❍ CrossFit Big D
- ❍ CrossFit Complete
- ❍ CrossFit Complete West
- ❍ CrossFit Dallas Central
- ❍ CrossFit Deep Ellum
- ❍ CrossFit Enid
- ❍ CrossFit Exile
- ❍ CrossFit HomeBase Central
- ❍ CrossFit Land Rush
- ❍ CrossFit OKC
- ❍ CrossFit Real Effort
- ❍ CrossFit Stillwater
- ❍ CrossFit Urban Jungle
- ❍ CrossFit Vital
- ❍ CrossFit Wild West
- ❍ Deer Creek CrossFit
- ❍ East Dallas CrossFit
- ❍ Get A Grip CrossFit
- ❍ Koda CrossFit
- ❍ Koda CrossFit Norman
- ❍ Koda CrossFit Native
- ❍ North Frisco CrossFit
- ❍ North Plano CrossFit
- ❍ Sooner CrossFit
- ❍ Tiger's Den CrossFit
- ❍ Twice Bitten CrossFit
- ❍ West Plano CrossFit
- ❍ Other

Q5.A Please write the full name of the affiliation gym where you completed the

majority of the 2017 CrossFit Open workouts:

Q6 Please select all the years you have participated in the CrossFit Open

❑ 2017
❑ 2016
❑ 2015
❑ 2014
❑ 2013
❑ 2012
❑ 2011
❑ 2010
❑ 2009
❑ 2008
❑ 2007

Q7 How many years have you participated in CrossFit?

❍ Less than 1 year
❍ 1 -year
❍ 2 years
❍ 3 years
❍ 4 years
❍ 5 years
❍ 6 years
❍ 7 years
❍ 8 years
❍ 9 years
❍ 10 years
❍ 11 years
❍ 12 years
❍ 13 years
❍ 14 years
❍ 15 years
❍ 16 years

Q8 From your memory, please list the official partners and sponsors of the 2017

CrossFit Open Games (please do not look up the partners/sponsors for reference):

Q9 On a scale of strongly disagree (1) to strongly agree (7) please answer the following

statements:

	Strongly disagree (1)	2	3	Neither agree nor disagree (4)	5	6	Strongly agree (7)
I consider myself a CrossFit athlete	○	○	○	○	○	○	○
I have many goals related to CrossFit	○	○	○	○	○	○	○
Most of my friends are CrossFit athletes	○	○	○	○	○	○	○
CrossFit is the most important part of my life	○	○	○	○	○	○	○
I spend more time thinking about CrossFit than anything else	○	○	○	○	○	○	○
I need to participate in CrossFit to feel good about myself	○	○	○	○	○	○	○
Other people mainly see me as a CrossFit athlete	○	○	○	○	○	○	○
I feel bad about myself when I do poorly in CrossFit	○	○	○	○	○	○	○
CrossFit is the only important thing in my life	○	○	○	○	○	○	○
I would be very depressed if I were injured and could not compete in CrossFit	○	○	○	○	○	○	○

Q10 From the list below please select the official partners and sponsors of the 2017

CrossFit Open 2017 (please do not look up the partners/sponsors for reference)

- ❑ 5.11
- ❑ Airrosti
- ❑ Assault Fitness
- ❑ Blackhawk
- ❑ Compex
- ❑ Concept2
- ❑ CW-X
- ❑ Eggology
- ❑ Fit Aid
- ❑ Formula O2
- ❑ Gatorz Eyewear
- ❑ Kill Cliff
- ❑ Kize
- ❑ KT Tape
- ❑ Nike
- ❑ Oakley
- ❑ Opex
- ❑ Optimum Nutrition
- ❑ Paleo Ethics
- ❑ Primal Kitchen
- ❑ Reebok
- ❑ Rock Tape
- ❑ Rogue
- ❑ ROMWOD
- ❑ Trifecta
- ❑ Zevia

Q11 On a scale of not at all likely (1) to very likely (7), how likely are you to:

	Extremely unlikely (1)	2	3	Neither likely nor unlikely	5	6	Extremely likely(7)
Purchase products of the 2017 CrossFit Open partners and sponsors	○	○	○	○	○	○	○
Consider the products of the 2017 CrossFit Open partners and sponsors over non-sponsors/partners	○	○	○	○	○	○	○

Q12 Please indicate which division you competed in the 2017 CrossFit Open

○ Men's
○ Women's

Q13 Please indicate your age of at the start of the 2017 CrossFit Open

Q14 Please select which brands you are familiar with, previous to participating in the

2017 CrossFit Open.

- ❏ 5.11
- ❏ Airrosti
- ❏ Assault Fitness
- ❏ Compex
- ❏ Eggology
- ❏ Fit Aid
- ❏ Gatorz
- ❏ Paleo Ethics
- ❏ Reebok
- ❏ Rock Tape
- ❏ Rogue
- ❏ ROMWOD
- ❏ Trifecta
- ❏ Zevia

Appendix B: Athletic Identity Measurement Scale

1. I consider myself an athlete.
2. I have many goals related to sport.
3. Most of my friends are athletes.
4. Sport is the most important part of my life.
5. I spend more time thinking about sport than anything else.
6. I need to participate in sport to feel good about myself.
7. Other people see me mainly as an athlete.
8. I feel bad about myself when I do poorly in sport.
9. Sport is the only important thing in my life.
10. I would be very depressed if I were injured and could not compete in sport.

Appendix C: CAI Frequency Table

Summed CAI Score	Frequency	Cumulative Percent
19	1	0.6
20	1	1.2
22	3	2.9
23	2	4.1
24	2	5.3
25	4	7.6
26	3	9.4
27	4	11.8
28	5	14.7
29	2	15.9
30	6	19.4
31	5	22.4
32	7	26.5
33	1	27.1
34	10	32.9
35	4	35.3
36	6	38.8
37	5	41.8
38	6	45.3
39	11	51.8
40	7	55.9
41	6	59.4
42	4	61.8
43	10	67.6
44	6	71.2
45	4	73.5
46	3	75.3
47	4	77.6
48	4	80.0
49	7	84.1
50	5	87.1
51	3	88.8
52	1	89.4
53	6	92.9
54	3	94.7
55	2	95.9
56	1	96.5
57	1	97.1
58	1	97.6
59	1	98.2
60	1	98.8
64	1	99.4
66	1	100.0