

E-SPORT SPECTATOR MOTIVATION

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## LIST OF ABBREVIATIONS

|                                                           |               |
|-----------------------------------------------------------|---------------|
| Achievement .....                                         | Ach           |
| Aesthetics .....                                          | Aes           |
| Asian Non Chinese.....                                    | Asian (Non-C) |
| Economic .....                                            | Econ          |
| Electronic Sport.....                                     | E-sport       |
| Entertainment .....                                       | Ent           |
| Eustress .....                                            | Eus           |
| Family .....                                              | Fam           |
| First Person Shooters .....                               | FPS           |
| Group Affiliation.....                                    | G.A.          |
| Global Starcraft League .....                             | GSL           |
| IGN Pro League .....                                      | IPL           |
| International Gaming Network .....                        | IGN           |
| League of Legends .....                                   | LoL           |
| League of Legends Richmond Virginia (Organization) .....  | LOLRVA        |
| Major League Gaming .....                                 | MLG           |
| Massively Multiplayer Online Role Playing Game .....      | MMORPG        |
| Mean .....                                                | M             |
| Motivation Scale For Sport Consumption .....              | MSSC          |
| Multiplayer Online Battle Arena.....                      | MOBA          |
| Multiple European.....                                    | Multi-Euro    |
| National Association of Stock Car Automobile Racing ..... | NASCAR        |
| Non-player characters .....                               | NPCs          |
| One Nation of Gamers .....                                | ONOG          |
| Personal Computer .....                                   | PC            |
| Player Skills .....                                       | P.S.          |
| Player vs player .....                                    | PvP           |
| Real Time Strategy.....                                   | RTS           |
| Self Esteem .....                                         | S.E.          |
| Sport Fan Motivation Scale.....                           | SFMS          |
| Standard Deviation.....                                   | S D           |
| Starcraft II .....                                        | SCII          |
| United States .....                                       | U.S.          |
| World of Warcraft.....                                    | WoW           |

## ABSTRACT

### E-SPORT SPECTATOR MOTIVATION

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The purpose of this study was to determine factors, which motivate people to watch electronic sports. The sample consisted of males and females aged 18 to 65 watching e-sport, both online and at live e-sport viewing events. All individuals completed a 56-item instrument comprising the Sports Fan Motivation Scale (Wann, 1995) and the Motivation Scale for Sports Consumption (Trail, Fink, & Andersen, 2000) as well as demographics and e-sport behavior questions. Motivations were analyzed on the basis of subgroups (i.e., gender, age, ethnicity, preferred viewing duration, preferred number of co-spectators, preferred viewing location, and whether or not the spectator was an actual player). Overall the highest motivating factors were entertainment, eustress, and aesthetics on the Sports Fan Motivation Scale, and the highest motivating factors on the Motivation Scale for Sports Consumption were player skills, drama, and knowledge.

## CHAPTER ONE: INTRODUCTION

One of the fastest growing competitive activities in the world is electronic sport (e-sport). E-sport comprises competitive video games that two or more people play via online servers. Scores are commonly based on the player's performance (e.g., win/loss ratios) that ultimately lead to a ranking or tiered leagues in which players are placed based on their performance. Although still a growing phenomena, e-sport spectatorship at the 2011 Major League Gaming tournament in Orlando, Florida broke viewing records with 196,000 people watching worldwide. As to why this is a rapidly growing phenomena, Sean Plott, a former Starcraft professional gamer turned commentator, hypothesized that it is largely generational, as people who played video games for fun as children are now growing up and accepting that these games may be played professionally (Bacon, 2011).

United States (U.S.) media groups have also begun to recognize the financial benefit of e-sport. Central Broadcasting System (CBS) Interactive announced on April 17, 2012 that they secured a partnership with Twitch.tv and Major League Gaming (MLG) to broadcast e-sport at a rate of three billion minutes of live game streaming monthly (CBS, 2012). According to CBS, e-sport viewership is the fastest growing medium watched by the 18-34 year old male demographic. CBS Interactive hopes to

reach 25 million viewers in the U.S, which will also bring CBS exclusive advertising rights. CBS is not the first to attempt to reach a large audience of e-sport fans. Smith (2012) reported that the April 2012 International Gaming League (IGN) Pro League (IPL) competition broke records in both the areas of peak viewers at 347,000, and total amount of unique viewers outside of Korea by three million. In South Korea, e-sport is so popular that it is supported by the national government thru funding and development committees (SouthKorea.net, 2012).

Many professional level e-sport tournaments allow top-level players to earn thousands of dollars yearly (Bacon, 2011). E-sport leagues exist and vary in size and scope [e.g., Major League Gaming (MLG), Global Starcraft League (GSL)]. According to MLG founder Sundance diGiovanni, there is an understanding that people playing video games for money is a “strange idea” (Bacon, 2011).

Iso-Aloha (1982) describes motivation as an internal state of excitement that leads to a given behavior. The study of sport spectator motivation continues to evolve – from Maslow’s Hierarchy (1954), Iso-Aloha’s escape seeking model (1982), Crompton’s (1979) push-pull factors, Sloan’s (1989) psychological needs, and Funk and James’ (2001) stages of increasing involvement (Funk, Filo, Beaton, & Pritchard, 2009). Some of the reasons to study sport spectator motivation are to discover changed based on evolving sporting trends, demographic differences, as well as new understandings of motivation as a social construct. An understanding of the motives of sport spectators can also aid scholars understand changes in cultural phenomena as well as the direct results of the studies themselves.

Perhaps the most important factor in understanding the motivations and behaviors of sports spectators would be the economic factors. As King, Heo, and Mak (2010) cited Smith and Street's (2009) annual survey of the sports industry in 2008 that the sports industry was in total worth 213 billion dollars, with more than twenty-eight billion generated from sport spectators. Meek (1997) (as cited in Trail, Fink, and Andersen, 2003) stated that in the mid 1990s, the sports industry accounted for roughly four hundred billion dollars a year of the United States economy. More recently, Humphreys and Ruseski (2008) found that sports accounted for between forty-four and seventy-five billion dollars. The research into the funds generated by the sports industry does vary greatly, but it cannot be ignored that the industry is growing at a rapid pace. Although there is a large range in money generated among studies, how researchers define the makeup of the sport economy can explain differences in how economic activity is calculated. Clearly, these values and the growth of the video game industry (as well as growing acceptance of e-sport), can lead to new markets that sports event planners and other shareholders should consider, and researchers should seek to understand the link between spectator motivation to watch an event, and the behavior of actually watching.

### **Statement of Purpose and Research Questions**

The purpose of this research study is to identify factors, which motivate spectators to watch competitive e-sport events. Research findings will be of value to leisure researchers, sports researchers, bar owners, and e-sport developers.

The following research questions have framed this study:

Q1: What are the key factors of motivation and sport consumption among e-sport fans?

Q2: What significant differences in motivation exist between/among e-sport spectators on the basis of:

- a. gender;
- b. race/ethnicity;
- c. length of time watching;
- d. playing status (play or not);
- e. number of viewing companions;
- f. location(s) of viewing; and
- g. age

### **Delimitations**

This study is delimited to restaurants and bars where spectators watch e-sport, live Internet streams such as those found on the Team Solomid website, Facebook pages such as One Nation of Gamers, and fans of e-sport related media (podcasts) such as Starcast and LowELO. The data were gathered from April through July 2013. All of the participants in the study affirmed that they were at least 18 years of age. This study was also delimited to e-sport spectators in North America and Europe due to the language of the researcher.

### **Limitations**

E-sports are continuously developed and released to the public, and an individual's idea of what games "count" as an e-sport can vary from person to person. Due to the fact that there are many different e-sports, it would be nearly impossible to

survey every single e-sport Internet stream, therefore the focus of this study is on the more popular sites for e-sport gaming. Those surveyed may not fully represent all who play and view e-sport. For example, the majority of respondents were male, and future research should reach out to more female e-sport fans to assess gender differences. Players who fill out the survey may have different biases than non-players. Respondents might have not been completely honest in answering survey questions. Finally, respondents may not fully understand the survey questions.

### **Definitions**

Several terms are used regularly in this thesis and are defined as follows. Special definitions are provided for two games that have been promoted since their development as specific e-sports. There are several “hybrid” online multiplayer games that mix genres. Finally, the motivating factors being measured (along with what scales are measuring them) will be defined.

**Sport** - According to Moller (2010), sport must contain all four of the following criteria:

- 1) “the activity is played out as a competition, which is taken seriously even though it serves no external purpose and in that sense can be regarded as not serious;
- 2) the aim is to win and to move upwards within the activity’s hierarchical structure;
- 3) the activity is organized and functions in an institutionalized framework, in which results are recorded and ascribed significance;



- 4) [and] the activity is governed by a written set of rules, which are administered by a judge who is ideally impartial.” (Moller, 2010)

Not all video games meet Moller’s criteria. Since all multiplayer video games are “games,” they all fit at least the first criteria. Also, most games are governed by the program code, which, at a bare minimum, can act as the “impartial judge” which means most if not all games can fit the fourth criteria. The second and third items of Moller’s definition are whether there is a hierarchical structure for a competitor or team to advance, and whether there is an “institutionalized framework” that records the results. In order to comply with the institutionalized framework requirement, if a game “could” be put into an institutionalized framework, (such as a private tournament) then they were counted as complying with that part of Moller’s criteria. Finally, if there is a ranked hierarchy that can measure where a contestant stands relative to others, then the game is in compliance with the second item of Moller’s definition. The following table provides several examples of popular multiplayer video games as evaluated using Moller’s criteria (Table 1).

Table 1: Moller's 2010 Criteria Applied to Multiplayer Online Games

| Game                                  | Competitive | Goal<br>to Win | Recorded<br>Results | Rules and<br>Judge |
|---------------------------------------|-------------|----------------|---------------------|--------------------|
| Starcraft series                      | yes         | yes            | yes                 | yes                |
| Tribes series                         | yes         | yes            | yes                 | yes                |
| Defense of the Ancients series (DOTA) | yes         | yes            | yes                 | yes                |
| Minecraft                             | yes         | no             | no                  | yes                |
| World of Warcraft (WoW)               | yes         | yes            | yes                 | yes                |
| League of Legends (LoL)               | yes         | yes            | yes                 | yes                |
| Counterstrike series (CS)             | yes         | yes            | yes                 | yes                |
| Diablo Series                         | yes         | no             | no                  | yes                |
| Unreal Tournament series              | yes         | yes            | yes                 | yes                |
| Halo series                           | yes         | yes            | yes                 | yes                |
| Call of Duty series                   | yes         | yes            | yes                 | yes                |
| Eve Online                            | yes         | yes            | yes                 | yes                |

**First Person Shooters** - These games typically have players in the action from the point of view of their actual avatar (entity they are portraying). As the name implies, they are in the “first person” and usually these games involve either modern or science fiction types of weaponry. This meets definition as sport in that they include team competitions to get a certain amount of virtual kills, capture and hold a position, or to capture an objective and bring it back to their base (capture the flag). Professional tournaments are generally

set as a single or double elimination. Winner statistics are easily recorded via the games interface and available for viewing on the websites of respective e-sport leagues. The game's program codes are both rules and referee (Figure 1).



Figure 1: Image from “FPS” Call of Duty Modern Warfare 3

**Real Time Strategy Games (RTS)** - In these games, the player has a “bird’s eye view” (similar to how one might see a view from a helicopter) where they are placed above the action in direct control of armies. The goal is to completely eliminate an opponent’s army, or at least destroy the entire infrastructure of one’s competitors to effectively cripple their armies. Within many RTS games there exist leagues where players compete for ranking within a competitive hierarchy. In these competitions there are statistics like win/loss ratio, as well as what race/nationality group one picks, and how

long matches last. There is a program code that ensures that all players are governed by the same rules (Figure 2).



Figure 2: Image of RTS Starcraft II

**Starcraft II (SCII)** - *Starcraft II* is a Real Time Strategy (RTS) video game that was released by Blizzard Entertainment in July 2010. The premise of the game is that players build armies with limited resources on a virtual map in order to destroy one's opponent. Players may use a variety of tactics and strategies in order to win. They may choose one of three distinct races with advantages and disadvantages. The races are the humanlike Terran with traditionally depicted science fiction space ships and marines in space suits. The insectoid Zerg was likely inspired by the aliens depicted in the film "Aliens" and tend to have cheap units that enable Zerg players to swarm their opponents. Finally, there is the technologically advanced Protoss who have expensive yet powerful

units with extra shielding and abilities. All of these races have their own unique units, buildings, abilities, and strategies. One feature of *Starcraft II* that better enables it to be considered an e-sport is that the game enables players to record and replay matches with live observers not unlike traditional sporting events. The e-sport aspect of *Starcraft II* involves players controlling virtual armies of one of the three earlier described races. Players pick one of these three races and face off in a large scale battle involving out strategizing their opponent's armies as well as making sure to have gathered more resources on the map in the event that the game is prolonged. In Korea there are two channels similar to ESPN that cover e-sport tournaments on a regular basis (Cheung & Huang, 2011). Also, the method of game play allows for a tournament bracket for competitors. Another reason for *Starcraft II*'s success as an e-sport is the barcraft phenomenon.

**Barcraft** - The barcraft is a social event that takes place at a bar with a large screen television (TV). These bars stream live footage of *Starcraft II* or other e-sport tournaments, and similar to American football, fans gather at a bar to watch a game (Malarh, 2011). The event appeals heavily to video gamers, as well as amateur e-sport players and audiences.

**Multiplayer Online Battle Arena (MOBA)** - These games involve two simulated armies that are controlled by the program's artificial intelligence (AI), are statistically identical, and constantly produce units that run into the other. These units by themselves will never advance and destroy the other side's base. In this style of play, the user is in a point of view similar to that of an RTS, but instead of controlling the entire

army, the user control an individual character that becomes stronger as play progresses and players have to make choices on what areas of progression their chosen character's take. At the same time their opponents are also advancing their characters and the object is to work as a team in order to destroy the other team's base. These games have a similar hierarchy to RTS games, the big difference being is that MOBAs have a focus on commanding their individual characters exceptionally well (also known as "micro" play) vs. commanding a large overwhelming army ("macro" play) which is more commonly seen in RTSs. Also of note is that the competition in MOBAs is seen more as a team e-sport, where as RTSs are seen as a 1vs1 competition (although both lend themselves to individual/team play as well) (Figure 3).

***League of Legends (LoL)*** - *League of Legends* involves commentators watching the actions in a special spectator mode and broadcasting live to viewers (with a three minute delay to prevent cheating). *LoL* is entirely free to play, which gives it a vastly lower barrier to entry. *LoL* is a Multiplayer Online Battle Arena (MOBA), where players choose avatars for an individual match and compete in a 5vs5 battle to be the first to destroy the other team's base. In a MOBA, there are endless waves of non-player characters (NPCs) that march towards the enemy team and by themselves would not win without the aid of the players. In *LoL*, a standard game consists of three "lanes" (top, middle, and bottom) where this is constantly happening and a "jungle" in which there are also NPC's that can give a player a bonus for defeating special NPC's that exist only in the jungle. As in most MOBAs, *LoL* is centered on teamwork and team composition. Most teams pick avatars to fit different situations. A common team lineup is having a

single avatar take the top and middle lanes, a “jungler” who’s job is to gather bonuses and set up surprise attacks on the opposing team, and a bottom lane with two avatars, usually one playing a “support” role. This is appealing to spectators, because they are able to see when surprise attacks are being set up which triggers the anticipation for spectators described as “information asymmetry” (Cheung & Huang, 2011). Like traditional sports, commentators, adding a colorful narrative to the match, also enhance the spectator experience. A recent phenomenon that has started since Riot games enabled the live spectating of matches is “shoutcasting.”

**Shoutcasting** - Shoutcasting is when non-professional e-sport commentators watch games, stream them, and provide an instant commentary to the match. Often commentators speak in loud voices, which is why it was given the name “shoutcasting”.

**Sports Simulations** - Likely the easiest competitive video game type for a traditional sports fan to understand is the sports simulation game. These are video games where they use players and teams that exist in “real life” play contemporary sports. Players control the teams and compete virtually the way that sports teams compete in the real world. However, a big distinction is that the users have both some control of the coaching decisions (what play should our team make) and direct control over which way a particular player runs. Another subtype of video games that counts as a sports simulation are racing games, where players drive (or pilot) a vehicle through a racecourse, though some may provide fantasy based obstacles and methods of slowing down one’s opponents.



Figure 3: Image of the MOBA League of Legends

**Fighting Games** - These types of games usually include at least two players competing in a side scrolling battle to defeat one another. Fighting games usually are more popular via console gaming rather than PC, but it is possible to play them on the PC. Play is very fast paced in these games and usually involves players attempting to execute “combos” by pressing a combination of buttons to make their avatars in the game unleash a damaging attack. Players can also attempt to “block” the attacks from other players. These are popular as tournament style games, and results can be recorded.

**Massively Multiplayer Online Role Playing Games (MMORPGs)** - The main focus of these games is not e-sport. A MMORPG is a video game that uses computerized servers that house data. Players are able to interact in a game universe with others who are also playing the same game in the same world. Through this method, players are all in



a shared, usually persistent universe that exists regardless of whether a particular individual is engaged in the game. MMORPGs can be esports in that they contain structured “player vs player” (pvp) matches where the users can have their avatars fight against other’s in a variety of scenarios. An example of this is Blizzard Entertainment’s *World of Warcraft*, which has an in game Ranked Team Arena and Ranked Battleground system where players can pre-make teams ranging from three to forty people and compete in virtual contests with their avatars. These arenas’ are battles to defeat the other team first, while battlegrounds have objectives that teams must complete in order to win. The ranked player versus player aspect of the game is recorded, and Blizzard Entertainment sponsors tournaments that warrant calling this an e-sport, even though the main focus of the game is not to be an esports.

**Sports Fan Motivation Scale (SFMS)** - A twenty three item scale developed by Wann (1995) to measure the motivations of sports spectators on the following criteria: eustress, self esteem, escape, entertainment, economic, aesthetic, group affiliation, and social factors.

**Motivation Scale of Sport Consumption** - A twenty four item scale developed by Trail, Fink, and Andersen (2000) to measure the motivations of sports spectators based on the following criteria: escape, drama, aesthetics, social, family, achievement, knowledge, and physical skills.

**Eustress (SFMS)** - Eustress is a form of arousal generated by excitement. For instance, a close hockey game where the final score is decided by a shootout, or a game is to be decided by sudden death, often leaving spectators feeling

“breathless.” Seyle (1974) described and defined eustress as a type of stress that is “good stress.” Fevre, Matheny and Kolt (2003) further elaborated that one feels eustress when the stress is between “too much” and “too little.” Spectators experience eustress when a match or game has them emotionally involved (see the following section on entertainment), but the outcome of the match will not seriously impact them (as part of Moller’s 2010 definition of sport being taken seriously without being serious).

**Self Esteem (SFMS)** - This motivation factor is based on how the results or successes of a preferred competitor influence the perceptions of the spectators’ feelings of themselves. Ellemers, et al. (1999) makes the argument that a person’s self-esteem connected to the outcomes of an event and to the group affiliation. For instance, the self-esteem of the fans of “team X”, are not just influenced by the direct outcomes of the match, but also by being a part of the “group of fans of team X.” Although this is an important factor to consider, the questions presented on self-esteem in the SFMS (Wann, 1999) are directly related to the outcomes of the match or game on the self-esteem of the fans.

**Escape (SFMS and MSSC)** - This motivation factor describes the spectator’s desire to “have a break from the everyday.” Traditionally, as described by Katz and Foulkes (1962), mass media was used to escape the alienation and depravation of day-to-day life. While escape as a factor is associated with the consumption of mass media, the authors also regard other motivations (such as desire for family bonding) as motivations for society consuming mass media.

Regarding sports as an escape motivation in this case implies that the person desires a break from the routine.

**Entertainment (SFMS) and Drama (MSSC)** - This motivation factor describes the spectators' desire to be entertained by the activity. In regards to sport, Elias and Dunning (1986) describe some of the entertainment (as well as escape) within sport as “ [...] the arousal of affects which bear a playful and pleasurable resemblance to the emotions which are generated in seriously critical situations.” This dramatic factor is also what is being measured within the MSSC.

**Economic (SFMS)** - This factor, as explained by the Wann (1995) study, is the motivation that the spectator can potentially realize a financial gain from the event, specifically through making wagers and betting on the outcomes. As Humphrey, Paul, and Wienbach (2010) explained, betting in and of itself is not an isolated factor that motivates fans. In other words, most sports fans that make wagers are not wagering exclusively for economic gain. In fact, Conlisk(1993) suggests that many people wagering or betting on sports actually fail to gain a return. However, making a wager on the game can increase the feeling on the part of the spectator that the drama unfolding within a match is the “seriously critical situation” described by Elias and Dunning (1986).

**Aesthetics (SFMS and MSSC)** - This factor involves seeing sport or competition as an art form, as well as enjoying the art that is associated with the competition. Although Best (1980) argues that sport is distinctly not a form of art, he makes the distinction that there is an aesthetic element in sport, such as in

gymnastics or pole vaulting where there is a degree of accomplishing a goal, but also accomplishing the goal in a method that is aesthetically pleasing to a panel of judges. Although there is an ongoing debate as to whether sport in and of itself is an art form (Best, 1980; Saw, 1971; Wertz, 1979), there is acknowledgement that sport can contain aesthetic elements.

**Group Affiliation (SFMS) or Social (MSSC)** -This factor refers to a spectator's feeling of being part of a group or community. The National Association for Stock Car Auto Racing (NASCAR) spectators might view themselves as "NASCAR fans". Such association implies traditions and rituals that may or may not be exclusive to that group. Ellemers et al. (1999) suggests that participating individuals having the feeling of being "part of the group" is an important factor in many decisions. Fairley (2003) identifies three types of sport tourism: nostalgia sport tourism (Chalip, 1997; Kahle, Kambra & Rose 1996; Underwood, Bond & Baer 2001); active sport tourism; and event sport tourism. According to Gibson (1998) sport tourism is about the derived social experience of watching together.

**Family (SFMS and MSSC)** - This motivating factor is similar to group affiliation, but more specific to one's direct family unit. For example, a family outing to watch a baseball game can be seen by parents as a chance to bond. Katz and Foulke (1962) suggested that in pursuit of mass media, family is one of the factors (along with escape from the ordinary) towards which people desire mass media.

**Achievement (MSSC)** - This factor refers to the “climbing of the hierarchy” made by teams and individuals in their respective field. For instance, desiring to see a specific Olympic team gain medals is a factor that could compel spectators to watch the game.

**Knowledge (MSSC)** - This factor refers to an individual’s desire to watch a game to either “scout” an opposing team, or to see the strategies of a different team that could perhaps be at a “higher caliber” of play in a specific sport. The motivation is to gain knowledge of new strategies in the specified sport for possible application.

**Physical or Player Skills (MSSC)** - This motivation factor refers to how the spectator will see the sporting event as providing “excellence and creativity of athletic performance” (Funk, Filo, Beaton, & Pritchard 2009). Related to the excitement and player skills factors, spectators generally want to see expertise on the field and well-executed maneuvers by the players.

**Internet Stream** - This is a method where users of the Internet are able to display live or prerecorded footage of what the actions they are taking on their computer. Usually in order to watch (or stream), one would require broadband Internet as this is a live video feed or raw data. Most professional e-sport players use their streams along with advertisement revenue from interested businesses to generate money to support themselves (along with any winnings they get from competition.)

## CHAPTER TWO: LITERATURE REVIEW

The following chapter includes a review of literature on the nature of sports, recreation, leisure, gaming, and how e-sport applies to these concepts. There is also information on the growth of the Internet as it was accepted as a part of the daily life of families, as well as a new platform for interactive gaming between players. Finally, the chapter includes how current technology has allowed greater fan accessibility to e-sport play and interactions with “top tier” e-sport players while a spectator.

### **Sports Gaming and the Nature of Sports, Recreation, and Play**

There have been recent debates within popular culture as to whether “e-sport” is to be considered as “sport” or not. Huizinga (1944) states that play has a “significant function” in human civilization. In attempts to determine what, if any, the biological function “play” serves for humans, Huizinga theorized that play should be measured via its own merits, rather than as a means to an end. Huizinga’s thesis is that play is a necessary factor for a culture to exist. As time has passed and new technologies have been created, culture and human methods of play as well as sport have also changed.

Gutman (2004) attempts to differentiate sport from play, play from games, “games” from “contests”, and finally “contests” from “sports.” According to Gutman, for an activity to be a sport, the activity must first be autotelic- or committed for its own

purpose (play). Second, it must first have a set of rules and constraints that are understood by all involved (game). Third, the activity must be competitive in nature (contest). Finally, by Gutman's definition, the competitive activity must have a display of physical prowess to be a "sport." It is this final criteria where the most debate lies. For instance, how much "physical prowess" is necessary to differentiate an "intellectual competition" from a "sport?" Some consider NASCAR a sport, but the definition of "how much physical prowess is necessary to be considered "sport" rather than "contest" is a subjective measurement." Moller (2010) broadens the scope of sport that could include e-sport without having to factor a minimal amount of physical prowess.

There are other definitions of sport that question physical display of athletes. Coakley (1998) defines sport as "[...] institutionalized competitive activities that involve vigorous physical exertion or the use of relatively complex physical skills by individuals whose participation is motivated by a combination of personal enjoyment and external rewards." He further notes that based on this definition, chess is not a sport as it depends on cognitive abilities. NASCAR racing, in contrast, is physical. Coakley questions the arbitrariness of the physical activity portion of this definition. Researchers in Japan (Wan, Nakatani, et al., 2011) conducted a study to compare the brain activity of elite level shogi (a Japanese board game) players to those of casual shogi players. The experiment set up different board situations, and it was up to the players to determine the ideal next move. The authors found that brain activity in the precuneus of the parietal lobe rose higher when players were studying board position; when determining their next move, there was more activity in the caudate nucleus of the basal ganglia. These findings suggest that

definitions of sport that require displays of physical prowess could actually include events such as shogi, in that there is physicality involved at the neurological level.

### **Internet Usage and Social Gaming Research**

The Internet's effect on society has been studied since the late 1990s. The Internet was first met with great skepticism, urging people to be cautious and wary of over usage (Kraut et al., 1998; McKenna & Bargh, 2000). Initially, the fear was that the Internet would lead to reduced family communication, decreased size of the public's social support networks, diminished social support, as well as decreased overall psychological well being (Kraut et al., 1998). This led, in turn, to a widespread belief by the media that the Internet would lead to depression, loneliness and stress (McKenna & Bargh, 2000). However, as further research on the Internet was conducted it was revealed that the Internet has not created social isolation, but rather usage is to be judged on the context of what people use it for (Shah, Kwak, & Holbert, 2001).

As the Internet grew in popularity, the video game industry quickly found that it could be used as a platform for more immersive multiplayer experiences. Several games among many genres for the Personal Computer (PC) platform arrived in the late 1990s and continue to this day (Yee, 2006). As a result of this surge of gaming, research has been conducted on the habits of players and online gamers. Yee (2006), Holt (2011), and Cole and Griffiths (2007) have researched the demographics and motivations of players of Massively Multiplayer Online Role Playing Games (MMORPGs). Holt notes that research on online gaming in recreation studies is still lacking.



Additionally, research in the area of e-sport, including that on the spectators themselves, has been limited (Cheung & Huang, 2011). Cheung and gathered qualitative data to 1) identify the spectators of e-sport, 2) how stakeholders affect the spectator experience, and 3) why e-sport spectating is enjoyable. Their methods included reviews of videos and commentaries from e-sport spectators. In answering why e-sport spectating is an enjoyable experience, the authors introduced “information asymmetry.” They describe this as the imbalance between the games’ players and spectators. As a spectator of *Starcraft II*, one has the ability to see the units and buildings of *both* players and teams simultaneously. The players, however, only have access to their unit’s views, meaning the only information about their opponents must be gathered through scouting and strategy. Being able to see both sides of this, according to the researchers, allows for a building of suspense on the players’ part. For instance, spectators might see that player “A” is moving for a sneak attack on what player A might believe is an undefended position that player “B” has actually reinforced. The spectators know that player “A” is very likely going to end up on the losing side of that battle, and so a sense of anticipation and arousal forms on the part of the spectators.

### **Spectator Motivation Research**

Iso-Ahola (1982) describes motivation as the perception individuals have that a future activity could be enjoyable , thus driving the individual to pursue the activity. Measurement of motivation is continuing to evolve to best understand spectators in a world with new sport and methods of competition. Challenges with measuring motivation

exist as a result of differing cultural perceptions of sport, socio-economic conditions, and differing cultural emotional connections to sport as well as analyzing differences in spectators current stage of life (Beaton & Funk, 2008; Funk, et al., 2009; Iso-Ahola, 1980; Koo & Hardin, 2008; Wann et al., 2008; Won & Kitamura, 2007). Due to all these differing cultural concerns there is no universally accepted best method to use when studying sport fan motivation, but rather methods need to be tailored to the specific populations and sports that are being studied.

Several other studies have been conducted on sports and spectator motivation. Correia and Esteves (2007) studied football (soccer) fans in Portugal and found that overall the driving motivational factor for Portuguese football fans involvement was actually economic (gambling). The authors note that this is largely due to the cost to attend a football game in Portugal, significantly more expensive than the United Kingdom (UK). The authors also indicated that team affiliation and loyalty were significant contributors to interest in football events in Portugal.

Won and Kitamura (2006) studied Japanese (J-league) and South Korean (K-league) soccer fans. Sports marketers that fostered team identification as well as the entertainment values of these respective leagues attained a much higher degree of success in attracting spectators than those who did not foster team identification. This is something that e-sport promoters, specifically Riot Games, have tried to adopt in order to increase turnout and viewership of their e-sport events.

In a study on collegiate sport spectator attendance among baseball, basketball, and soccer, Snipes and Ingram (2007) found that for college age spectators, the schedule and

the facility were the most important motivators for actual attendance among most demographic groups. This is important in e-sport research due to the fact that most e-sport is watched via online streams, as well as the fact that e-sport teams and players stream their “exhibition” and practice matches regularly.

### **Technology and Fan Accessibility**

Technology has historically impacted mainstream culture, and sports spectatorship is no exception. Roberts and Olsen (1991) describe how the proliferation of the television since the end of World War II effected sports and sport consumption. They describe a drastic lack of television programming for broadcasters, until network executives found that sport’s broadcasting filled the void with hours of programming:

“Given this production problem and hundreds of hours of air time to fill, television producers looked for other, easier alternatives. Televising sports provided an answer. An athletic contest came with its own heroes and villains, its own sets and props and plots. It supplied action and suspense and drama. It was a world onto itself, a universe that overflowed with “the thrill of victory and the agony of defeat.” And most important of all, each contest took time, each was more interesting than a test pattern to watch.”

(p. 98)

Television also seemed to enable the development of more “alternative sports,” most notably, wrestling. Roberts and Olsen describe network executives as noticing the public’s curiosity of “freaks, baboons, and foreigners” and deciding to pass them off as

wrestlers, the predecessor of today's World Wrestling Entertainment (WWE). Television also propelled Roller Derby to be considered as a sport by the mainstream public, partially due to its wide appeal as a form of entertainment; however, as Roberts and Olsen report, Roller Derby did not last long as a fan phenomenon.

Today with the widespread usage of the Internet in North America, Europe, and Asia, combined with the popularity of Internet gaming, there is also a new approach to broadcasting. Not only is e-sport being televised, and publicly viewed, but individual players now use the Internet to stream their private games to the masses. The only necessary equipment for this is a sufficient broadband Internet connection and software (usually freeware) to stream. Combined with a microphone and a webcam, spectators can see the face of the gamer, providing unparalleled access for fans (as well as critics, and opponents) to their favorite e-sport players. Some streams, such as twitch.tv, even enable chat rooms so that the players can respond to spectators. This is in line with Gusfield's (2000) description of spectator sports as "the professionalized, athletic event performed before mass audiences in modern stadiums or observed on radio or television and reported in the press" (p. 63).

### **E-sport and Serious Leisure**

There are two lenses with which to view e-sport and serious leisure – either through the lens of the player or the spectator. Stebbins (1982) states that there are six distinct characteristics that must be present for one to be engaged in serious leisure. These characteristics include:

- 1) perseverance in the activity;
- 2) involvement frequently enough in the activity to consider it a leisure career;
- 3) possession of special knowledge of the activity;
- 4) gaining durable benefits such as self actualization or self renewal;
- 5) awareness and living up to the unique ethos of the activity; and
- 6) identification with the chosen pursuits (Stebbins 1982).

These criteria fit in with professional e-sport players. In applying this criteria to professional e-sport players, in order to be considered a professional one would likely have to persevere and commit to hours of practice. This considerable amount of time put into practice could be considered a career within leisure. Since computer games like other activities have special rules and strategies that need to be mastered, there is definitely the need for special knowledge in order to be successful. One of the durable benefits of e-sport participation is that you get to play and enjoy the game, as well as gaining recognition if you are among the professionals. Within e-sport players there is a culture of “gamesmanship” that arises, for instance many *Starcraft II* players will type to their opponents “glhf” (good luck have fun) prior to a match and “gg” (good game) afterwards. There is also an ethos among *SCII* players that they will use any strategy to win, including resorting to some that seem underhanded (such as an early attack within the first minute of the game, commonly known as a “zerg rush”) but are completely legal within the games rules.

Based on Stebbins’ (1982) definition, as applied to e-sport spectating, it is important to note that for some games, a viewer must have some knowledge of the game

being played. Although that knowledge could come from having played the game, in order to watch an e-sport match, one simply has to have a basic understanding of the objectives of the players, and having played the game is not a prerequisite to understanding as a spectator. In terms of perseverance, many e-sport fans have formed groups like ONOG have not only persevered, but they have developed a working community around the public viewing of e-sport. Much of the difficulty in watching an e-sport match at a public event is securing the space, which takes a degree of dedication and negotiation. Secondly, many e-sport fans have watched several matches, which contribute to watching as a habit. Although a large part of this study is to investigate the durable benefits of attending these events, since viewers are regularly scheduling public viewings of e-sport matches that are getting significant attendance, there are durable benefits that are being gained by the viewers. As with any public viewing of an event, there are some unique ethos that apply. For instance, while watching a *LoL* match, many fans will speculate and state why they think a certain player made a bad decision during champion selection. Perhaps the easier standard of serious leisure to apply to e-sport viewing is that of identification as an e-sport fan – often showing pride when talking about their favorite game.

### **Gender Issues in Gaming**

Myers (2012) discussed some of the barriers to development of female gaming interest. Specifically, the author discussed the experience of trying to involve herself with the arcade-style fighting game scene in her local area, and the need to overcome strange

looks from male gamers, approaches from men with an unsettling demeanor, and her own internal embarrassment of failing. Myers describes herself as a female gamer, who simply wants to be included in a male-dominated arena. One of her initial experiences included playing with an experienced gamer who mockingly was “going easy” on her because she was a girl, and how that made her feel.

In summary, sport research continues to evolve as new technologies have been developed to allow for display of sport, as well as new technologies to allow for the existence of new sports entirely. As new sports and ways for people to compete emerge, there are new avenues for sport research. As research has previously been conducted on various facets of existing sports, research must also be conducted on new emerging sports and competitive formats. This includes research on the spectators, and why they would choose to watch. An understanding of the spectators is important, because the spectators are the ones that the athletes are performing.

## CHAPTER THREE: METHODS

### **Introduction**

This chapter details the methods used to measure e-sport fan motivation. In particular, a description of the methods of data collection, instrumentation, and analysis are detailed. Ethical issues are also addressed.

### **Data Collection**

Data collection was conducted via an online survey, using the tools from Instant.ly as well as in person at barcraft events. Subjects had to be at least eighteen years old to comply with GMU's Human Subject Review Board policy (See appendix C). Sampling areas were chosen to yield large numbers of e-sport fans such as barcraft events (in person) or online forums dedicated to e-sport fans (Teamliquid.net, Team Solomid, Starcraft II.com, Facebook groups devoted to e-sport). Permission granted via Facebook from ONOG coordinators of barcrafts to collect data at the "ONOG Barcraft (Richmond) Virginia MLG Summer Arena" (Sunday July 22nd 2012 at Buffalo Wild Wings), and the "ONOG DC Barcraft – April 22nd Spring MLG Arena" (Public Bar Tenleytown in Washington, DC). Patrons were told that participation was voluntary and that they could end the survey at any point. Pencils, double-side printed surveys, and clipboards were provided to all patrons, following an explanation of the study purpose. They were asked to fill out the survey as completely as possible and to defer to their own judgments as to



how to interpret questions. The researcher would check in with the subjects after a time if the subjects did not voluntarily bring the survey back upon completion. Twelve surveys were collected at the Public Bar in DC and twenty-eight were collected at the Richmond Virginia event.

To promote the survey online, the researcher contacted forum moderators, streamers, e-sport fan groups and podcast hosts dedicated to e-sport. In this study, the online sites of data gathering were Solomid.net forums and streams (Team Solomid of LoL),SCII e-sport forums (usable with a battle.net account), LoL Forums (LoL is Free to play, so registration and access to forums are free). Facebook groups such as “Virginia Barcraft,” “San Francisco Barcraft,” “LOLRVA” (League of Legends Richmond Virginia), and “One Nation of Gamers” were also incredibly helpful in providing access to individuals for data. Lastly e-sport podcasting media such as lowELO and Starcast were another way used to promote the survey. Podcast hosts on their respective websites were asked if they would make a quick note of my survey and attach a link in their shownotes.

### **Instrumentation**

For this study, a survey instrument was developed including four sections (i.e., introduction, modified Sports Fan Motivation Scale, modified Motivation Scale of Sports Consumption, demographics). Although a large number of studies exist that address sports from the perspective of the players and the economics of sport; research in the area of the sports fans motivations has been lacking (Thomas, 1986; Wann, 1995; Wann &

Hamlet, 1995; Zillman, Bryant, & Sapolsky, 1989). Wann (1995) created the Sports Fan Motivation Scale (SFMS) so that researchers could have a tool to measure the motivations of sports fans. In response to critiques about the SFMS's reliability and validity, Trail, Andersen, and Fink created the Motivation scale of Sport Consumption (2000) (Won & Kitamura, 2006). The researcher used both scales in order to have a more thorough review of the motivations of e-sport fans. This study used modified versions of both the Sports Fan Motivation Scale (Wann, 1995) and the Motivation Scale for Sport Consumption (Trail, Anderson, & Fink, 2000) to measure motivations of spectators at E-sport events. Both of these scales have established reliability and validity. Preliminary testing was centered on college students attending college athletic events (Wann, 1995; Trail, Andersen, & Fink, 2000). Some of the scale items were modified be more applicable to the e-sport context; specifically, "athletes" was changed to "players".

### **Sports Fan Motivation Scale**

The Sport Fan Motivation Scale (SFMS) was developed by Wann (1995) to measure the motivations of spectators along the following eight constructs: 1) eustress, 2) self esteem, 3) escape, 4) entertainment, 5 economic, 6) aesthetics, 7) group affiliation, and 8) family. After preliminary validation testing, the test was narrowed to twenty-three questions consisting of three items per subscale except for family, which only has two. The format of responses uses a Likert scale ranging from 1 (this is not at all descriptive of me) to 8 (this completely describes me). This study modified the scale to 1 (this is not at all me) to 8 (this completely describes me).

Since the creation of the scale, a line of research has been conducted using the scale to measure spectator motivation. One reason that research on sports fan motivation is important to the overall body of leisure research is that a majority of people interact with sports as spectators (Wann, 1995). Since the late 1990s there has been considerable research on sports fan motivations as a function of socio-demographic characteristics (Armstrong, 2002), emotional responses (Wann, Royalty & Rochelle, 2002), and gender (James & Ridinger, 2002). In this study, the total SFMS reliability was  $\alpha = .827$  with subscales ranging from  $\alpha = .57$  to  $.88$  (Table 2). This is in line with Wann's (1995) initial testing of the overall reliability ( $\alpha = .90$ ) and the range of reliability between  $\alpha = .59$  (family) and  $\alpha = .94$  (economic) for subscales. Statistics for the individual factors of motivation are presented in Appendix B.

### **Motivation Scale of Sports Consumption**

Trail, Fink, and Anderson (2000) developed the Motivation Scale for Sport Consumption (MSSC) to explain the cognitive, affective, and behavioral components of sports consumption in an effort to better aid sports marketing personnel (Trail, Fink, & Anderson, 2003). The MSSC measures spectator consumption behavior based on the eight subscales of 1) achievement, 2) aesthetics, 3) drama, 4) escape, 5) knowledge, 6) physical skills, 7) social, and 8) family. The scale consists of twenty-four questions using a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). This study utilized a modified version of the scale geared towards e-sport, and the scale description ranges from 1 (this is not at all me) to 7 (this completely describes me). Items were modified to reflect motivation for E-sport rather than physical skills. For instance, the question "the

athletic skills of the players are something I appreciate” changed to “the skills of the players are something I appreciate.”

Table 2: Summary of Responses for Sports Fan Motivation Scale (and Subscales) (N=436)

| SFMS Subscale     | $\bar{x}$ | S.E. | S.D. | V    | A   |
|-------------------|-----------|------|------|------|-----|
| Escape            | 3.04      | .09  | 1.91 | 3.64 | .88 |
| Economics         | 1.27      | .03  | .64  | .41  | .65 |
| Eustress          | 5.47      | .08  | 1.72 | 2.9  | .70 |
| Aesthetics        | 4.31      | .09  | 1.81 | 3.29 | .79 |
| Group Affiliation | 3.96      | .08  | 1.66 | 2.76 | .67 |
| Family            | 1.58      | .06  | 1.28 | 1.64 | .66 |
| Self Esteem       | 3.72      | .07  | 1.51 | 2.29 | .57 |
| Entertainment     | 6.75      | .06  | 1.19 | 1.42 | .58 |
| Total Scale       | 3.86      | .04  | .87  | .75  | .83 |

N=436

In this study, the MSSC items displayed a high degree of reliability ( $\alpha=.841$ ). The range of reliability for subscales of the E-sport Fan Motivation Scale fell between  $\alpha=.644$  (escape) and  $\alpha=.909$ , (social) (Table 3), well within acceptable ranges ( $\alpha > .5$ ). The

subscales were further aligned with the highest and lowest ranges cited by Trail, Fink, and Andersen (2003) [ $\alpha=.82$  (family, escape, and drama) and  $\alpha=.93$  (social)].

Table 3: Summary of Statistics for Motivation Scale of Sport Consumption (and Subscales) (N = 395)

| MSSC Subscales | $\bar{x}$ | S.E. | S.D. | V    | $\alpha$ |
|----------------|-----------|------|------|------|----------|
| Achievement    | 4.14      | .09  | 1.80 | 3.24 | .88      |
| Aesthetics     | 4.91      | .09  | 1.71 | 2.93 | .88      |
| Drama          | 6.39      | .04  | .84  | .70  | .71      |
| Escape         | 3.66      | .07  | 1.47 | 2.17 | .64      |
| Knowledge      | 6.26      | .05  | 1.03 | 1.05 | .87      |
| Player Skills  | 6.57      | .04  | .76  | .58  | .84      |
| Social         | 4.78      | .09  | 1.79 | 3.19 | .91      |
| Family         | 1.48      | .05  | .97  | .94  | .73      |
| Total Scale    | 4.77      | .04  | .73  | .53  | .84      |

### **Ethical Issues**

The Human Subjects Review Board (HSRB) of George Mason University's Office of Research Subject Protections (now the office of Research Integrity and

Assurance) reviewed this study. On March 19, 2012, it was classified as exempt under category two, which states:

“Unless otherwise required by federal department or agency heads, research activities in which the only involvement of human subjects will be in one or more of the following categories are exempt from HRSB review:

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:

(i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and

(ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation” (GMU Office of Research Integrity and Assurance, 2012)

(See Appendix C for GMU's Human Subject Review Board Application)

### **Data Analyses**

SPSS 9 was the primary statistical software used in this study. Descriptive statistics were used to summarize data and calculate and construct the reliability tables for each factor and corresponding questions (See Tables 2, 3, and Appendix B).

Inferential statistics were calculated (e.g., ANOVA, t-Tests) to determine differences in motivation by various socio-demographic groups.

## CHAPTER FOUR: RESULTS

The following chapter includes the results of this study, including a descriptive analysis of the subjects, and a brief description of the pertinent independent and dependent variables. Additionally, the results of inferential statistics testing the research questions are included.

### **Descriptive Profile of Subjects**

Of the valid responses (n=393), 92.4 percent were males and 7.6 were females. The age of the respondents ranged from eighteen to sixty-five years (Figure 4). The median age was \_\_, with \_\_% less than twenty-five years. Thirty five percent were between ages eighteen and twenty one, thirty six percent were between ages twenty two and twenty five, eighteen percent were between ages twenty six and twenty nine, nine percent were between ages thirty and thirty eight, and two percent were between ages thirty nine and fifty nine.



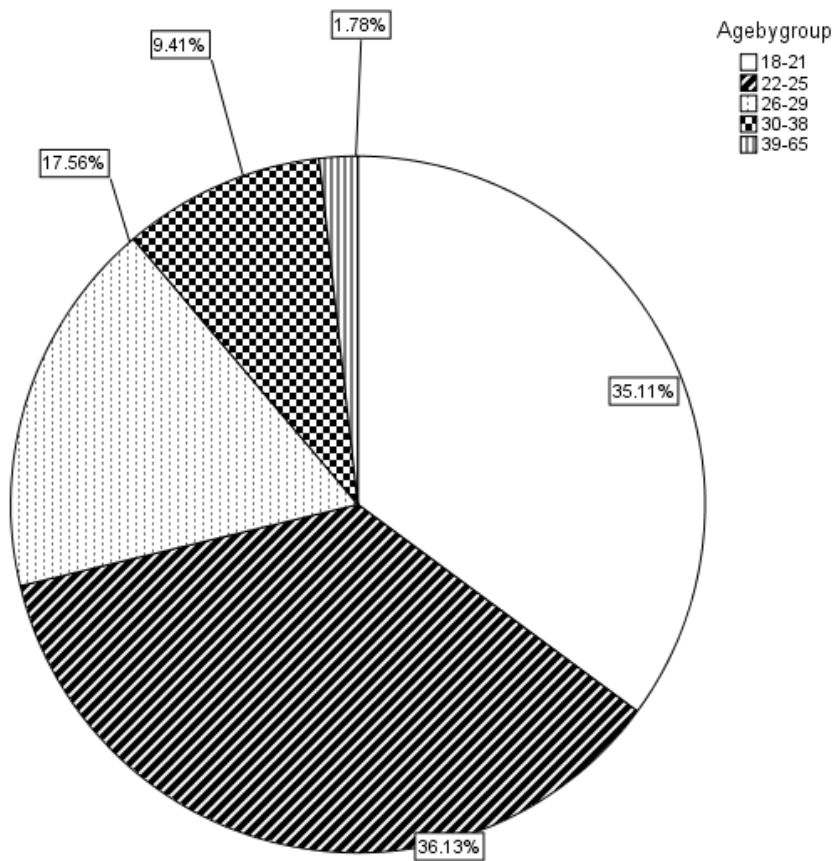


Figure 4: Age Distribution by Group N=393

Over three-quarters (77.2%) of participants were white. Of the remaining 22.8%, nearly eight percent were of mixed ethnicity (7.9%), and the remainder were Asian (non-Chinese) (5.1%), Hispanic/Latin American (4.1%), Chinese (2.6%), African American (1.5%), “other” (1%), and those of multi-European ethnicity (.5%) (Table 4).

Table 4: Frequencies of Respondent Race and Ethnicity

| Race/Ethnicity           | Frequency | Valid Percent |
|--------------------------|-----------|---------------|
| White                    | 302       | 77.3          |
| Mixed Ethnicity          | 31        | 7.9           |
| Asian (non Chinese)      | 20        | 5.1           |
| Hispanic/ Latin American | 16        | 4.1           |
| Chinese                  | 10        | 2.6           |
| African American         | 6         | 1.5           |
| Other                    | 4         | 1.0           |
| Multi-European           | 2         | .5            |
| Total                    | 391       | 100.0         |

### **Spectator Habits and Preferences**

Nearly half of respondents claimed they only watched e-sport at home (48.2%), while nearly a third watched at both home and in public (30.2%). The remainder preferred to watch in various locations (Table 5).

Table 5: Spectator Location Preference.

| Preferred Location     | Frequency | Valid Percent |
|------------------------|-----------|---------------|
| Home Only              | 190       | 48.2          |
| Home and Public        | 119       | 30.2          |
| Home, Work, and Public | 54        | 13.8          |
| Home and Work          | 23        | 5.8           |
| Public Only            | 8         | 2.0           |
| Total                  | 394       | 100.0         |

Among respondents, almost a third stated they preferred to watch between one and two hours (31%) at a time, closely followed by those who stated they preferred to watch for two to three hours (27.4%). Nearly one quarter preferred to watch for durations above four hours (23.1%), followed by those who preferred watching for three to four hours (45%). (Table 6).

Table 6: Frequencies of Spectator Preferred Viewing Durations

| Viewing Duration | Frequency | Valid Percent |
|------------------|-----------|---------------|
| 0-1 hours        | 28        | 7.1           |
| 1-2 hours        | 122       | 31.0          |
| 2-3 hours        | 108       | 27.4          |
| 3-4 hours        | 45        | 11.4          |
| 4+ hours         | 91        | 23.1          |
| Total            | 394       | 100.0         |

Regarding the preferred amount of other viewers, more than half of respondents stated that they participated in small groups of two to ten (53.8%). Slightly more than a quarter of respondents stated they wanted to watch by themselves (26%), about ten percent stated they preferred large groups (10.7 %) and the fewest (9.4%) preferred a mid-sized group consisting of eleven to twenty-five people (Table 7).

Table 7: Frequencies of Preferred Spectator Group Size

| Spectator Amounts        | Frequency | Percent |
|--------------------------|-----------|---------|
| By Myself                | 102       | 26.0    |
| Small Group (2-10)       | 211       | 53.8    |
| Midsize Group (11-25)    | 37        | 9.5     |
| Large Group (26 or more) | 42        | 10.7    |
| Total                    | 392       | 100.0   |

### **Spectators Playing E-sport**

Slightly over three quarters of respondents claimed to play e-sport (76.1%) and have done so for awhile. Among the three hundred who claim to play e-sport, the majority of the sample stated that they have been playing for over three years (45.3%), with 30 percent having played between one and two years (Table 8).

Table 8: Frequency of Length of Spectator Playing Experience

| Duration  | Frequency | Valid Percent |
|-----------|-----------|---------------|
| 0-1 years | 49        | 16.3          |
| 1-2 years | 90        | 30.0          |
| 2-3 years | 25        | 8.3           |
| 3+ years  | 136       | 45.4          |
| Total     | 300       | 100.0         |

### Research Questions

The following section reports the results of inferential analyses performed to assess key research questions.

#### **Q1: What are the key factors of motivation and sport consumption among e-sport fans?**

Among the 436 respondents who completed the SFMS, the motivation subscale with the highest mean among the sample was entertainment ( $\bar{x} = 6.75$ ), followed by eustress ( $\bar{x} = 5.47$ ) and aesthetics ( $\bar{x} = 4.31$ ) (Table 2). Among the 395 respondents who completed the MSSC, the highest means among factors of motivation were player skills ( $\bar{x} = 6.57$ ), drama ( $\bar{x} = 6.39$ ), and knowledge ( $\bar{x} = 6.26$ ) (Table 3). These means signify that the majority of e-sport spectators participated for entertainment and excitement, but

also to see the games played well, and found the presentation of the games to be visually pleasing.

**Q2a: What significant differences in motivation exist between e-sport spectators on the basis of gender?**

Based on a series of t-Tests, there was a significant difference between males and females with regard to group affiliation ( $t=-2.375$ ,  $p=.018$ ), and family ( $t=-8.391$ ,  $p=.000$ ) as sport fan motivation, where females indicated a higher level of group affiliation and family as motivating factors ( $\bar{x}= 4.667$ ,  $\bar{x}= 3.283$ ) than males ( $\bar{x}= 3.928$ ,  $\bar{x}= 1.423$ ) (Tables 9 and 10). There were also factors that trended towards significance in regards to differences between males and females on the SFMS, specifically self-esteem ( $t=1.887$ ,  $p=.060$ ) and entertainment ( $t=1.779$ ,  $p=.076$ ), where males mean score was higher ( $\bar{x}= 3.745$ ,  $\bar{x}= 6.815$ ) than females ( $\bar{x}= 3.211$ ,  $\bar{x}= 6.333$ ).

Based on a series of t-Tests, there were significant differences as well between males and females in the MSSC factors of drama ( $t=2.870$ ,  $p=.004$ ), knowledge ( $t=5.578$ ,  $p=.000$ ), player skills ( $t=3.187$ ,  $p=.002$ ) and family ( $t=-6.573$ ,  $p=.000$ ), specifically males had higher motivations in these areas ( $\bar{x}= 6.420$ ,  $\bar{x}= 6.339$ ,  $\bar{x}= 6.602$ ) than females ( $\bar{x}= 5.967$ ,  $\bar{x}= 5.289$ ,  $\bar{x}= 6.144$ ) (Tables 11 and 12). In the area of family as a motivation, females' degree of motivation was higher ( $\bar{x}= 2.544$ ) than males ( $\bar{x}= 1.389$ ).

Table 9: Significance Testing of Sports Fan Motivation Scale for Gender

| SFMS Subscale     | t     | p    | Mean       | Std. Error |
|-------------------|-------|------|------------|------------|
|                   |       |      | Difference | Difference |
| Escape            | .31   | .76  | .11        | .35        |
| Economic          | .10   | .92  | .01        | .12        |
| Eustress          | 1.26  | .21  | .41        | .33        |
| Aesthetics        | 1.38  | .17  | .48        | .35        |
| Group Affiliation | -2.38 | .02* | -.74       | .31        |
| Family            | -8.39 | .00* | -1.86      | .22        |
| Self Esteem       | 1.89  | .06  | .54        | .29        |
| Entertainment     | 1.78  | .08  | .38        | .21        |
| Total             | -.03  | .97  | -.01       | .16        |

\*Significant at the .05 value



Table 10: Mean Differences for Sports Fan Motivation Scale by Gender

| SFMS Variables    | Male (N=363) |      | Female (N=30) |      | Total (N=393) |      |
|-------------------|--------------|------|---------------|------|---------------|------|
|                   | M            | SD   | M             | SD   | M             | SD   |
| Group Affiliation | 3.93         | 1.64 | 4.67          | 1.64 | 3.98          | 1.65 |
| Self Esteem       | 3.75         | 1.53 | 3.21          | 1.39 | 3.71          | 1.52 |

Table 11: Significance Testing of Motivation Scale of Sport Consumption by Gender

| MSSC Subscale | t     | p    | Mean       | Std. Error |
|---------------|-------|------|------------|------------|
|               |       |      | Difference | Difference |
| Achievement   | .48   | .63  | .17        | .34        |
| Aesthetics    | .08   | .94  | .03        | .33        |
| Drama         | 2.87  | .00* | .45        | .16        |
| Escape        | .60   | .55  | .17        | .28        |
| Knowledge     | 5.58  | .00* | 1.05       | .19        |
| Player Skills | 3.19  | .00* | .46        | .14        |
| Social        | -1.25 | .21  | -.42       | .34        |
| Family        | -6.57 | .00* | -1.16      | .18        |
| Total         | .67   | .51  | .09        | .14        |

\*Significant at the .05 value

Table 12: Mean Differences for Motivation Scale of Sports Consumption by Gender

| MSSC Variables | Male (N=363) |     | Female (N=30) |      | Total (N=363) |      |
|----------------|--------------|-----|---------------|------|---------------|------|
|                | M            | SD  | M             | SD   | M             | SD   |
| Drama          | 6.42         | .79 | 5.97          | 1.23 | 6.39          | .84  |
| Knowledge      | 6.34         | .92 | 5.29          | 1.65 | 6.26          | 1.03 |
| Player Skills  | 6.60         | .69 | 6.14          | 1.32 | 6.57          | .77  |
| Family         | 1.39         | .86 | 2.54          | 1.49 | 1.48          | .97  |

**Q2b: What significant differences in motivation exist among e-sport spectators on the basis of race/ethnicity?**

There were significant differences among race/ethnic groups with regard to e-sport motivation factors, specifically, economic ( $F= 2.495$ ,  $p=.016$ ), group affiliation ( $F= 2.433$ ,  $p=.019$ ), and family ( $F=2.804$ ,  $p=.007$ ) (Table 13). The group with the highest degree of economic motivation on the SFMS were those who classified themselves as being of Asian (non-Chinese) background ( $\bar{x}=1.767$ ); those with the least degree of economic motivation were those who classified themselves as being of multiple European background ( $\bar{x}= 1.000$ ) (Table 14). In contrast, participants of multi-European ethnicity reported the highest group affiliation motivation ( $\bar{x}= 4.500$ ), whereas African Americans displayed the lowest group affiliation motivation ( $\bar{x}=1.889$ ). Those who

regard themselves as Asian (non-Chinese) resulted in the highest degree of family motivation ( $\bar{x}$ = 2.650) and those who were classified as other were the lowest ( $\bar{x}$ =1.000) and those who regarded themselves as Chinese were slightly higher degree ( $\bar{x}$ =1.300) (Table 14).

Table 13: Significance Testing of Sports Fan Motivation Scale by Race/Ethnicity

| SFMS Subscales | SSQ   | df | $\bar{x}$ Square | F    | P    |
|----------------|-------|----|------------------|------|------|
| Escape         | 20.40 | 7  | 2.91             | .85  | .54  |
| Economic       | 6.78  | 7  | .97              | 2.50 | .02* |
| Eustress       | 23.37 | 7  | 3.34             | 1.13 | .34  |
| Aesthetics     | 11.91 | 7  | 1.70             | .50  | .83  |
| Group Affil.   | 44.74 | 7  | 6.39             | 2.43 | .02* |
| Family         | 30.63 | 7  | 4.38             | 2.80 | .01* |
| Self Esteem    | 12.93 | 7  | 1.85             | .79  | .59  |
| Entertainment  | 9.39  | 7  | 1.34             | 1.07 | .38  |
| SFMS: Total    | 7.23  | 7  | 1.03             | 1.44 | .19  |

\* Significant at the .05 level

Table 14: Mean Differences for Sports Fan Motivation Scale among Race/Ethnicity

Subgroups

|       |          | Race/ Ethnicity |          |     |           |     |           |    |           |     |           |     |           |     |           |     |       |     |  |  |
|-------|----------|-----------------|----------|-----|-----------|-----|-----------|----|-----------|-----|-----------|-----|-----------|-----|-----------|-----|-------|-----|--|--|
| SF    | White    |                 | Asian    |     | Chin      |     | Afr       |    | Hisp./    |     | Other     |     | Multi-    |     | Mixed     |     | Total |     |  |  |
| MS    | Non-C.   |                 |          |     | Am.       |     |           |    | Lat       |     |           |     | Euro      |     |           |     | Eth   |     |  |  |
| Vari  | N=302    |                 | N=20     |     | N=10      |     | N=6       |    | N=16      |     | N=4       |     | N=2       |     | N=31      |     | N=391 |     |  |  |
| able  | M        | σ               | M        | σ   | M         | σ   | M         | σ  | M         | σ   | M         | σ   | M         | σ   | M         | σ   | M     | σ   |  |  |
| Econ  | 1.2<br>a | .6              | 1.8<br>b | 1.1 | 1.2<br>ab | .6  | 1.1<br>ab | .1 | 1.2<br>ab | .3  | 1.4<br>ab | .8  | 1.0<br>a  | 0   | 1.4<br>a  | .7  | 1.3   | .6  |  |  |
| G. A. | 4.0      | 1.7             | 4.5      | 1.9 | 4.1       | 1.2 | 1.9       | .8 | 4.0       | 1.5 | 2.3       | 1.2 | 4.5       | .7  | 3.9       | 1.4 | 4.0   | 1.6 |  |  |
| Fam   | 1.5<br>a | 1.2             | 2.7<br>b | 2.1 | 1.3<br>ab | 1.0 | 1.0<br>ab | 0  | 1.4<br>ab | .8  | 1.0<br>ab | 0   | 1.8<br>ab | 1.1 | 1.8<br>ab | 1.7 | 1.6   | 1.3 |  |  |

Note: Values with different superscripts (a, b, c) vary significantly at the .05 level

Based on analyses of variance of the E-sport Motivation Scale of Sports

Consumption by race/ethnicity, there were no statistically significant differences among subgroups (Table 15).

Table 15: Significance Testing of Motivation Scale for Sports Consumption by Race/Ethnicity

| MSSC Subscales | Sum of Squares | df | $\bar{x}$ Square | F    | p   |
|----------------|----------------|----|------------------|------|-----|
| Achievement    | 9.91           | 7  | 1.42             | .43  | .88 |
| Aesthetics     | 14.19          | 7  | 2.03             | .69  | .68 |
| Drama          | 4.27           | 7  | .61              | .88  | .53 |
| Escape         | 17.28          | 7  | 2.47             | 1.14 | .34 |
| Knowledge      | 6.19           | 7  | .88              | .83  | .56 |
| Player Skills  | 2.09           | 7  | .30              | .51  | .83 |
| Social         | 32.95          | 7  | 4.71             | 1.49 | .17 |
| Family         | 9.55           | 7  | 1.36             | 1.44 | .19 |
| Total Score    | 3.90           | 7  | .56              | 1.05 | .40 |

\* Significant at the .05 level

**Q2c: What significant differences in motivation exist among e-sport spectators on the basis of length of time watching?**

There were significant differences among preferred duration of viewing subgroups with regard to the SFMS subscales of eustress ( $F= 13.029$ ,  $p=.000$ ), aesthetics

( $F=4.374$ ,  $p=.002$ ), group affiliation ( $F=2.611$ ,  $p=.035$ ), self esteem ( $F=11.626$ ,  $p=.000$ ) and the total SFMS scale ( $F=10.665$ ,  $p=.000$ ). The family subscale was trending toward significance ( $F=2.222$ ,  $p=.066$ ) (Table 16). Those who watched for more than four hours showed the highest degree of eustress, group affiliation, self-esteem, and the total scale ( $\bar{x}= 6.363$ ,  $\bar{x}=4.333$ ,  $\bar{x}= 4.421$ ,  $\bar{x}= 4.228$ ). The group with the highest aesthetics scores were those who watch for three to four hours ( $\bar{x}= 4.844$ ). Those who watched for an hour or less has the lowest degree of eustress, aesthetics, group affiliation, self-esteem, and total motivation ( $\bar{x}=4.500$ ,  $\bar{x}= 3.667$ ,  $\bar{x}= 3.298$ ,  $\bar{x}= 2.691$ ,  $\bar{x}= 3.362$ ) (Table 17).

Results of the series of analyses of variance indicate that there were also significant differences among preferred duration of viewing groups with regard to MSSC motivations of achievement ( $F=10.451$ ,  $p=.000$ ), aesthetics ( $F=5.029$ ,  $p=.001$ ), drama ( $F=2.661$ ,  $p=.032$ ), player skills ( $F=4.064$ ,  $p=.003$ ), social ( $F=6.176$ ,  $p=.000$ ), and the total scale ( $F=9.877$ ,  $p=.000$ ) (Table 18). Respondents who watched for more than three hours displayed the highest degrees of MSSC. Specifically, the respondents who preferred to watch e-sport for a duration of more than four hours revealed the highest degree of achievement, aesthetics, and player skills, ( $\bar{x}=4.865$ ,  $\bar{x}=5.399$ ,  $\bar{x}= 6.806$ ) while those who watched between three to four hours showed the highest degrees of drama, social, and the total scale ( $\bar{x}= 6.578$ ,  $\bar{x}= 5.252$ ,  $\bar{x}=5.050$ ). Those who watched for an hour or less were revealed to have the lowest degree of motivation in achievement, aesthetics, drama, player skills, social, and the total scale ( $\bar{x}=3.036$ ,  $\bar{x}= 4.143$ ,  $\bar{x}= 6.107$ ,  $\bar{x}= 6.392$ ,  $\bar{x}=3.619$ ,  $\bar{x}=4.319$ ) (Table 19).

Table 16: Significance Testing of Sports Fan Motivation Scale by Viewing Duration

| SFMS: Subscales   | SSQ    | df | $\bar{x}$ Square | F     | P    |
|-------------------|--------|----|------------------|-------|------|
| Escape            | 5.22   | 4  | 1.31             | .38   | .83  |
| Economic          | 1.53   | 4  | .38              | .96   | .43  |
| Eustress          | 137.70 | 4  | 34.43            | 13.03 | .00* |
| Aesthetics        | 56.53  | 4  | 14.13            | 4.37  | .00* |
| Group Affiliation | 27.78  | 4  | 6.95             | 2.61  | .04* |
| Family            | 14.05  | 4  | 3.51             | 2.22  | .07  |
| Self Esteem       | 96.93  | 4  | 24.23            | 11.63 | .00* |
| Entertainment     | 4.97   | 4  | 1.24             | .97   | .42  |
| Total Score       | 27.91  | 4  | 6.98             | 10.67 | .00* |

\*Significant at the .05 level

Table 17: Mean Differences for Sports Fan Motivation Scale by Preferred Viewing

Duration

| SFMS<br>Sub<br>scales | Preferred Viewing Duration in Hours |      |                    |      |                    |      |                    |      |                   |      |              |      |
|-----------------------|-------------------------------------|------|--------------------|------|--------------------|------|--------------------|------|-------------------|------|--------------|------|
|                       | 0-1(N=28)                           |      | 1-2(N=122)         |      | 2-3(N=108)         |      | 3-4(N=45)          |      | 4+ (N=91)         |      | Total(N=394) |      |
|                       | M                                   | SD   | M                  | SD   | M                  | SD   | M                  | SD   | M                 | SD   | M            | SD   |
| Eust.                 | 4.50 <sup>a</sup>                   | 1.73 | 5.11 <sup>a</sup>  | 1.75 | 5.19 <sup>ab</sup> | 1.77 | 6.04 <sup>bc</sup> | 1.42 | 6.36 <sup>c</sup> | 1.31 | 5.48         | 1.72 |
| Aes.                  | 3.67                                | 2.33 | 4.17               | 1.75 | 4.08               | 1.77 | 4.84               | 1.59 | 4.83              | 1.80 | 4.34         | 1.83 |
| G.A.                  | 3.30                                | 1.82 | 3.90               | 1.67 | 3.90               | 1.60 | 4.18               | 1.7  | 4.33              | 1.51 | 3.99         | 1.64 |
| S.E.                  | 2.69 <sup>a</sup>                   | 1.49 | 3.39 <sup>ab</sup> | 1.49 | 3.58 <sup>ab</sup> | 1.32 | 4.11 <sup>bc</sup> | 1.58 | 4.42 <sup>c</sup> | 1.43 | 3.71         | 1.52 |
| Total                 | 3.36 <sup>a</sup>                   | .92  | 3.71 <sup>a</sup>  | .88  | 3.73 <sup>ab</sup> | .77  | 4.16 <sup>bc</sup> | .69  | 4.23 <sup>c</sup> | .76  | 3.86         | .85  |

Note: Values with different superscripts (a,b,c) vary significantly at the .05 level



Table 18: Significance Testing of Motivation Scale of Sports Consumption by Viewing

Duration

| MSSC Subscales | SSQ    | df | $\bar{x}$ Square | F     | p    |
|----------------|--------|----|------------------|-------|------|
| Achievement    | 123.72 | 4  | 30.93            | 10.45 | .00* |
| Aesthetics     | 56.57  | 4  | 14.14            | 5.03  | .00* |
| Drama          | 7.35   | 4  | 1.84             | 2.66  | .03* |
| Escape         | 7.30   | 4  | 1.83             | .84   | .50  |
| Knowledge      | .68    | 4  | .17              | .16   | .96  |
| Player Skills  | 9.22   | 4  | 2.30             | 4.06  | .00* |
| Social         | 74.79  | 4  | 18.70            | 6.18  | .00* |
| Family         | 2.56   | 4  | .64              | .67   | .61  |
| MSSC: Total    | 19.32  | 4  | 4.83             | 9.88  | .00* |

\*Significant at the .05 level

Table 19: Mean Differences in the Motivation Scale of Sport Consumption by Preferred Viewing Duration

| MSSC<br>Sub-<br>scales | Preferred Viewing Duration in Hours |      |                                |      |                    |      |                                |      |                   |      |              |      |
|------------------------|-------------------------------------|------|--------------------------------|------|--------------------|------|--------------------------------|------|-------------------|------|--------------|------|
|                        | 0-1(N=28)                           |      | 1-2(N=122)                     |      | 2-3(N=108)         |      | 3-4 (N=45)                     |      | 4+(N=91)          |      | Total(N=394) |      |
|                        | M                                   | SD   | M                              | SD   | M                  | SD   | M                              | SD   | M                 | SD   | M            | SD   |
| Ach                    | 3.04 <sup>a</sup>                   | 1.95 | 3.74 <sup>a</sup>              | 1.83 | 4.01 <sub>ab</sub> | 1.58 | 4.81 <sup>b</sup> <sub>c</sub> | 1.71 | 4.87 <sub>c</sub> | 1.66 | 4.15         | 1.80 |
| Aes                    | 4.14 <sup>a</sup>                   | 1.86 | 4.67 <sup>a</sup>              | 1.72 | 4.77 <sub>ab</sub> | 1.73 | 5.36 <sup>a</sup> <sub>b</sub> | 1.42 | 5.40 <sub>b</sub> | 1.60 | 4.91         | 1.71 |
| Drama                  | 6.11                                | .90  | 6.24                           | .95  | 6.42               | .85  | 6.58                           | .58  | 6.51              | .71  | 6.39         | .84  |
| Player S.              | 6.39 <sup>ab</sup>                  | 1.02 | 6.45 <sup>a</sup>              | .84  | 6.50 <sub>ab</sub> | .84  | 6.70 <sup>a</sup> <sub>b</sub> | .55  | 6.81 <sub>b</sub> | .46  | 6.57         | .77  |
| Social                 | 3.62 <sup>a</sup>                   | 2.01 | 4.50 <sup>a</sup> <sub>b</sub> | 1.72 | 4.84 <sub>b</sub>  | 1.73 | 5.25 <sup>b</sup>              | 1.52 | 5.22 <sub>b</sub> | 1.79 | 4.78         | 1.79 |
| Total                  | 4.32 <sup>a</sup>                   | .80  | 4.62 <sup>a</sup>              | .75  | 4.72 <sub>ab</sub> | .65  | 5.05 <sup>b</sup> <sub>c</sub> | .58  | 5.05 <sub>c</sub> | .71  | 4.77         | .73  |

Note: Values with different superscripts (a,b,c) vary significantly at the .05 level

**Q2d: What significant differences in motivation exist between e-sport spectators on the basis of play status (play or not)?**

Results of a series of t-Tests indicate that significant differences exist between those who (in addition to being a spectator) play and those who do not with regard to the SFMS subscales of escape ( $t=2.098$ ,  $p=.037$ ), eustress ( $t=4.308$ ,  $p=.000$ ), aesthetics ( $t=2.930$ ,  $p=.004$ ), self-esteem ( $t=2.232$ ,  $p=.026$ ), and SFMS: total ( $t=3.787$ ,  $p=.000$ ) (Table 20).

In all cases with significant differences, players mean score was higher than non-players. Specifically, on the subscale of escape players showed a mean score of 3.118, while non-players' mean score was 2.66 (Table 21). Involving eustress, players' mean score was higher at 5.688, while non-players' mean score was 4.83. Regarding aesthetics players resulted in a mean score of 4.489, as non-players' mean score was 3.862. On self-esteem, players showed a mean score of 3.807, as non-players showed a mean score of 3.408. Finally, the differences in SFMS total score were players received a mean score of 3.579 and non-players received a mean score of 3.579.

Table 20: Significance Testing of Sports Fan Motivation Scale by “Do You Play?”

|                   |      |      | Mean       | Std. Error |
|-------------------|------|------|------------|------------|
| SFMS Subscale     | t    | p    | Difference | Difference |
| Escape            | 2.10 | .04* | .46        | .22        |
| Economic          | .86  | .39  | .06        | .07        |
| Eustress          | 4.31 | .00* | .86        | .20        |
| Aesthetics        | 2.93 | .00* | .63        | .21        |
| Group Affiliation | 1.13 | .26  | .22        | .19        |
| Family            | .74  | .46  | .11        | .15        |
| Self Esteem       | 2.23 | .03* | .40        | .18        |
| Entertainment     | 1.20 | .23  | .16        | .13        |
| Total             | 3.79 | .00* | .37        | .10        |

\* Significant at the .05 level

Significant differences were also found between players and non players with regard to the MSSC subscales of achievement ( $t=2.149$ ,  $p=.032$ ), aesthetics ( $t=1.994$ ,  $p=.047$ ), knowledge ( $t=3.801$ ,  $p=.000$ ), player skills ( $t=3.465$ ,  $p=.001$ ), and the MSSC: total ( $t=3.901$ ,  $p=.000$ ) (Table 22). The factor of drama was approaching statistical significance ( $t=1.936$ ,  $p=.054$ ). Similarly, players had a higher level of

achievement, aesthetics, knowledge, player skills, and the total motivation ( $\bar{x}$ =4.253,  $\bar{x}$ =5.001,  $\bar{x}$ =6.369,  $\bar{x}$ =6.642,  $\bar{x}$ =4.835) than non-players ( $\bar{x}$ =3.798,  $\bar{x}$ =4.599,  $\bar{x}$ =5.915,  $\bar{x}$ =6.333,  $\bar{x}$ =4.835) (Table 23).

Table 21: Mean Differences of the Sports Fan Motivation Scale by “Do You Play?”

| SFMS Subscales | Response to "Do You Play E-sport?" |      |             |      |               |      |
|----------------|------------------------------------|------|-------------|------|---------------|------|
|                | No (N=94)                          |      | Yes (N=300) |      | Total (N=394) |      |
|                | M                                  | SD   | M           | SD   | M             | SD   |
| Escape         | 2.66                               | 1.81 | 3.12        | 1.86 | 3.00          | 1.86 |
| Eustress       | 4.83                               | 1.99 | 5.69        | 1.58 | 5.48          | 1.72 |
| Aesthetics     | 3.86                               | 1.91 | 4.49        | 1.78 | 4.34          | 1.83 |
| Self Esteem    | 3.41                               | 1.64 | 3.81        | 1.47 | 3.71          | 1.52 |
| Total          | 3.58                               | .90  | 3.95        | .81  | 3.86          | .85  |

Table 22: Significance Testing of Motivation Scale of Sport Consumption by “Do You Play?”

|               |      |       | Mean       | Std. Error |
|---------------|------|-------|------------|------------|
| MSSC Subscale | t    | p     | Difference | Difference |
| Achievement   | 2.14 | .03*  | .46        | .21        |
| Aesthetics    | 1.99 | .05*  | .40        | .20        |
| Drama         | 1.94 | .05** | .19        | .10        |
| Escape        | .90  | .37   | .16        | .17        |
| Knowledge     | 3.80 | .00*  | .45        | .12        |
| Player Skills | 3.47 | .00*  | .31        | .10        |
| Social        | 1.00 | .32   | .21        | .21        |
| Family        | -.59 | .55   | -.07       | .12        |
| Total         | 3.09 | .00*  | .26        | .09        |

\* Significant at the .05 level, \*\*Unrounded value was above .05

Table 23: Mean Differences of the Motivation Scale of Sports Consumption by “Do You Play?”

| MSSC Subscales | Response to “Do You Play E-sport?” |      |             |      |               |      |
|----------------|------------------------------------|------|-------------|------|---------------|------|
|                | No (N=94)                          |      | Yes (N=300) |      | Total (N=394) |      |
|                | M                                  | SD   | M           | SD   | M             | SD   |
| Achievement    | 3.80                               | 1.82 | 4.25        | 1.79 | 4.14          | 1.80 |
| Aesthetics     | 4.60                               | 1.78 | 5.00        | 1.68 | 4.91          | 1.71 |
| Knowledge      | 5.91                               | 1.27 | 6.37        | .91  | 6.26          | 1.03 |
| Player Skills  | 6.33                               | 1.04 | 6.64        | .64  | 6.57          | .76  |
| Social         | 4.62                               | 1.81 | 4.83        | 1.78 | 4.78          | 1.79 |
| Total          | 4.57                               | .76  | 4.84        | .71  | 4.77          | .73  |

**Q2e: What significant differences in motivation exist among e-sport spectators on the basis of number of viewing companions?**

Results of the series of analyses of variance of the SFMS by spectator group sizes show significant differences on the SFMS subscales of eustress ( $F=3.198, p=.023$ ), aesthetics ( $F=4.837, p=.003$ ), group affiliation ( $F=30.581, p=.000$ ), family ( $F=4.563, p=.004$ ), self esteem ( $F=4.615, p=.003$ ) and the SFMS: total score ( $F=10.283, p=.000$ ) (Table 24). The groups that preferred to watch e-sport with a large group of people

showed the highest degree of motivation in eustress, aesthetics, family, self-esteem, and the total motivation ( $\bar{x}= 6.206$ ,  $\bar{x}=5.056$ ,  $\bar{x}= 1.917$ ,  $\bar{x}=4.286$ ,  $\bar{x}=4.318$ ) (Table 25).

Interestingly, the group with the highest degree of group affiliation were those who prefer a mid-sized group of viewing companions ( $\bar{x}=4.883$ ). Respondents who prefer to watch by themselves displayed the lowest degree of motivation in eustress, aesthetics, group affiliation, family, self-esteem, and the total score ( $\bar{x}= 5.278$ ,  $\bar{x}=3.909$ ,  $\bar{x}=2.863$ ,  $\bar{x}=1.201$ ,  $\bar{x}=3.324$ ,  $\bar{x}=3.545$ ).



Table 24: Significance Testing of Sport Fan Motivation Scale by Preferred Viewer

Amount

| SFMS Subscale     | SSq    | df | $\bar{x}$ Square | F     | p    |
|-------------------|--------|----|------------------|-------|------|
| Escape            | 5.68   | 3  | 1.89             | .55   | .65  |
| Economic          | 2.01   | 3  | .67              | 1.69  | .17  |
| Eustress          | 27.91  | 3  | 9.30             | 3.20  | .02* |
| Aesthetics        | 47.20  | 3  | 15.73            | 4.84  | .00* |
| Group Affiliation | 200.92 | 3  | 66.97            | 30.58 | .00* |
| Family            | 21.41  | 3  | 7.14             | 4.56  | .00* |
| Self Esteem       | 31.23  | 3  | 10.41            | 4.62  | .00* |
| Entertainment     | 5.60   | 3  | 1.87             | 1.46  | .22  |
| Total Score       | 20.75  | 3  | 6.92             | 10.28 | .00* |

\* Significant at the .05 level

Table 25: Mean Differences among Significant Sports Fan Motivation Scale Factors by Preferred Viewer Amount

|             |                   | Preferred Spectator Amounts |                    |         |                    |           |                   |          |      |       |  |
|-------------|-------------------|-----------------------------|--------------------|---------|--------------------|-----------|-------------------|----------|------|-------|--|
|             |                   | By Myself                   |                    | Sml Grp |                    | Mid Group |                   | Lg Group |      | Total |  |
| SFMS        |                   |                             |                    | (2-10)  |                    | (11-25)   |                   | (26+)    |      |       |  |
| Subscales   | M                 | SD                          | M                  | SD      | M                  | SD        | M                 | SD       | M    | SD    |  |
| Eustress    | 5.28 <sup>a</sup> | 1.70                        | 5.40 <sup>ab</sup> | 1.76    | 5.58 <sup>ab</sup> | 1.62      | 6.21 <sup>b</sup> | 1.47     | 5.47 | 1.72  |  |
| Aesthetics  | 3.91 <sup>a</sup> | 1.89                        | 4.34 <sup>ab</sup> | 1.84    | 4.77 <sup>ab</sup> | 1.56      | 5.06 <sup>b</sup> | 1.59     | 4.34 | 1.83  |  |
| Group       |                   |                             |                    |         |                    |           |                   |          |      |       |  |
| Affiliation | 2.86 <sup>a</sup> | 1.31                        | 4.20 <sup>b</sup>  | 1.58    | 4.88 <sup>b</sup>  | 1.56      | 4.87 <sup>b</sup> | 1.26     | 3.99 | 1.64  |  |
| Family      | 1.20 <sup>a</sup> | .55                         | 1.68 <sup>b</sup>  | 1.42    | 1.54 <sup>ab</sup> | 1.05      | 1.92 <sup>b</sup> | 1.65     | 1.57 | 1.27  |  |
| Self        |                   |                             |                    |         |                    |           |                   |          |      |       |  |
| Esteem      | 3.32 <sup>a</sup> | 1.59                        | 3.75 <sup>ab</sup> | 1.45    | 3.93 <sup>ab</sup> | 1.38      | 4.29 <sup>b</sup> | 1.62     | 3.71 | 1.52  |  |
| Total       | 3.55 <sup>a</sup> | .82                         | 3.89 <sup>b</sup>  | .85     | 4.07 <sup>bc</sup> | .74       | 4.32 <sup>c</sup> | .75      | 3.86 | .85   |  |

Note: Values with different superscripts (a,b,c) vary significantly at the .05 level

Based on the results of the series of analyses of variance of the MSSC by preferences for spectator group sizes, significant differences were found with regard to achievement ( $F=3.707$ ,  $p=.012$ ), aesthetics ( $F=6.206$ ,  $p=.000$ ), social ( $F=34.496$ ,  $p=.000$ ), family ( $F=5.007$ ,  $p=.002$ ) and the MSSC total score ( $F=151.747$ ,  $p=.000$ )(Table 26).

Table 26: Significance Testing of Motivation Scale of Sport Consumption by Preferred Viewer Amount

| MSSC Subscale | SSq    | df | $\bar{x}$ Square | F     | p    |
|---------------|--------|----|------------------|-------|------|
| Achievement   | 35.18  | 3  | 11.73            | 3.71  | .01* |
| Aesthetics    | 52.47  | 3  | 17.49            | 6.21  | .00* |
| Drama         | 2.86   | 3  | .95              | 1.36  | .26  |
| Escape        | 9.81   | 3  | 3.27             | 1.51  | .21  |
| Knowledge     | 1.69   | 3  | .56              | .53   | .66  |
| Player Skills | 1.55   | 3  | .52              | .88   | .45  |
| Social        | 262.59 | 3  | 87.53            | 34.50 | .00* |
| Family        | 13.84  | 3  | 4.61             | 5.01  | .00* |
| Total Score   | 22.72  | 3  | 7.57             | 15.75 | .00* |

\*Significant at the .05 level

Respondents who preferred to watch in large groups had the highest degree of achievement, aesthetics, social, family, and the total motivation ( $\bar{x}$ = 4.548,  $\bar{x}$ =5.683,  $\bar{x}$ =5.953,  $\bar{x}$ =1.786,  $\bar{x}$ =5.216) (Table 27). In contrast, those who watched by themselves had the lowest degree of consumption in regards to achievement, aesthetics, social, family and the total scale ( $\bar{x}$ =3.673,  $\bar{x}$ =4.409,  $\bar{x}$ =3.467,  $\bar{x}$ =1.186,  $\bar{x}$ = 4.418).

Table 27: Mean Differences among Significant Motivation Scale of Sport Consumption Factors by Preferred Viewer Amount

| Subscales   | Preferred Spectator Amounts |      |                    |      |                    |      |                    |      |       |      |
|-------------|-----------------------------|------|--------------------|------|--------------------|------|--------------------|------|-------|------|
|             | By Myself                   |      | Sml Group.         |      | Mid Group          |      | Large Group        |      | Total |      |
|             | M                           | SD   | M                  | SD   | M                  | SD   | M                  | SD   | M     | SD   |
| MSSC        |                             |      | (2-10)             |      | (11-25)            |      | (26 +)             |      |       |      |
| Achievement | 3.67                        | 1.81 | 4.27               | 1.79 | 4.40               | 1.54 | 4.55               | 1.85 | 4.16  | 1.80 |
| Aesthetics  | 4.41 <sup>a</sup>           | 1.86 | 4.94 <sup>ab</sup> | 1.70 | 5.12 <sup>ab</sup> | 1.42 | 5.68 <sup>b</sup>  | 1.27 | 4.90  | 1.71 |
| Social      | 3.47 <sup>a</sup>           | 1.75 | 5.08 <sup>b</sup>  | 1.56 | 5.31 <sup>b</sup>  | 1.65 | 5.95 <sup>bc</sup> | 1.28 | 4.78  | 1.79 |
| Family      | 1.19 <sup>a</sup>           | .48  | 1.55 <sup>b</sup>  | 1.04 | 1.54 <sup>ab</sup> | 1.06 | 1.79 <sup>b</sup>  | 1.26 | 1.48  | .97  |
| Total       | 4.42 <sup>a</sup>           | .73  | 4.83 <sup>b</sup>  | .68  | 4.94 <sup>bc</sup> | .70  | 5.22 <sup>c</sup>  | .64  | 4.77  | .73  |

Note: Values with different superscripts (a, b, c) vary significantly at the .05 level

**Q2f: What significant differences in motivation exist among e-sport spectators on the basis of locations(s) of viewing?**

Significant differences were found among e-sport spectators on the basis of preferred locations of viewing with regard to economic ( $F=3.227$ ,  $p= .013$ ), eustress ( $F=6.190$ )  $p= .000$ ), aesthetics ( $F= 6.190$ ,  $p= .000$ ), group affiliation ( $F=13.791$ ,  $p= .000$ ),

family ( $F= 4.571$ ,  $p= .001$ ), self-esteem, ( $F= 2.545$ ,  $p=.039$ ), entertainment ( $F=3.129$ ,  $p=.015$ ) and the overall motivation ( $F=8.055$ ,  $p= .000$ ) (Table 28).

Those who watched at home, work, and in public showed the highest degrees of eustress, aesthetic, self-esteem, and total motivation ( $\bar{x}= 6.161$ ,  $\bar{x}=5.451$ ,  $\bar{x}=4.117$ ,  $\bar{x}=4.326$ ) (Table 29). Respondents who stated they only watched in public, had the highest level of economic, group affiliation, family motivation ( $\bar{x}= 1.958$ ,  $\bar{x}=5.542$ ,  $\bar{x}=2.438$ ), and the lowest degrees of eustress, self-esteem, and entertainment ( $\bar{x}=4.458$ ,  $\bar{x}=2.917$ ,  $\bar{x}=5.750$ ). Respondents who stated they only watched at home reported the lowest degrees of motivation in economic, family, and the total scale ( $\bar{x}=1.204$ ,  $\bar{x}= 1.334$ ,  $\bar{x}=3.667$ ). Those who stated they watched at home and at work showed the lowest degrees of aesthetic and group-affiliation ( $\bar{x}=4.044$ ,  $\bar{x}=3.348$ ). Finally, respondents who watched at home and in public displayed the highest degrees of entertainment ( $\bar{x}=6.966$ )

Table 28: Significance Testing of the Sports Fan Motivation Scale by Preferred Viewing Location

| SFMS Subscale     | SSq    | df | $\bar{x}$ Square | F     | P    |
|-------------------|--------|----|------------------|-------|------|
| Escape            | 19.60  | 4  | 4.90             | 1.43  | .22  |
| Economic          | 5.00   | 4  | 1.25             | 3.23  | .01* |
| Eustress          | 69.75  | 4  | 17.44            | 6.19  | .00* |
| Aesthetics        | 85.46  | 4  | 21.37            | 6.77  | .00* |
| Group Affiliation | 131.94 | 4  | 32.99            | 13.79 | .00* |
| Family            | 27.92  | 4  | 6.98             | 4.52  | .00* |
| Self Esteem       | 23.15  | 4  | 5.79             | 2.55  | .04* |
| Entertainment     | 15.68  | 4  | 3.92             | 3.13  | .02* |
| Total Score       | 21.60  | 4  | 5.40             | 8.06  | .00* |

\*Significant at the .05 level

Table 29: Mean Differences of the Sports Fan Motivation Scale by Preferred Viewing Location

| Subscales   | Preferred Viewing Location |      |                      |      |                       |      |                        |      |                              |      |                  |      |
|-------------|----------------------------|------|----------------------|------|-----------------------|------|------------------------|------|------------------------------|------|------------------|------|
|             | Home Only<br>(N=190)       |      | Public Only<br>(N=8) |      | Home & Work<br>(N=23) |      | Home & Pub.<br>(N=119) |      | Home, Work, & Pub.<br>(N=54) |      | Total<br>(N=394) |      |
| SFMS        | M                          | SD   | M                    | SD   | M                     | SD   | M                      | SD   | M                            | SD   | M                | SD   |
| Economic    | 1.20 <sup>a</sup>          | .57  | 1.96 <sup>b</sup>    | 1.37 | 1.41 <sup>ab</sup>    | 1.15 | 1.25 <sup>a</sup>      | .52  | 1.27 <sup>ab</sup>           | .51  | 1.26             | .63  |
| Eustress    | 5.16 <sup>a</sup>          | 1.75 | 4.46 <sup>ab</sup>   | 2.23 | 5.12 <sup>ab</sup>    | 1.60 | 5.83 <sup>b</sup>      | 1.70 | 6.16 <sup>b</sup>            | 1.25 | 5.48             | 1.72 |
| Aesthetics  | 4.04 <sup>a</sup>          | 1.75 | 4.25 <sup>ab</sup>   | 1.93 | 4.04 <sup>a</sup>     | 1.86 | 4.37 <sup>a</sup>      | 1.83 | 5.45 <sup>b</sup>            | 1.67 | 4.34             | 1.83 |
| Group       |                            |      |                      |      |                       |      |                        |      |                              |      |                  |      |
| Affiliation | 3.48 <sup>a</sup>          | 1.57 | 5.54 <sup>b</sup>    | 1.23 | 3.35 <sup>a</sup>     | 1.63 | 4.53 <sup>b</sup>      | 1.56 | 4.59 <sup>b</sup>            | 1.43 | 3.99             | 1.64 |
| Family      | 1.33 <sup>a</sup>          | 1.02 | 2.44 <sup>ab</sup>   | 1.90 | 1.54 <sup>ab</sup>    | .78  | 1.68 <sup>ab</sup>     | 1.36 | 2.00 <sup>b</sup>            | 1.67 | 1.56             | 1.27 |
| Self        |                            |      |                      |      |                       |      |                        |      |                              |      |                  |      |
| Esteem      | 3.53                       | 1.54 | 2.92                 | 1.31 | 3.73                  | 1.20 | 3.87                   | 1.48 | 4.12                         | 1.58 | 3.71             | 1.52 |
| Entertain.  | 6.70                       | 1.19 | 5.75                 | 1.66 | 6.61                  | .97  | 6.97                   | 1.08 | 6.93                         | .90  | 6.79             | 1.13 |
| Total       | 3.67 <sup>a</sup>          | .84  | 3.78 <sup>ab</sup>   | .98  | 3.71 <sup>ab</sup>    | .72  | 4.0 <sup>b</sup>       | .81  | 4.33 <sup>b</sup>            | .77  | 3.86             | .85  |

Note: Values with different superscripts (a, b, c) vary significantly at the .05 level

With regard for locations on the MSSC, there were significant differences in the motivational factors of achievement ( $F=2.493$ ,  $p=.043$ ), aesthetics ( $F=7.093$ ,  $p=.000$ ), drama ( $F=2.615$ ,  $p=.035$ ), player skills ( $F=3.922$ ,  $p=.004$ ), social ( $F=16.463$ ,  $p=.004$ ), family ( $F=9.178$ ,  $p=.000$ ), and the total scale ( $F=8.664$ ,  $p=.000$ ). The MSSC factor of knowledge was approaching significance ( $F=2.145$ ,  $p=.075$ ) (Table 30).

Table 30: Significance Testing of Motivation Scale of Sport Consumption by Preferred Viewing Locations

| MSSC Subscale | SSq    | df | $\bar{x}$ Square | F     | P    |
|---------------|--------|----|------------------|-------|------|
| Achievement   | 31.87  | 4  | 7.97             | 2.49  | .04* |
| Aesthetics    | 78.21  | 4  | 19.55            | 7.09  | .00* |
| Drama         | 7.22   | 4  | 1.81             | 2.62  | .04* |
| Escape        | 8.23   | 4  | 2.06             | .95   | .44  |
| Knowledge     | 8.96   | 4  | 2.24             | 2.15  | .08  |
| Player Skills | 8.91   | 4  | 2.23             | 3.92  | .00* |
| Social        | 181.31 | 4  | 45.33            | 16.46 | .00* |
| Family        | 32.07  | 4  | 8.02             | 9.18  | .00* |
| Total Score   | 17.14  | 4  | 4.29             | 8.66  | .00* |

\* Significant at the .05 level



Table 31: Mean Differences in the Motivation Scale of Sports Consumption by Preferred Viewing Location

|               | Preferred Viewing Location |      |                      |      |                         |      |                          |      |                                |      |                  |      |
|---------------|----------------------------|------|----------------------|------|-------------------------|------|--------------------------|------|--------------------------------|------|------------------|------|
|               | Home Only<br>(N=190)       |      | Public Only<br>(N=8) |      | Home and Work<br>(N=23) |      | Home and Pub.<br>(N=119) |      | Home, Work, & Public<br>(N=54) |      | Total<br>(N=394) |      |
| Subscales     | M                          | SD   | M                    | SD   | M                       | SD   | M                        | SD   | M                              | SD   | M                | SD   |
| Achievement   | 3.92                       | 1.89 | 3.42                 | 2.19 | 3.94                    | 1.51 | 4.40                     | 1.69 | 4.56                           | 1.66 | 4.15             | 1.80 |
| Aesthetics    | 4.57 <sup>a</sup>          | 1.71 | 5.54 <sub>ab</sub>   | 1.57 | 4.55 <sup>a</sup>       | 1.75 | 5.04 <sup>ab</sup>       | 1.71 | 5.85 <sup>b</sup>              | 1.33 | 4.91             | 1.71 |
| Drama         | 6.35                       | .83  | 5.54                 | 1.46 | 6.51                    | 1.02 | 6.44                     | .74  | 6.48                           | .83  | 6.39             | .84  |
| Player Skills | 6.52 <sup>a</sup>          | .82  | 5.67 <sub>b</sub>    | 1.89 | 6.67 <sup>a</sup>       | .49  | 6.63 <sup>a</sup>        | .66  | 6.72 <sup>a</sup>              | .48  | 6.57             | .76  |
| Social        | 4.18 <sup>a</sup>          | 1.77 | 5.54 <sub>ab</sub>   | 1.44 | 3.99 <sup>a</sup>       | 1.80 | 5.57 <sup>b</sup>        | 1.50 | 5.34 <sup>b</sup>              | 1.58 | 4.78             | 1.79 |
| Family        | 1.27 <sup>a</sup>          | .69  | 3.00 <sub>b</sub>    | 2.26 | 1.51 <sup>ac</sup>      | .78  | 1.58 <sup>ac</sup>       | 1.00 | 1.74 <sup>c</sup>              | 1.25 | 1.48             | .97  |
| Total         | 4.59 <sup>a</sup>          | .72  | 4.69 <sub>ab</sub>   | 1.13 | 4.67 <sup>ab</sup>      | .70  | 4.93 <sup>b</sup>        | .67  | 5.14 <sup>b</sup>              | .66  | 4.77             | .73  |

Note: Values with different superscripts (a, b, c) vary significantly at the .05 level

Respondents who watch at home, work and public attained the highest degree of motivation consumption in achievement, aesthetics, player skills, and the total MSSC ( $\bar{x}=4.562$ ,  $\bar{x}=5.852$ ,  $\bar{x}=6.722$ ,  $\bar{x}=5.139$ ). Those who only watched in public reported the highest degrees of social and family ( $\bar{x}=5.542$ ,  $\bar{x}=3.000$ ) and the lowest of achievement, drama, and player skills ( $\bar{x}=3.417$ ,  $\bar{x}=5.542$ ,  $\bar{x}=5.667$ ). Respondents who watch at home and work revealed the highest degree of drama ( $\bar{x}=6.507$ ) and the lowest degree of aesthetics and social ( $\bar{x}=4.551$ ,  $\bar{x}=3.986$ ). Finally, those who stated they only watch at home showed the lowest degree of family and the total MSSC ( $\bar{x}=1.267$ ,  $\bar{x}=4.585$ ) (Table 31).

## **Q2g: What significant differences in motivation exist among e-sport spectators on the basis of age?**

Results of a series of analyses of variance (with post hoc Scheffe tests) of the Sports Fan Motivation Scale by respondent age indicated significant differences among age groups with regard to self-esteem ( $F= 5.500$ ,  $p=.000$ ). Family motivation was approaching significance. ( $F= 2.115$ ,  $p=.078$ ) (Table 32). Those aged eighteen through twenty-one had the highest level of self-esteem ( $\bar{x}= 4.056$ ) and differed significantly from those between the ages of thirty and thirty-eight ( $\bar{x}= 2.982$ ) (Table 33).

Table 32: Significance Testing Sports Fan Motivation Scale by Age Groups

| SFMS Subscale     | SSq   | df | $\bar{x}$ Square | F    | P    |
|-------------------|-------|----|------------------|------|------|
| Escape            | 13.82 | 4  | 3.46             | 1.00 | .41  |
| Economic          | 1.95  | 4  | .49              | 1.23 | .30  |
| Eustress          | 15.46 | 4  | 3.87             | 1.31 | .27  |
| Aesthetics        | 4.45  | 4  | 1.11             | .33  | .86  |
| Group Affiliation | 6.15  | 4  | 1.54             | .57  | .69  |
| Family            | 13.41 | 4  | 3.35             | 2.12 | .08  |
| Self Esteem       | 48.69 | 4  | 12.17            | 5.50 | .00* |
| Entertainment     | 3.34  | 4  | .84              | .65  | .63  |
| Total Scale       | 4.62  | 4  | 1.15             | 1.61 | .17  |

\* Significant at the .05 level

Table 33: Mean Differences Among Sports Fan Motivation Scale: Self-Esteem by Age Groups

| Age Group | M                  | N   | SD   |
|-----------|--------------------|-----|------|
| 18-21     | 4.06 <sup>a</sup>  | 138 | 1.52 |
| 22-25     | 3.77 <sup>ab</sup> | 142 | 1.52 |
| 26-29     | 3.29 <sup>b</sup>  | 69  | 1.47 |
| 30-38     | 2.98 <sup>b</sup>  | 37  | 1.22 |
| 39-65     | 3.90 <sup>ab</sup> | 7   | 1.50 |
| Total     | 3.71               | 393 | 1.52 |

Note: Values with different superscripts (a, b, c) vary significantly at the .05 level

There were also differences among age groups with regard to the Motivation Scale of Sports Consumption, specifically on the scales of achievement ( $F= 6.818$ ,  $p=.000$ ) and family ( $F= 3.809$ ,  $p= .005$ ) (Table 34). Social was the only factor that was approaching significance ( $F=2.175$ ,  $p=.073$ ).

Respondents between the ages of eighteen and twenty-one showed the highest degree of achievement ( $\bar{x}=4.638$ ) and the lowest degree of family as factors of motivation consumption ( $\bar{x}= 1.259$ ). Respondents who were between the ages of thirty through thirty-eight displayed the lowest degree of achievement ( $\bar{x}= 3.315$ ). Finally, respondents

between the ages thirty-nine through fifty showed the highest degree of family as a factor of motivation consumption ( $\bar{x}= 2.238$ ) (Table 35).

Table 34: Significance Testing of Motivation Scale of Sports Consumption by Age

Groups

| MSSC Subscales | SSq   | df | $\bar{x}$ Square | F    | P    |
|----------------|-------|----|------------------|------|------|
| Achievement    | 83.63 | 4  | 20.91            | 6.82 | .00* |
| Aesthetics     | 7.02  | 4  | 1.76             | .60  | .67  |
| Drama          | 1.75  | 4  | .44              | .62  | .65  |
| Escape         | 3.34  | 4  | .84              | .38  | .82  |
| Knowledge      | 4.94  | 4  | 1.24             | 1.17 | .32  |
| Player Skills  | 2.48  | 4  | .62              | 1.06 | .38  |
| Social         | 27.14 | 4  | 6.79             | 2.16 | .07  |
| Family         | 14.04 | 4  | 3.51             | 3.81 | .01* |
| Total Score    | 2.97  | 4  | .74              | 1.40 | .23  |

\* Significant at the .05 level

Table 35: Mean Differences in the Motivation Scale of Sports Consumption by Age Groups

| Age Group |                   |      |                    |      |                    |      |                   |      |                     |      |         |      |  |
|-----------|-------------------|------|--------------------|------|--------------------|------|-------------------|------|---------------------|------|---------|------|--|
|           | 18-21             |      | 22-25              |      | 26-29              |      | 30-38             |      | 39-65               |      | Total   |      |  |
| MSSC      | (N=138)           |      | (N=142)            |      | (N=69)             |      | (N=37)            |      | (N=7)               |      | (N=393) |      |  |
| Subscales | M                 | SD   | M                  | SD   | M                  | SD   | M                 | SD   | M                   | SD   | M       | SD   |  |
| Ach       | 4.64 <sup>a</sup> | 1.77 | 4.17 <sub>ab</sub> | 1.76 | 3.56 <sub>bc</sub> | 1.76 | 3.32 <sub>b</sub> | 1.57 | 3.86 <sub>abc</sub> | 1.87 | 4.14    | 1.80 |  |
| Family    | 1.26              | .55  | 1.54               | 1.03 | 1.67               | 1.27 | 1.57              | 1.09 | 2.24                | 1.60 | 1.48    | .97  |  |

Note: Values with different superscripts (a, b, c) different significantly at the .05 level

## CHAPTER FIVE: DISCUSSION AND RECOMMENDATIONS

This chapter includes a brief summary of the procedures used to conduct this study, and conclusions based on the research questions. Comparisons of results to similar studies conducted on motivation of sports spectators will be discussed, together with recommendations for future studies in the realm of e-sport, and implications for practice.

### **Summary of Procedures**

This research study was conducted using a combination of online and face-to-face gathering techniques. Forty of the surveys were conducted in person at barcrafts, while the remaining surveys were distributed online. The survey instrument was created comprising modified revisions of the SFMS (Wann 1994) and the MSSC (Trail, Fink & Anderson 2003), as well as questions related to participant demographics and experiences. Once the data were collected, they were analyzed to describe those surveyed and address the research questions.

### **Summary of Major Findings**

E-sport fans in this study were motivated to participate on the basis of entertainment, eustress, aesthetics, player skills, drama, and knowledge value. Significant differences were found between males and females in the areas of group affiliation, family, drama, knowledge, and player skills. Comparing players to non-players,

significant differences were found to exist with regard to escape, eustress, aesthetics, self-esteem, achievement, aesthetics, knowledge, and players' skills motivations. Within preferred group sizes, there were significant differences in eustress, aesthetics, group affiliation, self-esteem, achievement, family, and social motivations. Comparing the preferred viewing venues, economic, eustress, aesthetics, group affiliation, family, self-esteem, entertainment, achievement, drama, and player skills were all factors of motivation that showed statistical significance. Regarding age, there were significant differences in regards to the motivations of self-esteem, achievement, and family (only family on the MSSC). Looking at race and ethnicity as a factor, significant differences existed in regards to the factors of economic, group affiliation, and family.

### **Conclusions**

#### **Q1: What are the key factors of motivation and sport consumption among e-sport fans?**

Among all study participants, several themes emerged in regards to the factors motivating e-sport fans to watch. Perhaps not surprisingly on the Sports Fan Motivation Scale, entertainment was rated the most prominent motivation, which suggests that like most sports fans, e-sport fans want a compelling match of excitement and unpredictability. This is further reinforced by drama as the second highest rated subscale among the Motivation Scale of Sport Consumption.



Player skills were actually rated as the highest motivating factor on the Motivation Scale of Sport Consumption. E-sport spectators want to see impressive in-game tactics and team strategies used in viewing e-sport.

Also rated highly on the SFMS was aesthetics. Due to the fact that video game spectating involves mainly visual (complimented with auditory) mediums, the look of the graphics and clarity of what is taking place in the e-sport event is paramount to having a successful tournament in terms of spectator viewership.

**Q2a: What significant differences in motivation between e-sport spectators on the basis of gender?**

The significant differences between male and female e-sport spectators were in the factors of group affiliation and family, where those factors were more influential among women. Although significant differences were also shown in the areas of self-esteem, the results show that women aren't very far behind in terms of self-esteem and e-sport, signifying that women do have a sense of personal stake in the outcomes. This information could be used to attract females to become e-sport spectators by increasing the perception of group identity and affiliation, as well as a way to make e-sport spectator events more "family friendly" as females were more motivated by family than males on the SFMS. This difference in motivation may suggest that many females were involved in e-sport due to involvement of their significant other. As e-sport spectator events become more inclusive for children and families, the number of women who observe e-sport may increase, as well as changing the image of e-sport athletes and competitive video gaming in general among parents.

Myers (2012) discussed some of the barriers to female participation in gaming and noted that one of the largest challenges is the gamer culture, and its perceived unfair treatment of female gamers. This means that female gamers would not be treated as “special” or given any kind of preferential treatment, simply skill based opportunity to compete on e-sport teams.

**Q2b: What significant differences in motivation exist among e-sport spectators on the basis of race/ethnicity?**

There were significant differences in SFMS economic motivations among race/ethnicity groups. Those who identified themselves as being of Asian, but not Chinese background showed the highest degree of economic motivation. At barcraft events prizes were distributed through raffles to fans for attendance. This is in line with the research of Won and Kitamura (2006) who found that sports attendance in Korea and Japan showed patterns of future merchandize purchasing. Although e-sport is not as widely televised in the United States, there are often economic motivators for watching online or attending barcrafts. The prizes at barcrafts ranged from key chains and lanyards made by game developers to computer equipment produced by businesses local to the venue. When fans watch online, often commentators and players will reward fans via Internet raffles with in-game items or even games with the players as a reward for watching.

**Q2c: What significant differences in motivation exist among e-sport spectators on the basis of length of time watching?**

Those who enjoy watching e-sport for at least three hours exhibited higher levels of SFMS eustress, aesthetics, group affiliation, and self-esteem, and MSSC achievement, aesthetics, drama, player skills, and social motivation than those who preferred to watch for shorter amounts of time. Regarding the total motivation, it appears that if spectators are more motivated to be there, they will stay longer. The data showed that those who watched for longer durations experienced higher degrees of motivation in the factors of group affiliation, social, eustress and drama. This means that those who feel like “part of the group” of e-sport spectators are more inclined to stay for longer periods of time. What this means to e-sport viewing organizers (such as ONOG) is that making the spectating as social an event as possible will encourage people to stay longer and be more involved. This is similar to what can occur at public viewings of a football game where the crowd can share a bond whenever their preferred team makes a risky play providing a communal sense of eustress among the viewers. In e-sport, this can occur where risky moves by the players lead to communal eustress.

**Q2d: What significant differences in motivation exist between e-sport spectators on the basis of play status (play or not)?**

Players showed significantly higher degrees of escape, eustress, aesthetics, self-esteem, achievement, knowledge, player skills and overall motivation than non-players. The majority of e-sport spectators are likely looking for exciting plays and strategies used by the e-sport “professionals” that they might attempt to replicate. For instance, those who both play *SCII* themselves and watch as a spectator might watch the early moves of an elite level player and attempt to recreate those strategies when playing themselves.

Individuals who actually play e-sport also seem to have a vicarious sense of achievement from the successes of their preferred players or teams, perhaps feeling “if they can do it, so too can I.” Finally, players also revealed escape as a greater motivator than those who do not play, perhaps because participants enjoy the eustress of playing the game. Some of that eustress can translate to watching and sharing in the victory or defeat of a preferred player or team. Many e-sport fans are also players themselves, and as Stebbins (1982) describes the characteristics of serious leisure as applied to gamers, much of it carries over from playing the game to watching as a fan.

One method that has been used to increase turnout and viewership at e-sport events is lowering barriers to entry of potential players. Riot Games’ *LOL* has a completely free-to-play model which has attracted millions of players globally. *LOL* has also implemented an easily accessible method to watch live matches that are being played in real time. Riot Games regularly searches the Internet for active players who stream their games, and offer a weekly spotlight on these individuals. So far that has been seen as a successful practice for bridging the gap between casual players and e-sport spectators, by having the game developers acknowledge and even advertise Internet broadcasters.

**Q2e: What significant differences in motivation exist among e-sport spectators on the basis of number of viewing companions?**

As has been previously discussed, the size of the crowd is an important factor in regards to the motivation of spectators. It comes as no surprise that spectators who watch in large groups showed higher degrees of social and group affiliation than those who

watched in small groups or even by themselves. Those who watched in groups with more peer spectators also showed higher degrees of overall motivation for being a spectator. Perhaps surprising was the fact that larger groups also saw the games' aesthetics as a significantly greater factor for motivation than those who watched by themselves or with small groups (Tables 25, 27). Those who would prefer to watch in a large group may desire a more immersive experience, with aspects of the game advertised in products during the event. At some barcraft events, drinks have been named after aspects of the game, such as the "Zerg Rush" from *SCII* or the "Murder Bridge" from *LOL*.

One of the primary goals of e-sport event promoters is to increase spectator turnout. Social media advertising with displays of people socializing and having fun is a way to get e-sport fans to decide to come to these events. Giveaways and other tangible benefits are also motivators, but as the data suggests, the biggest motivators are for an entertaining experience with groups of like-minded fans, but also an aspect of immersion related to the event.

**Q2f: What significant differences in motivation exist among e-sport spectators on the basis of locations(s) of viewing?**

In addition to the number of viewing companions, is the question of where e-sport is watched. Those who stated they only watch in public places (such as a barcraft) exhibited higher extrinsic economic motivations than the other groups. A possible reason for this is because e-sport promoters such as ONOG usually have giveaways at these public events, and therefore there is an interest in actually "getting something" from going. It is worth noting that economic factors overall displayed a very low rating as a

motivational factor. Not surprisingly, those who only watched in public expressed the highest degree of group affiliation as a motivator, because a large part of their reason for attending public events was the knowledge that peers would be attending. Similarly, those motivated by family may be attending because a significant other was attending and the event was seen as an opportunity for a family outing.

The results of this study overall validate those found by Snipes and Ingram (2007) in that for college age spectators the location (facility) was an important factor in attendance. Most e-sport is given the added convenience of being broadcast via online streams at home, in public, and at work (although work could tend to be a more restrictive environment for watching any kind of sporting event). The data shows that those who watch in public, or were given the flexibility to watch in home, work, and in public were most highly motivated.. The similarity between watching in public, and watching at any location is that the public is still included, therefore suggesting that the ability to watch in public increases the motivation to view e-sport. One interesting point of note however, is that those who preferred to watch at either home or work (not in public) were the group most motivated by drama according to the MSSC. Those who stated that any forum was fine for watching e-sport, were also motivated by drama.

**Q2g: What significant differences in motivation exist among e-sport spectators on the basis of age?**

Self-esteem was one of the motivating factors that differed significantly across age groups. Younger e-sport fans had greater self-esteem than older groups in regards to e-sport. This could be due, in large part, to younger populations having grown up playing

the latest video games, so there could be a sense of nostalgia and excitement from a preferred contestant's winning. Achievement was also higher for younger adults. This could be linked to a similar reasoning in that younger fans want to see records broken. Also evident in the data was that older adults saw family as a motivating factor. A likely reasoning for this is because older adults see e-sport as an opportunity to spend time with younger family members who happen to be an e-sport fan, as well as spouses and significant others who watch with an e-sport fan. To bring in "older" e-sport fans, e-sport promoters could try and appeal to the bonding experience that parents and children have similar to how traditional sports market the "bonding" experience shared by attendance at a baseball game. Of course, that means that public viewership might need to move to more family friendly venues such as sports restaurants rather than public drinking establishments with an age limit.

### **E-sport Fans Results Compared to Other Studies**

Unlike the results of Correia and Esteves (2007) in their study of Portuguese football fans, the driving motivational factor for e-sport fans was not economic. Correia and Esteves note that economic factors are higher among football fans in several other countries as well. Correia and Esteves' results also indicated that team affiliation and loyalty were significant contributors to interest in football events in Portugal. Although among e-sport fans, self-esteem motivation was relatively low compared to other motivations, while the specific question of "when I watch e-sport I feel good when my preferred team/player wins" overall scored much higher among the sample. This denotes

that fostering team identification may foster interest as indicated by Won and Kitamura (2006). *LOL* creator Riot Games has attempted to foster team identification by featuring players on their forums as “featured streamers” (Kry0, 2011).

Finally, Snipes and Ingram (2007) suggested that the venue and schedule (where and when) were the greatest factors that affect spectator attendance at the collegiate sport level. Those who watched for longer durations (three or more hours) were more highly motivated on all factors than those who watch e-sport for shorter durations (fewer than three hours).

### **Implications for Future Study and Practice**

In conducting this research online, and using a variety of social media platforms such as Facebook, podcasts, reddit, and live stream chatrooms (such as twitch.tv) there was an excellent opportunity to receive real-time feedback. The feedback to the survey was mixed. There were many positive responses to the survey and the nature of the research from e-sport’s enthusiasts and there were also some criticisms. Although not directly part of the data collection, there were some concerns raised about the nature of the survey designed for this study. For instance, some respondents wrote on the Facebook thread that: “I feel like I'm answering a bunch of loaded questions YOU HATE YOUR LIFE AND YOU WATCH ESPORTS TO ESCAPE DON'T YOU? DON'T YOU!?” and “I just felt that maybe the "escape" questions disproportionately outnumbered some of the other questions. Just a feeling. I don't use esports as an escape so maybe that's why I noticed it, I just felt like I was being asked that a LOT during the survey. No offense



intended or anything. Good luck!” As a researcher, I did my best to address the individual concerns, and other than these remarks, most respondents either were supportive of the study, or said nothing.

In response to concerns about survey tool length and content, a future study could involve the creation of a better tool to measure motivations that might be directed primarily to e-sport fans, rather than a more generic motivation survey. More directed qualitative study of e-sport fans and perhaps the players themselves is strongly suggested. A template that should be considered in future studies is the ten-item SPEED (socialization, performance, excitement, esteem and diversion) tool developed by Funk, Filo, Beaton, and Pritchard (2009). After a review of the reliability and validity of this scale, this instrument might provide some rich quantitative glimpses into what spectators get out of the experience.

One limitation of this study was that the data collection tool was designed as two separate instruments (rather than incorporating all scales and demographic/experiential questions into a single survey).. According to some of the preliminary results from the instant.ly software, many individuals started the first survey, completed it, and presumed they were finished so did not complete the second set of questions. Also, the survey length may have been another contributing factor in limiting response rate.

Another concern among survey respondents commenting on forum threads such as Facebook was that many questions seemed repetitive. The explanation given via Facebook and other forums was that there were two surveys. Without further analysis,

there is not enough evidence to suggest whether repetitive questioning was a factor in failure to complete or respond to the survey.

During the process of data collection, a conflict developed between forum rules and stream administrators. Although most gaming spectator websites accommodated a request to post a survey upon simple explanation of intent, Team Liquid's forums posed a unique challenge. In conducting most of the sampling, the researcher would enter a livestream and login to the chatroom, provide a brief introduction and ask a moderator if it was alright to post a link to the survey. Oftentimes the answer was "sure, as long as you don't spam." While asking a moderator on a live stream promoted by Team Liquid, a moderator provided advice to "register and post your survey on the Team Liquid forums." Upon following his advice, and posting in the general e-sport discussion forum, notification was received within twenty-four hours that the survey researcher was banned from the Team Liquid forums for "registering to the Team Liquid forums just to conduct research." After inquiry to the forum moderator as to why the posting of research surveys was a problem, the response was "this is not the way Team Liquid works." Upon further investigation, it was revealed that if one is not a long time contributor to the forums, then one must *earn* enough of a reputation to be allowed to post such a survey on their forums. A brief response was sent to the forum moderator stating that the policy was understood, although the policy should warrant discussion among Team Liquid forum moderators as to whether this type of enforcement is appropriate and aligned with Team Liquid's mission of building a community around competitive gaming.

Future studies should analyze the effect of team identification within *LOL* on spectator viewing patterns. The analysis should focus on whether spectators strong team identity is what compels them to follow their favorite teams, and if players watched to see the strategies used by the professional community. Also, a qualitative look into e-sport fans and players involving in-depth interviews would give even more information about a growing phenomenon in the United States.

Research is warranted in order to look at the gamers themselves and differences between “casual gamers” and the ones who play for the large-scale cash prizes. Some questions could include what motivates individuals to be the best at a particular game, how they see the game developing in the future, as well as lifestyle habits of the professionals in contrast to self-described “casual gamers.” A study that investigates gender and e-sport would also be a worthy undertaking. Myers (2012) discussed some of her challenges in entering a local e-sport community. In line with this article, researching the barriers women face as participants in e-sport competitions could yield results that can help address any gender biases and inappropriate activities.

Finally, another look into the overall evolving gaming culture would well compliment and update existing research, as has been conducted by Holt (2011) and Yee (2006). In the 2012 election season, a Maine state senate candidate was politically attacked for her comments while she was playing *WoW* (Friess, 2012). There were references to the candidate “stabbing” and “poisoning” her enemies even though her day job was as a social worker helping low-income children. Whether the political attacks

were justified is not of question, but this story indicates that more people are gaming with carryover to “real life”.

Holt (2011) recognized a similarity between gamers and scholars discussing how WoW players organize a form of amateur scholarship called “theory crafting” to discuss how one could theoretically, and within the game itself, best play one’s character. The same is true in *LOL*. There is an independent website known as “mobafire.com” where LOL players post ways for players to build these characters (Figure 5). Commonly referred to as “builds” it is up to the players to review, test and comment on builds in a form of scholarship. This is more evidence that the gaming community has a familiarity with scholarly inquiry. Further investigation of this phenomenon would be interesting, specifically, adding interviews with the game creators.

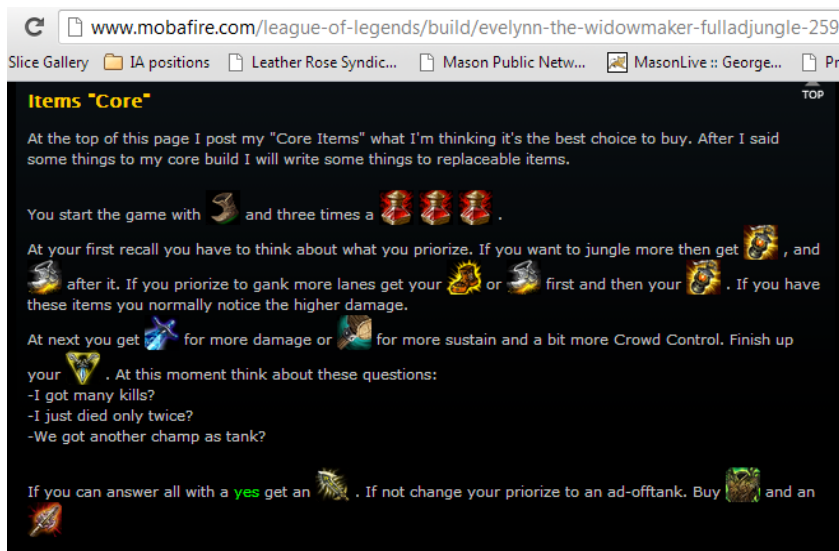


Figure 5: Image of Mobafire.com

As e-sport has grown as a phenomenon, several groups have formed with the interest of both playing and viewing. Bartle (2010) describes community as “[...] a set of

interactions, human behaviors that have meaning and expectations between its members. Not just action, but actions based on shared expectations, values, beliefs and meanings between individuals.” Among e-sport fans, the shared expectation and belief is that these fans are motivated by a variety of reasons to watch e-sport for the duration, and that it is a meaningful experience. Gaming fan communities (e.g., ONOG, Teamliquid, Team Solo Mid, barcraft, podcasts) exist and area growing. Since e-sport viewing began as something that one would watch via Internet stream, e-sport did not involve a social dimension, specifically the appeal of groups coming to a location to watch events in the way that many might come together to watch a football or soccer game. Perhaps the desire to enjoy viewing these events with other’s of similar interest is what has created a sense of community so that players could enjoy the communal experience of watching their favorite games played by participants they follow.

### **Concluding Thoughts**

Only time will tell if e-sport will develop the fan-base characteristics of traditional sports, or instead, be considered a “cult phenomenon” with a group of loyal followers. For now, e-sport remains a growing phenomenon, with increasing coverage (Gaudiosi, 2012). In South Korea, e-sport is already a sizable occurrence with large-scale fanbases watching matches. Beyond the hardware capabilities of one’s computer, e-sport seems to be an accessible, competitive activity in which many could engage. As for what brings e-sport fans together, the evidence appears to be that of a desire for a shared experience and

community – being close to other like-minded individuals cheering for favorite players and discussing the game.

The implications of this study suggest that e-sport will grow. The president of ONOG in a presentation to the Las Vegas Nightclub and Bar Convention advocated for why more bars should show e-sport ([ncbshow.com](http://ncbshow.com)). The findings of this study may serve as a valuable resource for guiding such development and building entertainment and exciting competition opportunities within e-sport, so as to better address individual motivations.

## APPENDIX A

### **E-sport Fan Motivation**

#### **RESEARCH PROCEDURES**

This research is being conducted to discover the motivations of E-sport spectators and to see how they relate to the motivations of spectators of other more traditional sports. If you agree to participate, you will be asked to fill out a 23 and a 24 item survey. Filling out both surveys should not take more than ten minutes.

#### **RISKS**

There are no foreseeable risks for participating in this research.

#### **BENEFITS**

There are no benefits to you as a participant other than to further research in online gaming and leisure.

#### **CONFIDENTIALITY**

The data in this study will be confidential. There are no names or direct identifiers on the following survey.

#### **PARTICIPATION**

Your participation is voluntary, and you may withdraw from the study at any time and for any reason. If you decide not to participate or if you withdraw from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party. You must be at least 18 years old to participate in this study.

#### **CONTACT**

This research is being conducted by Andrew Shaw at George Mason University. He may be reached at 703-615-2480 for questions or to report a research-related problem. His faculty advisor, Dr. B. Wiggins, may be reached at 703-993-2068. You may contact the George Mason University Office of Research Subject Protections at 703-993-4121 if you have questions or comments regarding your rights as a participant in the research.

This research has been reviewed according to George Mason University procedures governing your participation in this research.

In order to take this survey, you must be 18 or older. At the time of this survey, are you at least 18 years old?

Yes      No

If no, please return survey to provider, if yes please continue to section 1.

The following survey consists of approximately 60 questions and should take about 10 minutes. **Please complete ALL questions** (unless otherwise specified).

## Section I: What is your motivation to watch e-sport?

Please rank 1 (this is not at all me) to 8 (this completely describes me) the following.  
(The first one is an example question that has been filled in for demonstrating purposes)

Sample: I like Cheese! (I selected 4)

**1   2   3   4   5   6   7   8**

1. One of the main reasons that I watch, read, and/or discuss e-sport is that doing so gives me the opportunity to temporarily escape life's problems.

**1   2   3   4   5   6   7   8**

2. One of the main reasons that I watch, read, and/or discuss e-sport is so that I can bet on the event

**1   2   3   4   5   6   7   8**

3. One of the main reasons that I watch, read, and/or discuss e-sport is that I get pumped up when watching my favorite players

**1   2   3   4   5   6   7   8**

4. One of the main reasons that I watch, read, and/or discuss e-sport is for the artistic value

**1   2   3   4   5   6   7   8**

5. One of the main reasons that I watch, read, and/or discuss e-sport is that I enjoy the beauty and grace of e-sport

**1   2   3   4   5   6   7   8**

6. One of the main reasons that I watch, read, and/or discuss e-sport is that I enjoy being physiologically aroused by the competition

**1   2   3   4   5   6   7   8**



7. E-sport is enjoyable only if you can bet on the outcome

**1   2   3   4   5   6   7   8**

8. One of the main reasons that I watch, read, and/or discuss e-sport is that doing so makes me feel good when my preferred team/player wins

**1   2   3   4   5   6   7   8**

9. One of the main reasons that I watch, read, and/or discuss e-sport is that doing so allows me to forget about my problems

**1   2   3   4   5   6   7   8**

10. Making wagers is the most enjoyable aspect of being an e-sport fan

**1   2   3   4   5   6   7   8**

11. One of the main reasons that I watch, read, and/or discuss e-sport is because most of my friends are e-sport fans

**1   2   3   4   5   6   7   8**

12. I enjoy watching e-sport events because to me e-sport is a form of art

**1   2   3   4   5   6   7   8**

13. To me, watching, reading, and/or discussing e-sport is like daydreaming because it takes me away from life's hassles

**1   2   3   4   5   6   7   8**

14. One of the main reasons that I watch, read, and/or discuss e-sport is that I am the kind of person who likes to be with other people

**1   2   3   4   5   6   7   8**

15. I enjoy e-sport because of their entertainment value

**1   2   3   4   5   6   7   8**

16. I enjoy watching e-sport more when I am with a large group of people

**1   2   3   4   5   6   7   8**

17. I enjoy watching e-sport because it increases my self-esteem

**1   2   3   4   5   6   7   8**

18. I like the stimulation I get from watching e-sport

**1   2   3   4   5   6   7   8**

19. I enjoy watching, reading and/or discussing e-sport because it is a good time

**1   2   3   4   5   6   7   8**

20. To me, e-sport spectating is simply a form of recreation

**1   2   3   4   5   6   7   8**

21. To me, my favorite team/player's success become my successes and their losses are my losses

**1   2   3   4   5   6   7   8**

22. One of the main reasons that I watch, read, and/or discuss e-sport is that doing so gives me an opportunity to be with my spouse

**1   2   3   4   5   6   7   8**

23. One of the main reasons that I watch, read, and/or discuss e-sport is that doing so gives me an opportunity to be with my family

**1   2   3   4   5   6   7   8**

## Section II: E-Sport Fan Consumer Motivation

Please rank 1 (this is not at all me) to 7 (this completely describes me) the following (The first one is an example question that has been filled in for demonstrating purposes)

Sample: I like Cheese! (I selected 4)

**1    2    3    4    5    6    7**

1. I increase my understanding of the strategies of a particular game by watching matches.

**1    2    3    4    5    6    7**

2. I feel proud when my preferred player does well

**1    2    3    4    5    6    7**

3. I appreciate the beauty inherent in video games

**1    2    3    4    5    6    7**

4. Watching a match is a change of pace from what I regularly do.

**1    2    3    4    5    6    7**

5. I enjoy the natural beauty in gaming

**1    2    3    4    5    6    7**

6. The game provides an opportunity for me to spend time with my family.

**1    2    3    4    5    6    7**

7. I enjoy the gracefulness associated with gaming.

**1    2    3    4    5    6    7**

8. The game provides an opportunity for me to spend time with my spouse.

**1 2 3 4 5 6 7**

9. I enjoy the drama of a close match

**1 2 3 4 5 6 7**

10. I enjoy it when the outcome is not decided until the very end

**1 2 3 4 5 6 7**

11. The game provides an escape for me from my day-to-day routine.

**1 2 3 4 5 6 7**

12. I increase my knowledge about a particular game when I watch it.

**1 2 3 4 5 6 7**

13. I feel a personal sense of achievement when my preferred player does well.

**1 2 3 4 5 6 7**

14. I can learn about the technical aspects of a particular game by watching it.

**1 2 3 4 5 6 7**

15. The skills of the players are something I appreciate.

**1 2 3 4 5 6 7**

16. I feel like I have won when my preferred player or team wins.

**1 2 3 4 5 6 7**

17. I enjoy a skillful performance by the player.

**1 2 3 4 5 6 7**

18. I enjoy interacting with other spectators at the game

**1** **2** **3** **4** **5** **6** **7**

19. I prefer watching a close game rather than a one sided game

**1** **2** **3** **4** **5** **6** **7**

20. I enjoy talking with others at the match

**1** **2** **3** **4** **5** **6** **7**

21. I enjoy watching a well executed gaming performance.

**1** **2** **3** **4** **5** **6** **7**

22. I enjoy socializing with people sitting near me while I watch the match.

**1** **2** **3** **4** **5** **6** **7**

23. The game provides an opportunity for me to spend time with my children.

**1** **2** **3** **4** **5** **6** **7**

24. The game provides a diversion from “life’s little problems” for me

**1** **2** **3** **4** **5** **6** **7**

### Section III: About You

1. Where do you watch e-sport? (Select all that apply)

Home      Work      Public Places (ex. Bars)

2. When you watch e-sport, what is your **ideal** number of people to watch with? (Select one)

By Myself      Small Group (1-10)      Midsize group (11-25)      Large Group (26+)

3. When you watch e-sport, for how long do you like to watch? (Select One)

0-1 hours    1-2 hours    2-3 hours    3-4 hours    4+ hours

4. Do you play e-sport? (select one)

Yes    No

If yes, go to question 5 (next page), if no skip to question 7 (Skip to last page).

The next two questions are about your e-sport experience

5. For how long have you played e-sport? (Select One)

|              |              |              |              |
|--------------|--------------|--------------|--------------|
| <b>0-1</b>   | <b>1-2</b>   | <b>2-3</b>   | <b>3+</b>    |
| <b>years</b> | <b>years</b> | <b>years</b> | <b>years</b> |

6. (Optional) Please list any e-sport that you play.

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LAST PAGE!!!!!!

About You Continued

7. What is your age? \_\_\_\_\_ Years

8. What is your gender? (Select One)

Male    Female

9. What is your race/ethnicity? (Check all that apply)

|          |        |                     |            |                                  |
|----------|--------|---------------------|------------|----------------------------------|
| White    | Korean | American<br>Indian  | Vietnamese | Chinese                          |
| Filipino | Samoan | African<br>American | Japanese   | Other (specify on<br>line below) |

Other\_\_\_\_\_

Survey Complete

Thank you very much for your participation in this survey!



## APPENDIX B

### **Summary of Reports for SFMS Subscales**

#### Summary of Reports for Sport Fan Motivation Scale: Escape

|                                          | $\bar{x}$ | S.E. | Mdn | Mode | S.D. | V    |
|------------------------------------------|-----------|------|-----|------|------|------|
| SFMS: Escape                             | 3.04      | .091 |     |      | 1.91 | 3.64 |
| Watching e-sport gives me the            |           |      |     |      |      |      |
| opportunity to temporarily escape life's |           |      |     |      |      |      |
| problem                                  | 3.24      | .10  | 3   | 1    | 2.13 | 4.52 |
| I watch, read, and/or discuss e-sport    |           |      |     |      |      |      |
| because doing so allows me to forget     |           |      |     |      |      |      |
| about my problems                        | 2.94      | .10  | 2   | 1    | 2.14 | 4.59 |
| Watching, reading, and/or discussing     |           |      |     |      |      |      |
| E-sport is like daydreaming because it   |           |      |     |      |      |      |
| takes me away from life's hassles        | 2.93      | .10  | 2   | 1    | 2.08 | 4.33 |

N=436,  $\alpha=.884$

# Summary of Reports for Sports Fan Motivation Scale: Economic

|                                                                                                            | $\bar{x}$ | S.E. | Mdn | Mode | S.D. | V   |
|------------------------------------------------------------------------------------------------------------|-----------|------|-----|------|------|-----|
| SFMS: Economic                                                                                             | 1.27      | .03  |     |      | .64  | .41 |
| One of the main reasons that I watch, read,<br>and/or discuss E-sport is so that I can bet on<br>the event | 1.31      | .04  | 1   | 1    | .84  | .71 |
| E-sport is enjoyable only if you can bet on<br>the outcome                                                 | 1.24      | .04  | 1   | 1    | .85  | .73 |
| Making wagers is the most enjoyable aspect<br>of being an e-sport fan                                      | 1.25      | .04  | 1   | 1    | .81  | .66 |

N=436,  $\alpha=.647$

# Summary of Responses for Sports Fan Motivation Scale: Eustress

|                                            | $\bar{x}$ | S.E. | Mdn | Mode | S.D. | V    |
|--------------------------------------------|-----------|------|-----|------|------|------|
| SFMS: Eustress                             | 5.48      | .08  |     |      | 1.72 | 2.95 |
| When I watch, read, and/or discuss e-      |           |      |     |      |      |      |
| sport I get pumped up when watching my     |           |      |     |      |      |      |
| favorite players                           | 5.92      | .09  | 6   | 8    | 1.96 | 3.84 |
| When I watch e-sport I enjoy being         |           |      |     |      |      |      |
| physiologically aroused by the competition | 4.93      | .12  | 5   | 7    | 2.45 | 6.00 |
| I like the stimulation I get from watching |           |      |     |      |      |      |
| e-sport                                    | 5.58      | .10  | 6   | 8    | 2.10 | 4.41 |

N=436,  $\alpha$ =.695

# Summary of Responses for Sports Fan Motivation Scale: Aesthetics

|                                            | $\bar{x}$ | S.E. | Mdn | Mode | S.D. | V    |
|--------------------------------------------|-----------|------|-----|------|------|------|
| SFMS: Aesthetics                           | 4.31      | .09  |     |      | 1.82 | 3.29 |
| I watch, read, and/or discuss e-sport for  |           |      |     |      |      |      |
| the artistic value                         | 3.88      | .10  | 4   | 1    | 2.07 | 4.28 |
| I watch, read, and/or discuss e-sport      |           |      |     |      |      |      |
| because I enjoy the beauty and grace of e- |           |      |     |      |      |      |
| sport                                      | 5.10      | .11  | 5   | 8    | 2.27 | 5.13 |
| I enjoy watching e-sport events because    |           |      |     |      |      |      |
| to me they are a form of art               | 3.94      | .10  | 4   | 1    | 2.16 | 4.68 |

N=436,  $\alpha=.787$

# Summary of Responses for Sports Fan Motivation Scale: Self Esteem

|                                          | $\bar{x}$ | S.E. | Mdn | Mode | S.D. | V    |
|------------------------------------------|-----------|------|-----|------|------|------|
| SFMS: Self Esteem                        | 3.72      | .07  |     |      | 1.52 | 2.29 |
| When I watch e-sport I feel good when    |           |      |     |      |      |      |
| my preferred team/player wins            | 5.35      | .10  | 6   | 6    | 2.11 | 4.45 |
| Watching e-sport increases my self-      |           |      |     |      |      |      |
| esteem                                   | 2.56      | .09  | 2   | 1    | 1.90 | 3.63 |
| My favorite team/player's success are my |           |      |     |      |      |      |
| successes and their losses are my losses | 3.25      | .10  | 3   | 1    | 2.17 | 4.69 |

N=436,  $\alpha=.573$

# Summary of Responses for Sports Fan Motivation Scale: Group Affiliation

|                                                                                         | $\bar{x}$ | S.E. | Mdn | Mode | S.D. | V    |
|-----------------------------------------------------------------------------------------|-----------|------|-----|------|------|------|
| SFMS: Group Affiliation                                                                 | 3.96      | .08  |     |      | 1.66 | 2.76 |
| I watch, read, and/or discuss e-sport<br>because most of my friends are e-sport<br>fans | 2.66      | .09  | 2   | 1    | 1.91 | 3.65 |
| I watch e-sport because I am the kind of<br>person who likes to be with other people    | 4.12      | .10  | 4   | 4    | 2.14 | 4.59 |
| I enjoy watching e-sport more when I am<br>with a large group of people                 | 5.10      | .11  | 5   | 8    | 2.37 | 5.61 |

N= 436,  $\alpha=.665$

# Summary of Responses for Sports Fan Motivation Scale: Entertainment

|                                        | $\bar{x}$ | S.E. | Mdn | Mode | S.D. | V    |
|----------------------------------------|-----------|------|-----|------|------|------|
| SFMS: Entertainment                    | 6.75      | .06  |     |      | 1.19 | 1.42 |
| I enjoy e-sport because of their       |           |      |     |      |      |      |
| entertainment value                    | 7.33      | .06  | 8   | 8    | 1.19 | 1.41 |
| Watching, reading and/or discussing e- |           |      |     |      |      |      |
| sport is a good time                   | 6.78      | .07  | 7   | 8    | 1.55 | 2.41 |
| To me, e-sport spectating is simply a  |           |      |     |      |      |      |
| form of recreation                     | 6.14      | .10  | 7   | 8    | 2.00 | 4.01 |

N=436,  $\alpha=.581$

# Summary of Responses for Sport Fan Motivation Scale: Family

|                                          | $\bar{x}$ | S.E. | Mdn  | Mode | S.D. | V    |
|------------------------------------------|-----------|------|------|------|------|------|
| SFMS: Family                             | 1.58      | .061 |      |      | 1.28 | 1.64 |
| I watch, read, and/or discuss e-sport    |           |      |      |      |      |      |
| because it gives me an opportunity to be |           |      |      |      |      |      |
| with my spouse                           | 1.68      | .08  | 1.00 | 1    | 1.63 | 2.65 |
| I watch, read, and/or discuss e-sport    |           |      |      |      |      |      |
| because it gives me an opportunity to be |           |      |      |      |      |      |
| with my family                           | 1.48      | .06  | 1.00 | 1    | 1.32 | 1.75 |

N=436,  $\alpha$ =.658



Summary of Responses for Motivation Scale of Sport Consumption: Knowledge

|                                              | $\bar{x}$ | S.E. | Mdn | Mode | S.D. | V    |
|----------------------------------------------|-----------|------|-----|------|------|------|
| MSSC: Knowledge                              | 6.26      | .05  |     |      | 1.03 | 1.05 |
| I increase my understanding of the           |           |      |     |      |      |      |
| strategies by watching matches               | 6.33      | .06  | 7   | 7    | 1.11 | 1.22 |
| I increase my knowledge about a particular   |           |      |     |      |      |      |
| game when I watch it                         | 6.33      | .06  | 7   | 7    | 1.09 | 1.18 |
| I can learn about the technical aspects of a |           |      |     |      |      |      |
| game by watching it                          | 6.12      | .06  | 7   | 7    | 1.27 | 1.61 |

N=395,  $\alpha=.867$

Summary of Responses for Motivation Scale of Sport Consumption: Achievement

|                                          | $\bar{x}$ | S.E. | Mdn | Mode | S.D. | V    |
|------------------------------------------|-----------|------|-----|------|------|------|
| MSSC: Achievement                        | 4.15      | .09  |     |      | 1.80 | 3.24 |
| I feel proud when my preferred player    |           |      |     |      |      |      |
| does well                                | 5.01      | .10  | 5   | 7    | 1.94 | 3.76 |
| I feel a personal sense of achievement   |           |      |     |      |      |      |
| when my preferred player does well       | 3.77      | .10  | 4   | 1    | 2.06 | 4.23 |
| I feel like I have won when my preferred |           |      |     |      |      |      |
| player wins                              | 3.66      | .10  | 4   | 1    | 2.04 | 4.17 |

N=395,  $\alpha=.875$

Summary of Responses for Motivation Scale of Sport Consumption: Aesthetics

|                                                    | $\bar{x}$ | S.E. | Mdn | Mode | S.D. | V    |
|----------------------------------------------------|-----------|------|-----|------|------|------|
| MSSC: Aesthetics                                   | 4.91      | .09  |     |      | 1.71 | 2.93 |
| I appreciate the beauty inherent in video<br>games | 5.31      | .09  | 6   | 7    | 1.77 | 3.13 |
| I enjoy the natural beauty in gaming               | 5.04      | .10  | 5   | 7    | 1.92 | 3.67 |
| I enjoy the gracefulness associated with<br>gaming | 4.39      | .10  | 5   | 7    | 2.02 | 4.08 |

N=395,  $\alpha=.881$

Summary of Responses for Motivation Scale of Sport Consumption: Escape

|                                                                       | $\bar{x}$ | S.E. | Mdn | Mode | S.D. | V    |
|-----------------------------------------------------------------------|-----------|------|-----|------|------|------|
| MSSC: Escape                                                          | 3.66      | .07  |     |      | 1.47 | 2.17 |
| Watching a match is a change of pace<br>from what I regularly do      | 4.58      | .09  | 5   | 5    | 1.84 | 3.39 |
| The game provides an escape for me from<br>my day-to-day routine      | 3.64      | .10  | 4   | 1    | 2.02 | 4.07 |
| The game provides a diversion from “life’s<br>little problems” for me | 2.76      | .10  | 2   | 1    | 1.92 | 3.70 |

N=395,  $\alpha$ =.644

Summary of Responses for Motivation Scale of Sport Consumption: Family

|                                                                           | $\bar{x}$ | S.E. | Mdn | Mode | S.D. | V    |
|---------------------------------------------------------------------------|-----------|------|-----|------|------|------|
| MSSC: Family                                                              | 1.48      | .05  |     |      | .97  | .94  |
| The game provides an opportunity for me to<br>spend time with my family   | 1.53      | .06  | 1   | 1    | 1.20 | 1.45 |
| The game provides an opportunity for me to<br>spend time with my spouse   | 1.61      | .07  | 1   | 1    | 1.38 | 1.89 |
| The game provides an opportunity for me to<br>spend time with my children | 1.28      | .05  | 1   | 1    | 1.03 | 1.05 |

N=395,  $\alpha=.725$

Summary of Responses for Motivation Scale of Sport Consumption: Drama

|                                                                  | $\bar{x}$ | S.E. | Mdn | Mode | S.D. | V    |
|------------------------------------------------------------------|-----------|------|-----|------|------|------|
| MSSC: Drama                                                      | 6.39      | .042 |     |      | .84  | .70  |
| I enjoy the drama of a close match                               | 6.44      | .05  | 7   | 7    | .99  | .97  |
| I enjoy it when the outcome is not decided<br>until the very end | 6.37      | .06  | 7   | 7    | 1.10 | 1.21 |
| I prefer watching a close game rather than a<br>one sided game   | 6.35      | .05  | 7   | 7    | 1.07 | 1.14 |

N=395,  $\alpha=.709$

Summary of Responses for Motivation Scale of Sport Consumption: Player Skills

|                                                         | $\bar{x}$ | S.E. | Mdn | Mode | S.D. | V   |
|---------------------------------------------------------|-----------|------|-----|------|------|-----|
| MSSC: Player Skills                                     | 6.57      | .04  |     |      | .76  | .58 |
| The skills of the players are something I<br>appreciate | 6.54      | .04  | 7   | 7    | .88  | .78 |
| I enjoy a skillful performance by the players           | 6.57      | .05  | 7   | 7    | .94  | .88 |
| I enjoy watching a well executed gaming<br>performance  | 6.60      | .04  | 7   | 7    | .82  | .67 |

N=395,  $\alpha=.835$

Summary of Responses for Motivation Scale of Sport Consumption: Social

|                                                                            | $\bar{x}$ | S.E. | Mdn | Mode | S.D. | V    |
|----------------------------------------------------------------------------|-----------|------|-----|------|------|------|
| MSSC: Social                                                               | 4.78      | .09  |     |      | 1.79 | 3.19 |
| I enjoy interacting with other spectators at<br>the game                   | 4.81      | .10  | 5   | 7    | 1.89 | 3.59 |
| I enjoy talking with others at the match                                   | 4.92      | .10  | 5   | 7    | 1.91 | 3.64 |
| I enjoy socializing with people sitting near<br>me while I watch the match | 4.59      | .10  | 5   | 7    | 2.03 | 4.11 |

N=395,  $\alpha=.909$

## APPENDIX C

### George Mason University's Human Subjects Review Board Application

|                                                                                                                                                                                                                                                                         |                          |                                     |                                                                                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                        |                          |                                     | <p><b>Office of Research Subject Protections</b><br/>         4400 University Drive, MSN 6D5, Fairfax, Virginia 22030<br/>         Phone: 703-993-4208, 703-993-4121; Fax: 703-993-9590</p>                   |
| <b>Human Subjects Review Board (HSRB)</b>                                                                                                                                                                                                                               |                          |                                     |                                                                                                                                                                                                               |
| <p><b>New Submission Checklist</b><br/>         To avoid delay in the processing of HSRB applications, please ensure that the following are included in your application. Applications cannot be reviewed until all of the following checklist items are submitted.</p> |                          |                                     |                                                                                                                                                                                                               |
| <b>YES</b>                                                                                                                                                                                                                                                              | <b>NO</b>                | <b>N/A</b>                          | <b>ITEM</b>                                                                                                                                                                                                   |
| <input checked="" type="checkbox"/>                                                                                                                                                                                                                                     | <input type="checkbox"/> | <input type="checkbox"/>            | Application with <b>ALL</b> sections completed (including check boxes on first page)                                                                                                                          |
| <input checked="" type="checkbox"/>                                                                                                                                                                                                                                     | <input type="checkbox"/> | <input type="checkbox"/>            | Application signed by Principal Investigator                                                                                                                                                                  |
| <input checked="" type="checkbox"/>                                                                                                                                                                                                                                     | <input type="checkbox"/> | <input type="checkbox"/>            | CITI Training completed by all researchers including research assistants                                                                                                                                      |
| <input checked="" type="checkbox"/>                                                                                                                                                                                                                                     | <input type="checkbox"/> | <input type="checkbox"/>            | <b>Proposed Consent Form</b> (See Template Consent and Consent Guidelines)–All instructional language removed, written at the appropriate reading level for participants                                      |
| <input type="checkbox"/>                                                                                                                                                                                                                                                | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <b>Proposed Assent Form</b> (If minors are involved) –Written at the appropriate reading level for the age group (Contact ORSP for a sample of a 6 <sup>th</sup> grade Assent Form)                           |
| <input checked="" type="checkbox"/>                                                                                                                                                                                                                                     | <input type="checkbox"/> | <input type="checkbox"/>            | <b>Instrumentation</b> – All surveys, questionnaires, standardized assessment tools, interview questions, focus group questions/prompts or other instruments of data collection                               |
| <input checked="" type="checkbox"/>                                                                                                                                                                                                                                     | <input type="checkbox"/> | <input type="checkbox"/>            | <b>Recruitment Materials</b> – Letters to potential participants, advertisements, flyers, listserve postings, emails, brochures, SONA postings, telephone scripts, presentation scripts, etc.                 |
| <input type="checkbox"/>                                                                                                                                                                                                                                                | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <b>Grant Applications</b> – If the research is funded, include the grant application as submitted to the funding agency (Please note that the HSRB application title must match the grant application title.) |
| <input type="checkbox"/>                                                                                                                                                                                                                                                | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <b>Debriefing Form</b> – If the study proposes to use deception or incomplete                                                                                                                                 |



|                          |                          |                                     |                                                                                                                                                                                                                                                       |
|--------------------------|--------------------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          |                          |                                     | information to participants                                                                                                                                                                                                                           |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <b>Cultural Contact Information</b> – If the study is being conducted outside the US, the HSRB must inquire about the conduct of research in that country. Submit the name and contact information of an individual who can provide that information. |

Applications can be reviewed without the following items, but if they are applicable to the study, they must be submitted before approval can be given.

|                          |                          |                                     |                                                                                                                                                                                                                                                                                                             |
|--------------------------|--------------------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Research in Mason Classrooms – Submit permission from the instructors when course credit is given                                                                                                                                                                                                           |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Research in School Systems – Submit approval letter from the school district Human Subjects Review Board                                                                                                                                                                                                    |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Research in Universities – Submit approval letter from the University Human Subjects Review Board                                                                                                                                                                                                           |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Research in Hospitals – Submit approval letter and approved consent document from the hospital Human Subjects Review Board                                                                                                                                                                                  |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Research in Institutions/Organizations without Human Subject Review Boards – Submit permission letter from the institution/organization                                                                                                                                                                     |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | If George Mason is the primary recipient of funding, submit Human Subjects Review Board approval from subcontractors conducting human subjects research                                                                                                                                                     |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Psychology Department – Sign off by the Chair of the Department                                                                                                                                                                                                                                             |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | School of Management (SOM) – Submit SOM routing form with all approval signatures                                                                                                                                                                                                                           |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Other Mason Committee Oversight – If your study involves the use of blood or other human biological specimens, submit <b>Institutional Biosafety Committee</b> approval. If your study involves sources of ionizing radiation or Xray producing devices, submit <b>Radiation Safety Committee</b> approval. |

**For ORSP Use Only**

GMU

Protocol No. \_\_\_\_\_ Proposal No. \_\_\_\_\_

Classified: ☐ Exempt ☐ Non Exempt ☐ ExpeditedGEORGE MASON UNIVERSITYHUMAN SUBJECTS REVIEW BOARDAPPLICATION FOR HUMAN SUBJECTS RESEARCH REVIEW

Federal Regulations and George Mason University policy require that all research involving humans as subjects be reviewed and approved by the University Human Subjects Review Board (HSRB). Any person, (GMU faculty member, staff member, student, or other person) wanting to engage in human subject research at or through George Mason University must receive written approval from the HSRB before conducting research. Approval of this project by the HSRB only signifies that the procedures adequately protect the rights and welfare of the subjects and should not be taken to indicate University approval to conduct the research.

**Please complete this cover page AND provide the Protocol information requested on the back of this form. Forward this form and all supporting documents to the Office of Research Subject Protections, MS 6D5. If you have any questions please feel free to contact ORSP at 703-993-4121.**

|                       |                                                 |                                              |
|-----------------------|-------------------------------------------------|----------------------------------------------|
| <b>Project Title:</b> | E-sport Fan Motivation                          |                                              |
|                       | <b>Principal Investigator (Must be Faculty)</b> | <b>Co-Investigator / Student Researcher*</b> |
| <b>Name</b>           | Dr. Brenda Wiggins                              | Andrew Shaw                                  |
| <b>Department</b>     | Recreation, Health, and Tourism                 |                                              |
| <b>Mail Stop</b>      | 3136 Snow hill Lane, Linden VA 22642            | 3136 Snow Hill Lane                          |
| <b>Phone</b>          | 703-993-2068                                    | 703-615-2480                                 |
| <b>Email</b>          | bwiggins@gmu.edu                                | ashaw3@gmu.edu                               |

\*Student researchers should provide a mailing address rather than campus address. Additional researchers should be listed on a separate page.

**Type of Project:**

- ☐ Faculty/Staff Research  
☐ Doctoral Dissertation  
☒ Masters Thesis  
☐ Student Project (Specify Grad or Undergrad):  
☐ Other (Specify):

**VULNERABLE POPULATION:**

**PERSON IDENTIFIABLE DATA:**

**RESEARCH DESIGN:**

|                                                             |                                                                 |                                                                              |
|-------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------------------|
| <input type="checkbox"/> Fetuses/Abortuses/Embryos          | <input type="checkbox"/> Audio taping                           | <input type="checkbox"/> Questions on harm to self or others                 |
| <input type="checkbox"/> Pregnant women                     | <input type="checkbox"/> Video taping                           | <input type="checkbox"/> Questions on illegal behavior                       |
| <input type="checkbox"/> Prisoners                          | <input type="checkbox"/> Data collected via email               | <input type="checkbox"/> Deception                                           |
| <input type="checkbox"/> Minors                             | <input checked="" type="checkbox"/> Data collected via Internet | <input type="checkbox"/> Human/computer interaction                          |
| <input type="checkbox"/> Mentally disabled                  | <input type="checkbox"/> Confidential electronic records        | <input type="checkbox"/> Collection/analysis of secondary data               |
| <input type="checkbox"/> Emotionally disabled               | <input type="checkbox"/> Coded data linked to individuals       | Funding: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| <input type="checkbox"/> Physically disabled                | <input type="checkbox"/> Human biological materials             | Source:                                                                      |
| <input type="checkbox"/> Undergrad student pool (Psych/SOM) | Biosafety Project #:                                            | OSP Proposal #:                                                              |
| <input type="checkbox"/> Other:                             | (If yes, please attach a copy of the grant application)         |                                                                              |

I certify that the information provided for this project is correct and that no other procedures will be used in this protocol. I agree to conduct this research as described in the attached supporting documents. I will request and receive approval from the HSRB for changes prior to implementing these changes. I will comply with the HSRB policy for the conduct of ethical research. I will be responsible for ensuring that the work of my co-investigator(s)/student researcher(s) complies with this protocol.

Principal Investigator Signature

Date

**ABSTRACT**

1. Describe the aims and specific purposes of the research project and the proposed involvement of human participants.  
The purpose of this study is to assess the motivations fans of electronic sports (competitive video games) to watch competitive e-sport events).
2. Describe the characteristics of the intended sample (number of participants, age, sex, ethnic background, health status, etc.).  
The intended sample is gathered from both individuals at public settings, as well as via the internet. The intended number is at least 356.
3. Identify the criteria for inclusion or exclusion. Explain the rationale for the involvement of special classes of participants (children, prisoners, pregnant women, or any other vulnerable population).  
Criteria for inclusion includes people at public e-sport viewing events as well as those who voluntarily fill out a survey online.
4. Describe your relationship to the participants if any.  
I am also a fan of e-sport, so there is a common interest.

**PROTOCOL – Involving Human Participation**

1. If there are direct benefits to the participants, describe the direct benefits and also describe the general knowledge that the study is likely to yield. If there are no direct benefits to the participants, state that there are no direct benefits to the participants and describe the general knowledge that the study is likely to yield.  
The only direct benefit to the viewers of e-sport is that they know they contributed to research in an area of recreation that they are interested in. The general knowledge will contribute to leisure research in the area of competitive video games and spectator relationships.
2. Describe how participants will be identified and recruited. Note that all recruitment materials (including ads, flyers, letters to participants, emails, telephone/presentation scripts, SONA postings) for participants must be submitted for review for both exempt and non-exempt projects.  
Participants will be found in person at public viewings of e-sport at establishments like Public Bar in D.C. Online, fans of e-sport will be given a link through the One Nation of Gamer's website that they can voluntarily fill out.
3. Describe your procedures for obtaining informed consent. Who will obtain consent and how will it be obtained. Describe how the researchers will ensure that subjects receive a copy of the consent document.

**The consent form will be the first page of the survey, and if the user declines to participate the survey will be ended at that point for that user.**

4. State whether subjects will be compensated for their participation, describe the form of compensation and the procedures for distribution, and explain why compensation is necessary. State whether the subjects will receive course credit for participating in the research. **If yes**, describe the non-research option for course credit for the students who decide not to participate in the research. The non-research option for course credit must not be more difficult than participation in the research. Information regarding compensation or course credit should be outlined in the Participation section of the consent document.  
Subjects will not be compensated.
5. If minors are involved, their active assent to the research activity is required as well as active consent from their parents/guardians. This includes minors from the Psychology Department Undergraduate Subject Pool. Your procedures should be appropriate to the age of the child and his/her level of maturity and judgment. Describe your procedures for obtaining active assent from minors and active consent from parents/guardians. *Refer to the Guidelines for Informed Consent for additional requirements if minors from the Psychology Subject Pool are involved.*  
Minor's will not be involved.
6. Describe the research design and methods. What will be done to participants during the study? Describe all tests and procedures that will be performed. Include an estimate of the time required to complete the tests and procedures.  
The research will involve 2 brief surveys involving a 1 to 7 or 1 to 8 scale (degree of agreement with a statement). The surveys should not take more than 10 minutes.
7. Describe how confidentiality will be maintained. If data will be collected electronically (e.g. by email or an internet web site), describe your procedures for limiting identifiers. Note that confidentiality may have to be limited if participants are asked questions on violence toward self or others or illegal behavior. Contact the Office of Research Subject Protections for assistance.  
There will be no demographics questions that shall be asked which could lead to the identity of the subject. Demographics questions will be limited to statistics regarding age, ethnicity, gender, education level and experience with online gaming. (See demographics sections of survey.)
8. Describe in detail any potential physical, psychological, social, or legal risks to participants, why they are reasonable in relation to the anticipated benefits and what will be done to minimize the risks.  
Where appropriate, discuss provisions for ensuring medical or professional intervention in case participants experience adverse effects. Where appropriate, discuss provisions for monitoring data collection when participants' safety is at risk.  
There are no physical, psychological, social, or legal risks to this survey.
9. If participants will be audio-or video-taped, discuss provisions for the security and final disposition of the tapes. *Refer to Guidelines for Informed Consent.*  
Participants will not be video taped or recorded in any way.
10. If participants will be misinformed and/or uninformed about the true nature of the project, provide justification. Note that projects involving deception must not exceed minimal risk, cannot violate the rights and welfare of participants, must require the deception to accomplish the aims of the project, and must include a full debriefing. *Refer to Guidelines for Informed Consent.*

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Participants will not be misinformed.</p> <p>11. Submit a copy of each data collection instrument/tool (including questionnaires, surveys, standardized assessment tools, etc.) you will use and provide a brief description of its characteristics and development. Submit scripts if information and/or questions are conveyed verbally.</p> <p>12. <b>INFORMED CONSENT:</b> Attach appropriate Proposed Informed Consent document(s). <b>See Guidelines for Informed Consent and the Template Informed Consent Document for additional information.</b></p> <p>13. <b>APPROVAL FROM COOPERATING INSTITUTION/ORGANIZATION:</b> If a cooperating institution/organization provides access to its patients/students/clients/ employees/etc. for participant recruitment or provides access to their records, Attach written evidence of the institution/organization human subjects approval of the project.</p> <p><b>PROTOCOL - Involving Existing Records</b></p> <p>For the study of existing data sets, documents, pathological specimens, or diagnostic specimens.</p> <p>1. Describe your data set.</p> <p>2. Provide written permission from the owner of the data giving you access for research purposes at George Mason University if the data set is not publicly available.</p> <p>3. Describe how you will maintain confidentiality if the data set contains person identifiable data.</p> <p>4. Describe what variables you are extracting from the data set.</p> |
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## REFERENCES

- Armstrong, K. L. (2002). Race and sport consumption motivations: A preliminary investigation of a black consumers' sport motivation scale. *Journal of Sport Behavior*, 25(4), 309–331.
- Bacon, D. (2011, December 10). Gentlemen, start your computers: Sport by other means. *The Economist*. Accessed March 17, 2012 from <http://www.economist.com/node/21541162>
- Bartle, P. (2010). What is community? A sociological perspective. Retrieved November 16, 2010 from <http://www.scn.org/cmp/whatcom.htm>
- Beaton, A. A., & Funk, D. C. (2008). An evaluation of theoretical frameworks for studying physically active leisure. *Leisure Sciences*, 30, 53-70.
- Best, D. (1980). Art and sport. *Journal of Aesthetic Education*, 14(2), 69–80.
- CBS (2012). CBS interactive expands into esports category with exclusive live gaming video and league partnerships. Retrieved April 17, 2011 from <http://www.cbscorporation.com/news-article.php?id=875>
- Chalip, L. (1997). Celebrity or hero? Toward a conceptual framework for athlete promotion. In D. Shilbury & L. Chalip (Eds.), *Advancing management of Australian and New Zealand sport* (pp. 42-56). Barwood, Victoria: Sport Management Association of Australia and New Zealand.
- Cheung, G., & Huang, J. (2011). Starcraft from the stands: Understanding the gaming spectator. *Proceedings of the 2011 annual conference on human factors in computer systems*. 763–772.
- Coakley, J. J. (1998). The sociology of sport: What is it and why study it? In J. J. Coakley (Ed.), *Sport in society: Issues and controversies* (pp. 4–31). New York, NY: Irwin McGraw-Hill.
- Conlisk, J. (1993). The utility of gambling. *Journal of Risk and Uncertainty*, 6(3), 255–275.

- Correia, A., & Esteves, S. (2007). An exploratory study of spectators' motivation in football. *International Journal of Sport Management and Marketing*, 2(5), 572–590.
- Crompton, J. L. (1979). Motivations for pleasure vacation. *Annals of Tourism Research*, 6, 408–424.
- Elias, N., & Dunning, E. (1986). *Quest for excitement: Sport and leisure in the civilizing process*. Oxford: Blackwell.
- Ellemers, N., Kortekaas, P., & Ouwerkerk, J. W. (1999). Self-categorisation, commitment to the group and group self-esteem as related but distinct aspects of social identity. *European Journal of Social Psychology*, 29, 371–389.
- Fairley, S. (2003). In search of relived social experience: Group-based nostalgia sport tourism. *Journal of Sport Management*, 17, 284–304.
- Fevre, M. L., Matheny, J., & Kolt, G. S. (2003). Eustress, distress, and interpretation in occupational stress, *Journal of Managerial Psychology*, 18(7), 726–744.
- Friess, S. (2012, October 4). Candidate slammed for world of warcraft fandom. *Politico*. Retrieved October 11, 2012 from <http://www.politico.com/news/stories/1012/82043.html>
- Funk, D. C., Filo, K., Beaton, A. A., & Pritchard M. (2009). Measuring the motives of sport event attendance: Bridging the academic-practitioner divide to understanding behavior. *Sport Marketing Quarterly*, 18, 126–138.
- Funk, D. C., & James, J. (2001). The psychological continuum model: A conceptual framework for understanding an individual's psychological connection to sport. *Sport Management Review*, 2, 119–150.
- Gibson, H. (1998). Sport tourism: A critical analysis of research. *Sport Management Review*, 1, 45–76.
- Gaudiosi, J. (2012). Pro gamer George 'Hotshotgg' Georgallidis explains why Koreans will dominate in league of legends. Accessed September 9, 2012 from <http://www.forbes.com/sites/johngaudiosi/2012/07/04/pro-gamer-george-hotshotgg-georgallidis-explains-why-koreans-will-dominate-in-league-of-legends/2/>



- GMU Office of Research Integrity and Assurance. (2012). Human subjects application form. Accessed [March 1<sup>st</sup>, 2011] from <http://research.gmu.edu/ORIA/HumanFormsAndInstructions.html>
- Gusfield, J. R. (2000). Sport as story: Form and content in athletics. *Culture and Society*, 37, 63–70.
- Gutman, A. (2004). *Sport: The first five millenia*. Amherst, MA: University of Massachusetts Press.
- Henderson, K. A., & Bialeschki, M. D. (2010). *Evaluating leisure services: Making enlightened decisions* (3<sup>rd</sup> Ed.). State College, PA: Venture Publishing.
- Holt, N. A. (2011). *Deep involvement in the World of Warcraft: An elfnography*. (Unpublished doctoral dissertation). University of Georgia, Athens, GA.
- Huizinga, J. (1944). *Homo ludens: A study of the play-elements in culture*. (2003 Edition). England: Routledge London.
- Humphreys, B., Paul, R., & Weinbach, A. (2010). *Consumption benefits and gambling: Evidence from the NCAA basketball betting market*. (Working Papers 2011-16). Alberta, Canada: University of Alberta, Department of Economics.
- Humphreys, B., & Ruseski, J. (2008). Estimates of the size of the sports industry in the United States. *10<sup>th</sup> annual International Association of Sport Economists conference in Gijón, Spain*. Retrieved January 10, 2012 from [http://college.holycross.edu/RePEc/spe/HumphreysRuseski\\_SportsIndustry.pdf](http://college.holycross.edu/RePEc/spe/HumphreysRuseski_SportsIndustry.pdf)
- Iso-Ahola, S. E. (1982). Toward a social psychological theory of tourism motivation: A rejoinder. *Annals of Tourism Research*, 9(2), 256-262.
- Iso-Ahola, S. E. (1980). *The social psychology of leisure and recreation*. Dubuque, IA: Wm. C. Brown.
- James, J. D., & Ridinger, L. L. (2002). Female and male sports fans: A comparison of sport consumption models. *Journal of Sport Behavior*, 25(3), 260–278.
- Kahle, L. R., Kambara, K. M., & Rose G. M. (1996). A functional model of fan attendance motivations for college football. *Sport Marketing Quarterly*, 5(4), 51–60.

- Katz, E., & Foulkes, D. (1962). On the use of mass media as “escape”: Clarification of a concept. *Public Opinion Quarterly*, 26(3), 377–388.
- King, C., Heo, J., & Mak, J. (2010, June). *Sport spectator motivation and behavioral involvement*. Poster presented at North American Society for Sport Management Conference, Tampa, FL.
- Koo, G-Y., & Hardin, R. (2008). Difference in interrelationship between spectator motives and behavioral intentions based on emotional attachment. *Sport Marketing Quarterly*, 17, 30-43.
- Korea.net (2012). South Korea, the Mecca of e-sports. Retrieved November 26<sup>th</sup>, 2013 from <http://www.korea.net/NewsFocus/Sci-Tech/view?articleId=100629>
- Kraut R., Patterson M., Lundmark V., Kiesler S., Mukopadhyay T., & Scherlis W. (1998). Internet paradox: A social technology that reduces social involvement and psychological well-being? *American Psychologist*, 53(9), 1017–1031.
- Kry0 (2011, December 1) Streamer spotlight – shushei! [Msg 1]. Message posted to <http://na.leagueoflegends.com/board/showthread.php?t=1549009&highlight=featurered+streamer>
- Malarh (2011). *Barcraft – Blizzard gaming in your town*. Retrieved from [http://us.battle.net/sc2/en/blog/3516048/BarCraft%E2%84%A2\\_-\\_Blizzard\\_Gaming\\_in\\_Your\\_Town-9\\_16\\_2011](http://us.battle.net/sc2/en/blog/3516048/BarCraft%E2%84%A2_-_Blizzard_Gaming_in_Your_Town-9_16_2011)
- Maslow, A. (1954). *Motivation and personality*. New York. Harper and Row.
- McKenna, K. Y., & Bargh, J. A. (2000). Plan 9 from cyberspace: The implications for the Internet for personality and social psychology. *Personality and Social Psychology Review*, 4(1), 57–75.
- Meek, A. (1997). An estimate of the size and supported economic activity of the sports industry in the United States. *Sports Marketing Quarterly*, 6(4), 15–22.
- Mehus, I. (2005). Sociability and excitement motives of spectators attending entertainment sport events: spectators of soccer and ski-jumping. *Journal of Sport Behavior*, 28(4). 333–350.
- Moeller, V. (2010). *The ethics of doping and anti-doping: Redeeming the soul of sport?* New York, NY: Rutledge.

- Myers, M. (2012). One woman's battle against the anxious masculinity of the fighting-games scene. *The Phoenix*. Accessed October 23, 2012 from <http://thephoenix.com/Boston/recroom/145892-one-womans-battle-against-the-anxious-masculinity/?page=1#TOPCONTENT>
- Nightclub & Bar Convention and Trade Show. March 21<sup>st</sup> 2013. Retrieved February 1, 2013 from <http://www.ncbshow.com/2013-promotions-marketing>
- Roberts, R., & Olsen, J. S. (1991). Television, sport, and mass media. In R. Roberts and J. S. Olsen (Eds.). *Winning is the only thing: Sports in America since 1941* (pp. 95–112). Baltimore, MD: Johns Hopkins University Press.
- Saw. R. L. (1971). What is a work of art? In G. Dickie (Ed.). *Aesthetics: An Introduction* (pp. 27-50). Garden City, NY: Doubleday..
- Selye, H. (1974). *Stress without distress*. Philadelphia: J.B. Lippincott Company.
- Shah, D. V., Kwak, N., & Holbert, R. L. (2001). "Connecting" and "disconnecting" with civic life: Patterns of Internet use and the production of social capital. *Political Communication*, 18(2), 141–162.
- Sloan, L. R. (1989). The motives of sports fans. In J. D. Goldstein (Ed.), *Sports, games and play: Social and psychology viewpoints* (2nd ed.), (pp. 175-240). Hillsdale, NJ: Erlbaum Associates.
- Smith, D. F. (2012). IGN pro viewers highlight the rise of esports online. *VentureBeat*. Accessed March 3<sup>rd</sup> 2013 from at <http://venturebeat.com/2012/04/17/ign-pro-league-viewers-highlight-the-rise-of-esports-online/>
- Snipes, R. L., & Ingram, R. (2007). Motivators of collegiate sports attendance: A comparison across demographic groups. *Innovative Marketing*, 3(2), 65–75.
- Stebbins, R. A. (1982). Serious leisure: A conceptual statement. *The Pacific Sociological Review*, 25(2), 251–272.
- Thomas, R. M. (1986, June 4). 7 of 10 in survey say they're fans. *The New York Times*, p. B9.
- Trail, G. T., Anderson, D. F., & Fink, J. S. (2000). A theoretical model of sport spectator consumption behavior. *International Journal of Sport Management*, 1, 154–180.
- Trail, G. T., Anderson, D. F., & Fink, J. S. (2003). Sport spectator consumption behavior. *Sport Marketing Quarterly*, 12(1), 8–17.

- Underwood, R., Bond, E., & Baer, R. (2001). Building service brands via social identity: Lessons from the sports marketplace. *Journal of Marketing Theory and Practice*, 9(1), 1–13.
- Wan, X., Nakatani, H., Ueno, K., Asamizuya, T., Cheng, K., & Tanka, L. (2011). The neural basis of intuitive best next-move generation in board game experts. *Science*, 331(6015), 341–346.
- Wann, D. L. (1995). Preliminary validation of the sport fan motivation scale. *Journal of Sport & Social Issues*, 19(4), 377–396.
- Wann, D. L., Grieve, F. G., Zapalac, R. K., & Pease, D. G. (2008). Motivational profiles of sport fans of different sports. *Sport Marketing Quarterly*, 17, 6-19.
- Wann, D. L., & Hamlet, M. A., (1995). Author and subject gender in sports research. *International Journal of Sports Psychology*, 26, 225–232.
- Wann, D. L., Royalty, J. L., & Rochelle, A. R. (2002). Using motivation and team identification to predict sport fans' emotional responses to team performance. *Journal of Sport Behavior*, 25(2), 207–217.
- Wertz, S. K. (1979). Are sports art forms? *Journal of Aesthetic Education*, 13(1), 107–109.
- Won, J., & Kitamura, K. (2007). Comparative analysis of sport consumers' motivations between South Korea and Japan. *Sport Marketing Quarterly*, 16, 93-105.
- Won, J., & Kitamura, K. (2006). Motivational factors affecting sports consumption behavior of k-league and j-league spectators. *International Journal of Sport and Health Science*, 4, 233–251.
- Yee, N. (2006). The demographics, motivations, and derived experiences of users of massively multi-user online graphical environments. *Presence: Teleoperators and Virtual Environments*, 15, 309–329.
- Zillman, D., Bryant J., & Sapolsky, B. S. (1989). Enjoyment from sport spectatorship. In J. H. Goldstein (Ed.), *Sports, games, and play: Social and psychological viewpoints* (2<sup>nd</sup> ed.) (p. 241–278). Hillsdale, NJ: Lawrence Erlbaum Associates.

## CURRICULUM VITAE

Andrew Shaw graduated from Notre Dame Academy, Middleburg, Virginia, in 2004. He received his Bachelor of Science from George Mason University in 2008.