

CALIFORNIA STATE UNIVERSITY, NORTHRIDGE

Predictors of and Barriers to Engagement with the Five Primary Esports Genres

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For the degree of Master of Arts in Psychological Science

By

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## Abstract

### Predictors of and Barriers to Engagement With the Five Primary Esports Genres

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At the onset of the COVID-19 pandemic, traditional sports (tsports) were postponed until further notice. However, electronic sports (esports) resumed events with little interruption by shifting to a fully online format, resulting in a surge in viewership for esports events. With this increase in viewership, understanding the motivations that may convert tsports fans to esports viewers would be valuable to the growing esports industry. Study 1, conducted in June 2020, examined the motivational factors that predict engagement in esports events for sports-based video games (SBVGs) that were aimed towards satisfying tsports fans while tsports were postponed. Tsport consumption motivations for aesthetics and novelty positively predicted the likelihood that participants would watch a SBVG event as a replacement of their favorite tsports regardless of whether they were a current fan of esports. Study 2, conducted in January 2021, disaggregated esports into its five primary genres (fighting games, first-person shooters, real-time strategy games, multiplayer online battle arenas, and SBVGs) and investigated the motivational factors for tsports consumption that predict interest in consumption across the five genres. Motivations for acquisition of knowledge, attractiveness of the players, enjoyment of

aggression, and novelty positively predicted the likelihood of consumption across multiple genres. However, participants who were motivated to consume tsports because of the physical abilities of the players were less inclined towards consuming esports. With respect to participants who had not previously watched esports, those who were motivated to consume tsports for social interaction were less likely to become esports consumers. These findings present novel insights for the esports industry that could expand the appeal of their products to future consumers and further accommodate the needs of existing consumers.

## Introduction

Shortly after COVID-19 began to spread in the United States, professional sporting seasons were swiftly canceled or postponed until further notice. This abrupt cancellation left many avid sports fans without new content, yet several esports events resumed with little interruption by shifting to an online format. Several sporting associations opted to make temporary shifts to online formats, such as the National Basketball Association (NBA) broadcasting a tournament consisting of sixteen professional basketball players held within the game NBA 2K20 on their social media platforms. Moreover, the National Association for Stock Car Auto Racing (NASCAR) broadcasted races in iRacing, a subscription-based online racing simulator, onto the Fox Sports 1 channel. The first race in this format became the most viewed esports event in American television history with a viewership rating of approximately 903,000 people (ESPN, 2020). Though sports have returned in a limited capacity, these recent events raise the question of whether fans of traditional sports (tsports: athletic sports such as basketball, football, and soccer) sought competitive entertainment through esports during the absence of tsports. Discovering what types of individuals may convert to watching esports is not only valuable for an industry that is seeking to appeal to new consumers, but it may help in further understanding how media's influence continues to affect consumers when the typical media that they would seek out to satisfy their needs is suddenly taken away. The thesis proposed here examines this issue by assessing the opportunities and barriers in converting fans of tsports to esports.

Esports (short for “electronic sports”) have been defined as “an area of sport activities in which people develop and train mental or physical abilities in the use of information and communication technologies” (Wagner, 2007, pp. 182) or as “a form of sports where the primary

aspects of the sport are facilitated by electronic systems; the input of players and teams as well as the output of the esports system are mediated by human-computer interfaces” (Hamari & Sjöblom, 2017). Esports consist of five primary genres: fighting games (e.g., Street Fighter, Super Smash Bros.), first-person shooters (FPS; e.g., Call of Duty, Counter-Strike), real-time strategy games (RTS; e.g., StarCraft, Command & Conquer), multiplayer online battle arenas (MOBAs; e.g., Dota, League of Legends), and sports-based video games (SBVGs; e.g., Madden NFL, NBA 2K) (Funk et al., 2018). Similar to tsports, esports consist of individual and team-based games. Esports winnings usually result in large cash prizes that can be as large as \$3 million in the case of the 2019 Fortnite World Cup (Taylor & Chokshi, 2019). Teams frequently practice under a coach’s guidance and wear jerseys during official matches that display their team name and sponsors (Thompson & Cake, 2016) which can include high-profile companies such as Intel, Red Bull, or Honda (Richman, 2019). The legitimacy of esports as a sporting activity often comes into question (Hallmann & Giel, 2018); for example, John Skipper, the former President of ESPN and current executive chairman of the sports streaming service DAZN, views them as a form of competition similar to chess or checkers as opposed to a “real sport” (Chmielewski, 2014).

Despite the questioned legitimacy of esports, the esports industry was projected to earn over a billion dollars in annual revenue for the first time in 2020 before many in-person esports events were cancelled (Takahashi, 2020) and revenue was projected to surpass \$1.5 billion by 2023 (Reyes, 2019). From 2016 to 2018, esports revenue grew from \$493 million with \$350 million in brand investments to \$906 million with \$694 million in brand investments making for an 84% increase overall and a 98% increase in brand investments (Influencer Marketing Hub, 2019). Increases in revenue and popularity are showing no signs of slowing down as many high-

profile investors have begun buying into the esports scene, such as Michael Jordan and Magic Johnson buying into aXiomatic (Perez, 2018), currently ranked as the third most valuable esports company (Ozanian, Settimi, & Perez, 2018) and parent owner to Team Liquid, the highest ranked esports team in overall earnings, totaling up to \$35,389,631.37 at the time of this writing (Esports Earnings, 2020).

Most sports possess a governing body such as the NBA for basketball, the National Football League (NFL) for Football, or the National Collegiate Athletic Association (NCAA) for college-level sports. However, esports do not hold a singular banner under which all of its events and franchises fall. Numerous organizations are seeking to unify esports under one entity, such as the World Esports Association, Global Esports Federation, and International Esports Federation. However, most esports organizations operate within their local ecosystems, and for this reason, there are over a hundred individual esports organizations across the globe (Besombes, 2019). At the collegiate level, the National Association of Collegiate Esports (NACE) serves as the only known association for collegiate esports across the U.S. At the time of writing, NACE has provided \$16 million in esports scholarships and aid to over 5,000 student-athletes across 170+ schools (NACE, 2020). An organization such as NACE could help with the unification process that esports at the professional level currently need, given viewers interested in esports at the collegiate level only have to look towards NACE as opposed to several organizations for the professional level.

Esports consumers are distinct from sports consumers, given that they are usually both viewers and players of the games they consume (Seo & Jung, 2016), and they often can be motivated to watch other players to develop their strategies in these games (Taylor, 2012). In 2019, the esports audience was estimated to be at about 443 million viewers worldwide

(Newzoo, 2020), and when this is compared to viewership estimates of the most popular sports around the world, esports would hypothetically be placed in or close to the top ten (Sawe, 2018; Das, 2020). While some will argue that the key difference between tsports and esports is the lack of physical movement, esports matches may be physically taxing to players and require a high level of concentration (Witkowski, 2012). Similarly, esports demand the need for hand-eye coordination, high-quality equipment, and audio cues from the environment just as tsports do (Witkowski, 2012).

Esports has commonly been viewed as a singular concept, but there is some research that examines individual titles within the category of esports. The position that esports hold within the greater sports umbrella is unique due to esports most often being categorized as a sport akin to basketball or baseball. However, there are multiple different games and genres that make up esports, so it may not be fair to view the concept of esports as one sport but rather a combination of individual esports. Just as basketball and baseball are tsports, Call of Duty and Super Smash Bros. are their own esports. Previous evidence shows that tsports fans have different motivations for viewership between tsports that are individual-based (e.g., golf) versus team-based (e.g., basketball), aggressive (e.g., American football) versus nonaggressive (e.g., baseball), and stylistic (e.g., figure skating) versus nonstylistic (e.g., tennis) (Wann et al., 2008). In fact, motivations for watching NBA 2K differ from motivations for watching esports in general (Rogers, Farquhar, & Mummert, 2020), so it may stand to reason that watching other games within the esports community could have different motivations, just as tsports do. Given the breadth of different genres contained within esports, it is reasonable to assume that viewers of League of Legends and Super Smash Bros. would have different motivations due to how different they are on a technical, competitive, and community level.

Though the two are distinctly different, given the environments in which they take place, tsports fans and esports fans share similar motivations for spectatorship on a variety of measures and the two kinds of sports may satisfy similar needs (Pizzo et al., 2018). The two most prominent measures of motivation for tsports fandom are the Motivation Scale for Sports Consumption (MSSC) and the Sport Fan Motivation Scale (SFMS); each has been applied to both tsports and esports, revealing several commonalities. The MSSC measures ten separate motivation subscales: vicarious achievement, aesthetics, drama, escape, acquisition of knowledge, physical skill of the athletes, social interaction, physical attractiveness of the athletes, enjoyment of aggression, and novelty (Trail & James, 2001; Trail, 2012). Escape, acquisition of knowledge, novelty, and enjoyment of aggression motivations positively predict esports spectatorship in esports consumers (Hamari & Sjöblom, 2017). Additionally, drama, escape, and aesthetic motivations are positively correlated with attitudes towards watching esports (Xiao, 2020). The SFMS measures eight motivation subscales: eustress, self-esteem, escape, entertainment, economic, aesthetic, group affiliation, and family (Wann, 1995). It has been used to show that tsports and esports fans share motivations for escape, self-esteem, and group affiliation (Cushen, Rife, & Wann, 2019). Across all three studies, the motivation for escape commonly predicts esports viewership. This is understandable given escapism's relationship with video game play in general. Within this context, escapism entails playing or watching a game as a means of escaping from life's problems. Though this is likely highly salient in a tsports context, escapism may be even stronger in esports given that players are adopting a character's persona and performing actions within that character's role.

Other scales used in tsports fandom motivation research, such as fantasy sports motivation, have been used for assessing tsports fanship. Motivations for arousal (Wann, 1995),

camaraderie (Seo & Green, 2008; Ruihley & Hardin, 2011), competition (Ruihley & Hardin, 2011), escape (Seo & Green, 2008), passing time (Seo & Green, 2008), self-esteem (Spinda & Haridakis, 2008), social sport (Hur, Ko, & Valacich, 2007), fanship (Seo & Green, 2008), and Schwabism (seeking information to further oneself as a sports expert; Ruihley & Hardin, 2011) have been examined together to find that esports and tsports media shared motivations for social sport, fanship, and Schwabism (Brown et al., 2018). However, the participants in this sample showed a greater dedication for consuming esports content than tsports content, so this combination of measures is less relevant here, as the present research seeks to understand how possible motivations in tsports fans might predict a shift to esports rather than the other way around.

One theoretical framework that is commonly used to understand esports viewership motivations is Self-Determination Theory (SDT; Deci & Ryan, 2000). SDT posits that the needs for competence (i.e., the sense of doing something successfully), autonomy (i.e., the sense of self-governance), and relatedness (i.e., the sense of connection to others) are necessary for psychological health and self-regulation (Deci & Ryan, 2012; Ryan & Deci, 2000). Competence could potentially be achieved through the connection between spectatorship and participation within the esports context, autonomy through following one's own interests and making their own decisions over what content to engage with, and relatedness from the sense of community surrounding esports (Qian et al., 2019; Deci & Ryan, 2000; Ryan & Deci, 2000).

Uses and Gratifications Theory (UGT) has been used extensively as a theoretical framework in the context of media consumption (Katz, Blumler, & Gurevitch, 1973; Katz, Haas, & Gurevitch, 1974). UGT postulates that consumers choose to engage with media that satisfies their specific social and psychological needs, in as much that different sources of media are

competing to deliver gratification to consumers. In a sense, consumers consciously seek out the media rather than the media seeking out the consumer. UGT has been applied to a variety of media areas such as video streaming (Sjöblom & Hamari, 2017), video sharing (Chiang & Hsiao, 2015; Cha, 2014), and fantasy sports (Farquhar & Meeds, 2007). In the context of gaming, UGT has been used to show that continuous esports use is motivated by achievement, enjoyment, social interaction, fairness, incentive, and security (Wu, Wang, & Tsai, 2010), as well as competition, challenge, and escapism (Weiss & Schiele, 2013). This further develops escapism's relationship with esports as not just a motivation for engagement but a need as well. Those that actively engage with esports media may be doing so to satisfy their need for competitive entertainment, but the need for competitive entertainment may have deeper ties to a need for escapism. Thus, the investigation into what esports consumers with high escapism motivations would choose to do in the absence of esports is all the more interesting.

There are a variety of factors that may serve as barriers to a esports fan becoming an esports fan. One such factor is age, as older esports fans may be less familiar with esports considering they have only recently risen to widespread popularity. Another is socioeconomic status; many of the most popular esports are played on powerful computers, therefore consumers in a lower socioeconomic status bracket may not be able to afford the equipment necessary for playing many esports titles. Another such factor may be individual personality traits. Openness, conscientiousness, extraversion, and agreeableness positively predicted consumer engagement with esports (Abbasi et al., 2020). However, in a matched sample of 260 students, scores for online game players were higher in openness, conscientiousness, and extraversion compared to non-players, while there were no significant differences for agreeableness or neuroticism (Teng, 2008). One other is knowledge; some potential fans may not know how or where to learn about

esports. Some younger fans become interested in tsports because they participated in them at a young age, and tsports are a common school-sanctioned after-school extracurricular activity. These types of programs have existed for many years, but school-sanctioned esports leagues have only recently been implemented in both high schools and universities. As evidenced by NACE, many colleges even provide scholarship opportunities, which may increase the exposure of esports to younger audiences but not to older ones.

Another barrier for potential esports fans may be in understanding the rules of the game, since commentators typically discuss the events of the game under the assumption that viewers are familiar with the game's rules. Given that most tsports fans learned the rules of tsports from playing or watching them in childhood, commentators rarely need to explain the rules of the game during official matches. Some past televised esports events have dedicated time to explain the rules during the match, but these explanations were viewed as uninteresting by both established fans and potential new fans (Pfeiffer & Denk, 2020). Additionally, tsports are so ingrained in today's culture that several films and television shows have been produced focusing on narratives within different tsports communities, yet esports has never received a similar treatment. The lack of representation in narrative storytelling may be an active contributor to the lack of familiarity the general public has with the esports culture and its individual communities.

Additionally, esports, being a primarily online activity, can struggle with toxicity. Although most esports communities do not harbor toxic behaviors, the mere presence of online harassment contained within the public perception of esports could be enough to turn away potential fans. In fact, esports athletes report that toxic online behaviors create a challenge for achieving a high performance and reduce their own enjoyment of the game (Adinolf & Türkay, 2018), so even though it is prevalent, the competitors themselves do not condone the existence of

it. The presence of toxic online behaviors is particularly problematic for women in the gaming community. Past research has shown that female streamers can be 10.55 times more likely to receive direct sexual comments than males during a live Twitch stream (Ruvalcaba et al., 2018). Also, increased video game exposure in young males positively correlates with sexism (Bègue et al., 2017). Specifically, men playing games with sex-typed video game characters were more tolerant of real-life sexual harassment scenarios, and long-term exposure to video game violence has been correlated with a higher tolerance for sexual harassment (Dill, Brown, & Collins, 2008). Widespread media events such as Gamergate where women working in the gaming industry spoke forward about the need for stronger gender equity in gaming, and were subsequently sexually harassed and received threats of rape and violence (Wingfield, 2014) project a negative image of the gaming industry for women. As such, women may be less inclined to become involved with esports as a fan or otherwise due to the reputation of the gaming industry's perception of women.

No research of which I am aware has examined esports viewership motivations and personality traits as a means of predicting potential esports viewership. The current thesis initially sought to explore what motivations on the MSSC would significantly predict converting to a virtual version of a favored sport during the pandemic, in which there was no specific hypothesis. A survey was conducted to investigate these effects in June 2020, and a second study will be conducted to more deeply examine the factors driving participants to engage with esports content, specifically using esports viewership motivations and personality traits. Altogether, the aims of the current thesis are as follows:

Aim 1: To explore factors that will affect whether participants will choose to view a SBVG version of their favorite sport in the absence of sports due to COVID-19.

*Hypothesis 1:* Different motivations of the MSSC will predict viewing a SBVG in the absence of sports.

*Hypothesis 1b:* Age, gender, and socioeconomic status will predict viewing a SBVG in the absence of sports.

Aim 2: To examine whether motivations for sports spectatorship will predict sports fans engaging with esports.

*Hypothesis 2a:* Participants high in escapism, acquisition of knowledge, novelty, and enjoyment of aggression will be most likely to already enjoy watching esports.

*Hypothesis 2b:* Participants who do not currently watch esports who are high in drama, aesthetic, and particularly escapism motivations will be the most likely to consider viewing an esports event.

Aim 3: To examine barriers to becoming an esports fan.

*Hypothesis 3a:* Female participants will be less likely than male participants to view an esports event.

*Hypothesis 3b:* Older people will be less likely to view an esports event.

*Hypothesis 3c:* Higher socioeconomic status will positively predict the likelihood of viewing an esports event.

*Hypothesis 3d:* Participants high in openness, conscientiousness, and extraversion will be more likely to view an esports event.

## Study 1

Study 1 was conducted in June 2020, while sports were still postponed in the United States. At the time of survey distribution, the NBA and NASCAR were airing virtual events held within their sport's corresponding sports-based video game (SBVG). The purpose of the survey was to explore what factors might predict an individual engaging in these virtual events due to them being the only available viewing option for sports at that time.

## Method

### *Participants*

The sample for Study 1 consisted of participants recruited from Lucid, an online sampling service capable of supplying a representative sample. Participants were compensated in the form of cash, gift cards, or loyalty reward points as decided by the suppliers to which Lucid outsourced the data collection. 300 participants were requested for the survey, and after filtering out participants that failed quality checks, the final number of participants was 210 ( $N = 210$ , 52.44% female,  $M_{age} = 47.33$ ).

### *Design & Procedures*

The survey addressed Aim 1 and explored predictors that would contribute to a sports fan's decision to view SBVG alternatives to their favorite sports during the COVID-19 pandemic. The primary outcome variable was measured using a question measuring the likelihood of switching to a favored sport's SBVG equivalent ("If the only available option for watching your favorite sports was through a competitive esports version, how likely would you be to view them?"). Additionally, an outcome variable measuring the likelihood of betting on a SBVG equivalent of their favorite sports was included. Both questions used a 7-point scale for likelihood (1: Extremely unlikely; 7: Extremely likely).

In addition to the outcome variables, several predictor and descriptive variables were measured. The extent of liking to watch and liking to participate in different sports was rated on a 7-point scale (1: Dislike a great deal; 7: Like a great deal). The list of sports was chosen based on popularity and consisted of basketball, American football, baseball, soccer, ice hockey, motorsports, golf, tennis, swimming, track and field, mixed martial arts, and esports. Because this list could not include every conceivable sport that participants may like to participate in,

participants were allowed to fill in and rate any additional sports they liked to watch or participate in that were not included.

The Motivation Scale for Sports Consumption (MSSC; Trail & James, 2001; Trail, 2012) was used to measure how the scale's motivations influenced participants' choice to select SBVGs as a new viewing option. The scale consisted of 32 questions on a 7-point scale (1: Strongly disagree; 7: Strongly agree). The scale can be used to measure motivations for specific types of sports or sports events (Trail, 2012), but for the purpose of this study, the focus was solely on watching sports as a whole.

Additionally, participants were asked the frequency of which they play video games, watch esports, play sports, and watch sports. Options included "Never", "Less than one day per week", and 1 day to 7 days of the week. If participants responded, "Less than one day per week", they were given a follow-up question asking how many days per month they play or watch on average. Additionally, the average time spent in a session of playing or watching video games or sports was asked and measured in hours.

Next, participants were given a list of video games and asked to select the ones that they had heard of. All games that they selected as having heard of were carried over to the following three questions, where they were asked to select which of the games they had played, viewed a competitive esports match of, and would consider watching if esports was the only available competitive entertainment viewing option. The list of games available for them to select were chosen based on their popularity in the esports community, and any current sports game franchises (e.g., Madden NFL) were included regardless of their popularity in the esports community. As a quality check, some fake games such as "Immortal Legion" and "Fists of Fate" were included.

Finally, participants were presented with a question in which they indicated their preferred video game platform by selecting from a list of currently popular platforms and an open-ended question asking what it would take for them to watch esports more than they currently do. Questions for the MSSC and the order of tsports and esports options were randomized and counter-balanced.

## Results

To understand the relationship between the motivations measured in the MSSC and participants' likelihood to switch to a SBVG, zero-order correlations were examined. The results of the correlations indicated that switch likelihood had a strong positive correlation with each of the MSSC's motivation subscales: vicarious achievement ( $r(208) = .398, p < .001$ ), aesthetic ( $r(208) = .405, p < .001$ ), drama ( $r(208) = .294, p < .001$ ), escapism ( $r(208) = .306, p < .001$ ), acquisition of knowledge ( $r(208) = .416, p < .001$ ), skill ( $r(208) = .322, p < .001$ ), social interaction ( $r(208) = .387, p < .001$ ), attractiveness ( $r(208) = .455, p < .001$ ), aggressiveness ( $r(208) = .458, p < .001$ ), and novelty ( $r(208) = .535, p < .001$ ).

A multiple regression analysis (controlling for age, gender, and socioeconomic status) was conducted to further clarify these relationships,  $N = 210, R^2 = .433, F(13, 196) = 11.52, p < .001$  (See Table 1). Aesthetic ( $\beta = .278, p = .037$ ) and novelty ( $\beta = .387, p = .006$ ) motivations positively predicted a higher likelihood of switching to a SBVG. Though it was not statistically significant, the motivation for acquisition of knowledge ( $\beta = .293, p = .062$ ) approached significance. The remaining motivations did not significantly predict a change in switch likelihood. However, the demographic predictors for age ( $\beta = -.029, p < .001$ ) and socioeconomic status ( $\beta = .133, p = .038$ ) significantly predicted switch likelihood, although gender did not.

Table 1.  
*Multiple Regression Predicting Switch Likelihood*

$N = 210, R^2 = .433, F(13, 196) = 11.52, p < .001$	$\beta$	$p$
Vicarious Achievement	-	-
Aesthetic	.21	.037
Drama	-	-
Escapism	-	-
Acquisition of Knowledge	.211	.062
Skill of the Players	-	-
Social Interaction	-	-

Attractiveness of the Players	-	-
Enjoyment of Aggression	-	-
Novelty	.302	.006
Age	-.223	< .001
Socioeconomic Status	.121	.038
Gender	-	-

*Note.* Gender was coded as 0 = male, 1 = female.

Because I was interested in what would motivate participants who were not esports fans to switch to an esports format, the same analysis was conducted again only including participants who reported their frequency of currently watching esports during a typical week as ‘Never.’ Zero-order correlations again revealed a strong positive correlation between switch likelihood and each motivation subscale: vicarious achievement ( $r(108) = .326, p < .001$ ), aesthetic ( $r(108) = .362, p < .001$ ), drama ( $r(108) = .267, p < .001$ ), escapism ( $r(108) = .234, p = .014$ ), acquisition of knowledge ( $r(108) = .355, p < .001$ ), skill ( $r(108) = .330, p < .001$ ), social interaction ( $r(108) = .306, p = .001$ ), attractiveness ( $r(108) = .310, p = .001$ ), aggressiveness ( $r(108) = .357, p < .001$ ), and novelty ( $r(108) = .450, p < .001$ ).

The multiple regression analysis of non-esports watchers,  $N = 110, R^2 = .335, F(13, 96) = 3.72, p < .001$  (See Appendix A), revealed that aesthetic motivations ( $\beta = .364, p = .048$ ) positively predicted the likelihood of switching to a SBVG, while novelty motivations ( $\beta = .368, p = .05$ ) approached significance. The remaining motivations were not significant predictors of switch likelihood, and of the demographic predictors, age ( $\beta = -.027, p = .017$ ) negatively predicted switch likelihood. However, there was no significant relationship for socioeconomic status and gender on switch likelihood.

Table 2.

*Multiple Regression Predicting Switch Likelihood for Non-Esports Watchers*

$N = 110, R^2 = .335, F(13, 96) = 3.72, p < .001$	$\beta$	$p$
Vicarious Achievement	-	-
Aesthetic	.332*	.048

Drama	-	-
Escapism	-	-
Acquisition of Knowledge	-	-
Skill of the Players	-	-
Social Interaction	-	-
Attractiveness of the Players	-	-
Enjoyment of Aggression	-	-
Novelty	.331	.05
Age	-.22*	.017
Socioeconomic Status	-	-
Gender	-	-

*Note.* Gender was coded as 0 = male, 1 = female. \* indicates a significance level below 0.05.

In order to analyze the relationship between the MSSC's motivations and the degree of which participants already like to watch esports, zero-order correlations were examined. Zero-order correlations revealed that watching esports had a strong positive correlation with each motivation subscale: vicarious achievement ( $r(208) = .270, p < .001$ ), aesthetic ( $r(208) = .304, p < .001$ ), drama ( $r(208) = .227, p < .001$ ), escapism ( $r(208) = .240, p < .001$ ), acquisition of knowledge ( $r(208) = .346, p < .001$ ), skill ( $r(208) = .200, p = .004$ ), social interaction ( $r(208) = .292, p < .001$ ), attractiveness ( $r(208) = .470, p < .001$ ), aggressiveness ( $r(208) = .488, p < .001$ ), and novelty ( $r(208) = .417, p < .001$ ).

To further clarify these relationships, a multiple regression was conducted controlling for age, gender, and socioeconomic status,  $N = 210, R^2 = .431, F(13, 196) = 11.42, p < .001$  (See Appendix A). Interestingly, motivations for acquisition of knowledge ( $\beta = .439, p = .003$ ), attractiveness of the players ( $\beta = .267, p = .001$ ), and aggressiveness of the players ( $\beta = .283, p = .005$ ) positively predicted liking to watch esports, but surprisingly, vicarious achievement ( $\beta = -.257, p = .039$ ) and skill of the players ( $\beta = -.324, p = .027$ ) negatively predicted liking to watch. Of the demographic predictors, age ( $\beta = -.028, p < .001$ ) and socioeconomic status ( $\beta = .166, p = .005$ ) significantly predicted liking to watch esports, and gender, again, was not a significant

predictor. Though these findings are inconsistent with previous findings by Hamari & Sjöblom (2017), it is important to note that their sample consisted of esports consumers, and they had specifically focused the MSSC on motivations for watching esports, as opposed to watching sports as was done in Study 1.

## Discussion

Study 1 sought to understand what factors might predict viewers to engage with virtual versions of their favorite sports, and the results bring some interesting findings to address Aim 1. There were consistently strong positive correlations between the MSSC motivation subscales with liking to watch esports and switch likelihood, regardless of whether participants liked to watch esports. The surprising nature of these findings could be a result of response bias, but if taken as is, could be an indicator of participants who like to watch sports enjoying watching esports regardless of motivational reasoning. Aesthetic motivations positively predicted SBVG viewership regardless of whether participants were pre-existing viewers. This may be explained by SBVGs being designed to emulate the look and feel of their corresponding sport as perfectly as possible. Similarly, this relationship was true for novelty motivations, and this may be explained by the fact that SBVGs being aired on television is a novel concept. The motivation for acquisition of knowledge approached statistical significance, which may be due to these games providing the real-life attributes and statistics of teams and athletes that dedicated sports fans could be interested in. Given the presence of escapism's relationship with esports viewership in the literature, it is surprising that it did not positively predict SBVG viewership. Perhaps the lack of this relationship could be explained by the lack of immersion a new SBVG viewer might feel, compared to its live sports equivalent. One of the most unexpected findings was vicarious achievement and skill of the players negatively predicting liking to watch esports in the multiple regression despite strong positive zero-order correlations. This is likely an artifact of the multiple regression approach. Overall, these findings could be due to the fact that sports fans appreciate the physical skills and abilities of sports athletes, and they likely do not view esports as having that same physical component, despite esports requiring a separate set of

physical skills from athletes. Though gender was not a significant demographic predictor, older participants were less likely to consider switching to a SBVG or watch esports. Socioeconomic status significantly predicted switching to a SBVG overall but not among non-esports fans. This could be because participants of a higher socioeconomic status were more likely to already be esports fans, thus removing many of them from the analysis of non-esports fans.

Study 1 provided new insights into motivations for watching SBVGs if they were the only viewing option for competitive entertainment. However, a significant limitation with the study was that it focused solely on watching SBVGs rather than examining all five primary genres of esports. This was done because of the lack of tsports content at the time of collection. A direction for future research would be to survey participants on switch likelihood at a separate time point to investigate how these feelings may have changed now that tsports have returned. Aside from this potential direction, it would be scientifically interesting to analyze which personality traits in addition to tsports viewership motivations would predict watching the five primary esports genres. This analysis will be investigated in Study 2.

## Study 2

Study 2 consisted of many of the same components as Study 1, with modifications to address Aims 2 and 3. In addition, some questions were modified to address issues with the structure of some of the questions that became apparent during analysis. The purpose of Study 2 was to investigate which motivations would predict the likelihood of esports fans watching esports while implementing more control variables. Doing so allowed for a broader analysis of the factors driving esports viewership.

## Method

### *Participants*

400 participants were requested from Amazon's Mechanical Turk (MTurk) for Study 2, but due to an error in data collection, 709 participants were collected. After filtering out participants that failed data quality checks, the final number of participants was 601 ( $N = 601$ , 44.8% female,  $M_{age} = 37.36$ ). 70.2% were White, 12.5% were Black or African-American, 9% were Asian, 4.8% were Hispanic/Latinx, 2.3% were Multiracial, 0.3% were Native Hawaiian or Pacific Islander, 0.2% were American-Indian, and 0.7% identified as another ethnicity.

### *Design & Procedures*

The survey investigated predictors that may contribute towards sports fans' likelihood of watching esports. The primary outcome variables were measured with questions asking how likely a participant would be to watch an official esports match if it was to be streamed live ("If an official esports match for a MOBA [i.e., League of Legends, Dota 2] were being streamed live, how likely would you be to watch it?"). There were five such questions, and each one referred to an esports match being held in a different genre (i.e., FPS, RTS, MOBA, SBVG, and fighting games). Likelihood was measured using a 7-point likelihood measure (0: Not at all likely; 6: Extremely likely). This scale was used for multiple regression analyses. Additionally, a dichotomous split was imposed between responses that were reported as 'Not at all likely' and those that reported any amount of likelihood for logistic regression analyses (0: Not at all likely, 1: Any amount of likelihood).

The Motivation Scale for Sports Consumption (MSSC; Trail & James, 2001; Trail, 2012) was again used to measure motivations for sports consumption on a 7-point scale (1: Strongly disagree; 7: Strongly agree). In order to assess which personality trait differences might predict

watching different esports genres, I used the extra-short form 15-item Big Five Inventory (BFI-2-XS; Soto & John, 2017) to observe differences in openness, conscientiousness, extraversion, agreeableness, and neuroticism.

Many of the same variables from Study 1 were measured in Study 2 with minor adjustments. The extent to which participants like to watch and participate in different sports and the frequency of playing/watching tsports and esports were unchanged (See Table 2 and Table 3) as was the question asking for their preferred video game platform (PC: 29.8%, PlayStation: 22%, Xbox: 19%, Nintendo Switch: 6.3%, Other: 1%, None: 7.2%). However, rather than giving participants a list of video games to select from if they had heard of them, played them, viewed them, or would view them, they were asked about the five most popular esports genres: fighting games, FPS, RTS, MOBAs, and SBVGs. They were first asked to identify which of the genres they had watched or played before, and they were asked to rate the genres that they identified on how much they liked to watch and participate in them on a 7-point scale (1: Dislike a great deal; 7: Like a great deal; See Table 4). Doing so enabled me to assess differences between esports genres in the same way as differences between individual tsports, but this did not allow me to compare means between tsports and esports. Thus, the mean scores for liking to play and watch esports appear higher in Table 5 than they likely would be if they were examined in the same context as the sports in Table 3.

Table 3.

<i>Liking to Play/Watch Different Sports</i>	Play	Watch
Basketball	3.71	4.32
American Football	3.29	5.19
Baseball	3.71	4.13
Soccer (Football)	3.15	3.42
Ice Hockey	2.77	3.82
Motor Sports	2.37	2.81
Golf	2.89	2.64
Tennis	3.79	3.25

Swimming	4.17	3.32
Track and Field	2.92	3.11
Boxing	2.26	3.03
Mixed Martial Arts	2.52	3.19
Esports (Overall)	3.00	2.66

Table 4.

<i>Frequency of Playing/Watching Tsports and Video Games</i>	Days/Week		Hours/Day	
	Play	Watch	Play	Watch
Tsports	2.05	3.11	1.79	2.59
Games	3.91	2.11	2.82	2.13

Table 5.

<i>Liking to Play/Watch Different Esports</i>	Play	Watch
Fighting Games	3.63	3.14
FPS	3.50	2.90
RTS	3.40	2.73
MOBA	3.03	2.82
SBVG	3.70	3.20

Participants were also asked to indicate which of the esports genres they would consider viewing if esports were the only available option for competitive entertainment (Fighting: 48.6%, SBVG: 47.4%, FPS: 45.6%, RTS: 32.9%, MOBA: 32.8%; e.g., 48.6% of participants indicated they would watch fighting games). Participants that were esports watchers were asked what motivates them to watch esports. Some common types of responses included “Watching people who are more skilled than me to see how they tackle challenges,” “The excitement of competition,” and “The entertainment and distraction from the real world.” Participants were also asked an open-ended question asking what it would take for them to watch esports more than they currently do. Common responses included “More free time,” “If I knew more about the teams and when and where to watch,” and “More interactive options like betting on the outcomes.” Additionally, they were asked whether they typically play online video games with friends or randomly matched players (Randomly matched players: 41.3%, Friends: 40.6%, I

don't play online video games: 18.1%) as well as whether they had a favorite esports team or player (Yes: 10%, No: 90%). All questions for the MSSC, BFI-2-XS, order of tsports, order of esports genres, and order of tsports and esports frequencies were randomized and counter-balanced appropriately.

## Results

Internal reliability of the MSSC’s ten motivations was investigated using Cronbach’s alpha. These results indicated that the reliability score for each motivation was acceptable (vicarious achievement:  $\alpha = .894$ ; aesthetic:  $\alpha = .894$ ; drama:  $\alpha = .879$ ; escapism:  $\alpha = .924$ ; acquisition of knowledge:  $\alpha = .89$ ; skill of the players:  $\alpha = .873$ ; social interaction:  $\alpha = .948$ ; attractiveness of the players:  $\alpha = .797$ ; enjoyment of aggression:  $\alpha = .902$ ; novelty:  $\alpha = .891$ ).

To understand the relationship between motivation, personality, and the likelihood of watching esports, zero-order correlations were examined (See Appendix B). None of the esports genres, except SBVGs, correlated with the Big-5 personality traits. Of note, the likelihoods for each of the five genres were strongly correlated with each other. The extent of which participants liked to watch esports did not significantly correlate with any of the big five personality traits. However, liking to watch esports did significantly correlate with various tsports consumption motivations, except social interaction and attractiveness of the players. Unsurprisingly, the extent of which participants liked to watch esports in general was strongly correlated with likelihood of watching each esports genre.

Multiple regression analyses (controlling for age, gender, and socioeconomic status) were conducted to identify the most important predictors for likelihood of watching each of the five genres between personality and motivation (See Table 6). None of the variance inflation factors exceeded 2.367, therefore symptoms of multicollinearity were not present in these models.

Table 6.  
*Multiple Regression Predicting the Five Esports Genres*

<i>N</i> = 601	Fighting		FPS		RTS		MOBA		SBVG	
	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>
Extraversion	-	-	-	-	-	-	-	-	0.126*	0.004
Agreeableness	-	-	-	-	-	-	-	-	-	-
Conscientiousness	-	-	-	-	-	-	-	-	-	-

Neuroticism	-	-	-	-	-	-	-	-	-
Openness	-	-	-	-	-	-	-	-	0.093* 0.017
Vicarious Achievement	-	-	-	-	-	-	-	-	0.084 0.067
Aesthetic	0.134*	0.01	-	-	-	-	-	-	-
Drama	-	-	-	-	-	-	-	-	-
Escapism	-	-	-	-	-	-	-	-	-
Acquisition of Knowledge	0.177*	0.001	0.162*	0.001	0.235*	< .001	0.161*	0.003	0.1* 0.046
Skill of the Players	-0.16*	0.005	-	-	-0.168*	0.004	-0.122*	0.039	-
Social Interaction	-	-	-	-	-	-	-	-	-
Attractiveness of the Players	-	-	0.107*	0.013	0.171*	< .001	0.097*	0.034	0.085* 0.049
Enjoyment of Aggression	0.179*	< .001	0.21*	< .001	-	-	-	-	0.097* 0.03
Novelty	0.094	0.05	0.149*	0.001	0.224*	< .001	0.135*	0.006	0.238* < .001
Age	-0.187*	< .001	-0.181*	< .001	-	-	-0.163*	< .001	-
Socioeconomic Status	-	-	-	-	-	-	-	-	-
Gender	-0.1*	0.018	-0.158*	< .001	-0.104*	0.017	-0.095*	0.03	-

All models sig., all  $R^2 > .138$ , all  $F(18, 582) > 5.157$

Note. Gender was coded as 0 = male, 1 = female. \* indicates a significance level below 0.05.

Novelty and acquisition of knowledge were consistent predictors for watching esports across all game genres, which would indicate that esports fans who were motivated to watch esports for curiosity, learning, and new experiences were more likely to be open to watching esports. Participants high in these motivations may be open to new activities and experiences in general, and not just esports specifically. Skill of the players consistently negatively predicted interest in watching esports, especially in the logistic regression analysis (see Appendix C), which, similar to Study 1, this could indicate that participants who value the athletic ability of esports athletes may not understand or find value in the abilities required of esports athletes. Enjoyment of aggression positively predicted likelihood of watching for the genres that contain explicit acts of aggression being undertaken by in-game avatars, and not for the two genres that are primarily strategy-focused. Surprisingly, esports fans who are motivated to watch esports for the physical attractiveness of the players were more likely to watch each of the esports genres, except fighting games. Rather than this finding being specific to the domain of competitive

entertainment, this may be indicating a general trend of participants who are motivated to consume different forms of media content in order to seek out attractive people. Age plays a role in negatively predicting willingness to watch for most of the genres but not for RTS and SBVG games. This could be due to the parallels between RTS games and traditional competitive strategy games such as chess, and SBVGs similarity to tsports. The gender findings show males are consistently more willing to watch esports, except there were no gender differences for SBVGs. Noticeably, the personality factors did not predict interest (except for extraversion and openness for SBVGs).

In order to look more specifically at those who indicated they would be likely to watch the five esports genres, dichotomous variables were created for participants who reported any amount of likelihood to watch (i.e., rating above 0 on the 7-point likelihood measure). Logistic regressions were conducted to investigate whether there was a relationship between personality, sport consumption motivations, and the demographic variables with any amount of likelihood to watch each of the five genres (See Appendix C). The primary findings from the multiple regression were largely replicated using this method with only a few minor genre differences within the significant motivational factors.

Similar to Study 1, multiple regression analyses were conducted on non-esports watchers, which yielded less consistent findings across the five genres (See Table 7). Most notably, the motivation for social interaction, which was not significant across all five genres in the total sample, negatively predicted watching FPS games, and was approaching significance for Fighting games and SBVGs, implies that participants who do not watch esports and are motivated to watch tsports for the social interaction with their peers, are less likely to be interested in watching these esports genres. As was the case in the total sample, motivations for

acquisition of knowledge, enjoyment of aggression, and novelty positively predicted engagement with some genres (See Table 7), though there is not a clear explanation for why these motivations were only significant predictors for these genres. Again, a follow-up logistic regression was conducted to investigate these relationships further for non-esports watchers, and across all of the predictors, only a few yielded significant results across a handful of genres (See Appendix D).

Table 7.  
*Multiple Regression Predicting the Five Esports Genres for Non-Esports Watchers*

<i>N</i> = 155	Fighting		FPS		RTS		MOBA		SBVG	
	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>
Extraversion	-	-	-	-	-	-	-	-	-	-
Agreeableness	0.158	0.088	-	-	-	-	-	-	-	-
Conscientiousness	-0.174	0.085	-	-	-	-	-	-	-	-
Neuroticism	-0.245*	0.015	-	-	-	-	-0.298*	0.004	-	-
Openness	-	-	0.167	0.054	-	-	-	-	-	-
Vicarious Achievement	-	-	-	-	-	-	-	-	0.182	0.095
Aesthetic	-	-	-	-	-	-	-	-	-	-
Drama	-	-	-	-	-	-	-	-	-	-
Escapism	-	-	-	-	-	-	-	-	-	-
Acquisition of Knowledge	0.204	0.074	-	-	-	-	0.291*	0.012	-	-
Skill of the Players	-	-	-	-	-0.33*	0.017	-	-	-	-
Social Interaction	-0.197	0.092	-0.276*	0.022	-	-	-	-	-0.23	0.054
Attractiveness of the Players	-	-	-	-	-	-	-	-	-	-
Enjoyment of Aggression	0.321*	0.003	-	-	-	-	0.25*	0.02	-	-
Novelty	-	-	0.185	0.072	-	-	-	-	0.246*	0.017
Age	-0.153	0.063	-	-	-	-	-	-	-	-
Socioeconomic Status	-	-	-	-	-	-	-	-	-	-
Gender	-	-	-	-	-	-	0.214*	0.045	-	-

Fighting:  $R^2 = .19$ ,  $F(18, 136) = 1.777$ ,  $p = .034$ ; No other models sig.

Note. Gender was coded as 0 = male, 1 = female. \* indicates a significance level below 0.05.

Finally, in order to examine the similarities in predictors of esports consumption between Study 1 and Study 2, a multiple regression predicting liking to watch esports was conducted in this sample (See Appendix E). Of the motivational factors, acquisition of knowledge and novelty strongly predicted liking to watch esports, while age and gender were strong predictors of the

demographic variables. Again, none of the personality factors presented any significant relationships. The most notable differences between the results of Study 2's model and Study 1's model were that vicarious achievement, skill of the players, attractiveness of the players, enjoyment of aggression, and socioeconomic status no longer predicted liking to watch esports.

## Discussion

Study 2 sought to understand the motivational differences between all five esports genres rather than exploring one genre, as was explored in Study 1, or the concept of esports as a whole, as has been explored in the prior literature. I hypothesized, based on findings from Hamari & Sjoblom (2018), that escapism, acquisition of knowledge, novelty, and aggression would be most likely to predict prior enjoyment of esports consumption, yet only found the acquisition of knowledge and novelty motivations to be significant predictors. Additionally, I hypothesized, based on Xiao (2020), that participants who were not current esports fans that were high in drama, aesthetic, and escapism motivations would be the most likely to view an esports event regardless of the genre. However, none of these three motivations yielded significant results in our analyses of non-esports watchers nor in our analyses of the sample overall. The most profound surprise across the findings was the lack of a significant relationship of escapism motivation for esports fans predicting the likelihood of watching esports across all of the regression analyses for both Study 1 and Study 2, given the prominent relationship between escapism and esports engagement across the literature (Xiao, 2020; Cushen et al., 2019; Hamari & Sjoblom, 2017). It is worth noting the significant correlational relationship between escapism and consumption likelihood for fighting games, FPS games, and SBVGs, although these effects were small.

The relationships between the motivational predictors and the likelihood of consumption across all five esports genres remained consistent in their directionality for all relationships that were significant or approaching significance. There are clear general trends for different motivational predictors, namely acquisition of knowledge, skill of the players, attractiveness of the players, enjoyment of aggression, and novelty.

In examining the barriers to esports fanship, the demographic predictors for age and gender largely remained consistent with my hypotheses. Older participants were less likely to be inclined to engage with the five esports genres, and female participants were consistently less likely to engage as well. It is noteworthy that gender did not predict engagement with SBVGs in Study 1, and this finding remained consistent in Study 2. This may be due to a prior interest or familiarity in esports for female participants. Additionally, socioeconomic status positively predicted likelihood of engagement with SBVGs in Study 1, yet it did not significantly predict engagement with any of the five genres in Study 2.

Lastly, I hypothesized, based on findings by Teng (2008), that personality factors, namely openness, conscientiousness, and extraversion, would predict esports engagement. Yet, the only significant relationships were found with extraversion and openness predicting engagement with SBVGs. Overall, personality does not appear to be a reliable indicator for esports engagement in the current analyses.

One of the most significant limitations of the project was the analyses conducted on non-esports watchers. The analysis of non-esports watchers in Study 1 yielded results from 110 participants, which made up 52.38% of the overall sample. However, only 155 participants - 25.79% of the overall sample - were not esports watchers in Study 2. Study 1 consisted of a sample collected from Lucid, whereas Study 2 was collected from MTurk. Though it is not immediately clear, it may be that the general population of MTurk respondents consists of more fans of esports than the sample that Lucid collected from. The other, and more likely, possibility is that the Lucid survey was administered without a specific title detailing the contents of the survey, whereas the title of the survey on MTurk was titled "Survey about Esports," which may have brought in more esports fans than would have otherwise been collected from. This only

illustrates one of the many limitations that can occur when collecting a sample from MTurk as opposed to a traditional sample. Future research should seek to collect responses from a larger sample of non-esports watchers in an effort to identify more cogent findings than the ones found in the current analyses.

Future research should continue to disaggregate esports into its individual genres in order to further investigate possible differences between them. Though the findings of this project do not illustrate any of significant differences in the directionality of the MSSC's motivational predictors across genres, other currently unidentified differences could exist across different motivational scales such as with the SFMS (Wann, 1995) or with the motivations used by Brown et al. (2018).

One of the most meaningful findings in the analysis of Study 2 was social interaction motivations for esports in non-esports watchers being a negative predictor for the likelihood of consumption of FPS games and approaching significance for consumption of Fighting games and SBVGs. This is a substantial finding because it illustrates that non-esports fans who enjoy the social aspect of esports are less inclined towards the consumption of esports. This may be an indication of the social reputation of video games as a whole as a more anti-social activity, even though esports is largely a prosocial movement of the video game industry. Improving the reputational image around the social components of esports may be an impactful avenue for esports developers to explore in order to draw in more potential fans that are not currently familiar with the community that surrounds the esports industry.

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Appendix A:

Appendix A.

*Study 1: Multiple Regression Predicting Liking to Watch Esports*

<i>N</i> = 210, <i>R</i> <sup>2</sup> = .432, <i>F</i> (13, 196) = 11.42, <i>p</i> < .001	<i>β</i>	<i>p</i>
Vicarious Achievement	-.214*	.039
Aesthetic	-	-
Drama	-	-
Escapism	-	-
Acquisition of Knowledge	.345*	.003
Skill of the Players	-.261*	.027
Social Interaction	-	-
Attractiveness of the Players	.252*	.001
Enjoyment of Aggression	.269*	.005
Novelty	.387*	.006
Age	-.24*	< .001
Socioeconomic Status	.165*	.005
Gender	-	-

*Note.* Gender was coded as 0 = male, 1 = female. \* indicates a significance level below 0.05.

## Appendix B:

### Appendix B. *Correlations, Means, and Standard Deviations*

Personality Traits	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Extraversion	8.62	2.755																				
2. Agreeableness	11.33	2.473	.167*																			
3. Conscientiousness	11.57	2.785	.293*	.317*																		
4. Neuroticism	7.77	3.341	-.344*	-.293*	-.485*																	
5. Openness	8.1	1.691	.106*	-.092*	-.017	-.084*																
Motivations for Sport Consumption	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
6. Vicarious Achievement	5.078	1.515	.208*	.194*	.138*	-.049	.076															
7. Aesthetic	5.224	1.299	.185*	.147*	.113*	-.045	-.110*	.386*														
8. Drama	5.819	1.103	.101*	.108*	.136*	-.076	-.116*	.399*	.508*													
9. Escape	5.404	1.408	.02	.102*	.064	.115*	-.028	.414*	.372*	.461*												
10. Acquisition of Knowledge	5.577	1.168	.155*	.037	.142*	-.059	-.067	.380*	.517*	.546*	.399*											
11. Skill of the Players	6.028	1.033	.106*	.084*	.189*	-.106*	-.119*	.345*	.572*	.637*	.354*	.587*										
12. Social Interaction	5.205	1.515	.233*	.199*	.097*	-.035	.056	.435*	.278*	.343*	.314*	.288*	.403*									
13. Attractiveness of the Players	2.811	1.516	.114*	-.048	-.135*	.149*	.173*	.135*	.064	-.067	.045	-.085*	-.096*	.167*								
14. Enjoyment of Aggression	3.659	1.722	.192*	-.130*	-.027	-.026	.164*	.256*	.270*	.215*	.250*	.156*	.156*	.193*	.296*							
15. Novelty	4.798	1.401	.168*	.163*	.097*	-.065	.041	.381*	.412*	.386*	.392*	.387*	.368*	.429*	.145*	.367*						
Esport Genre Likelihoods	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
16. Fighting Game Likelihood	2.71	2.064	.051	-.004	-.07	.013	.025	.087*	.227*	.138*	.111*	.203*	.068	.098*	.100*	.289*	.237*					
17. FPS Likelihood	2.74	2.062	.08	.005	-.037	-.038	.062	.140*	.189*	.151*	.142*	.210*	.105*	.106*	.137*	.349*	.296*	.638*				
18. RTS Likelihood	2.52	1.972	.089*	.026	-.034	-.014	.048	.041	.135*	.015	.036	.166*	-.009	.083*	.176*	.144*	.250*	.568*	.551*			
19. MOBA Likelihood	2.55	2.032	.072	-.002	-.054	.02	.014	.116*	.180*	.081*	.08	.173*	.051	.113*	.130*	.202*	.232*	.606*	.592*	.694*		
20. SBVG Likelihood	2.43	1.972	.247*	.108*	.087*	-.113*	.141*	.266*	.260*	.166*	.192*	.227*	.133*	.164*	.164*	.283*	.371*	.437*	.477*	.441*	.393*	
21. Liking to Watch Esports	4.4	1.919	.006	-.048	-.038	.01	-.008	.103*	.217*	.173*	.178*	.260*	.165*	.063	.009	.178*	.261*	.538*	.569*	.488*	.566*	.347*

Appendix C:

Appendix C.

*Logistic Regression Predicting the Five Esports Genres*

<i>N</i> = 601	Fighting		FPS		RTS		MOBA		SBVG	
	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>
Extraversion	-	-	-	-	-	-	-	-	-	-
Agreeableness	-	-	-	-	-	-	-	-	-	-
Conscientiousness	-	-	-	-	-	-	-	-	-	-
Neuroticism	-	-	-	-	-	-	-	-	-	-
Openness	-	-	-	-	-	-	-	-	0.201*	0.002
Vicarious Achievement	-	-	-	-	-	-	-	-	-	-
Aesthetic	0.202	0.054	-	-	-	-	-	-	-	-
Drama	-	-	-	-	-	-	-	-	-	-
Escapism	-	-	-	-	-	-	-	-	-	-
Acquisition of Knowledge	0.252*	0.03	0.261*	0.025	0.364*	0.001	0.243*	0.029	-	-
Skill of the Players	-0.44*	0.004	-0.335*	0.026	-0.63*	< .001	-0.418*	0.004	-0.308*	0.034
Social Interaction	-	-	-	-	-	-	-	-	-	-
Attractiveness of the Players	-	-	-	-	0.235*	0.005	0.167*	0.042	0.158	0.06
Enjoyment of Aggression	0.244*	0.001	0.291*	< .001	-	-	0.135	0.052	0.126	0.074
Novelty	0.209*	0.021	0.226*	0.013	0.282*	0.001	0.29*	0.001	0.304*	0.001
Age	-0.032*	0.001	-0.025*	0.006	-	-	-0.018*	0.047	-	-
Socioeconomic Status	-	-	-	-	-	-	-	-	-	-
Gender	-0.656*	0.006	-0.472*	0.045	-	-	-0.45*	0.047	-	-

All models sig., All  $\chi^2(18) > 70.158$

*Note.* Gender was coded as 0 = male, 1 = female. \* indicates a significance level below 0.05.

Appendix D:

Appendix D.

*Logistic Regression Predicting the Five Esports Genres for Non-Esports Watchers*

<i>N</i> = 155	Fighting		FPS		RTS		MOBA		SBVG	
	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>	$\beta$	<i>p</i>
Extraversion	-	-	-	-	-	-	-	-	-	-
Agreeableness	0.167	0.079	-	-	-	-	-	-	-	-
Conscientiousness	-	-	-	-	-	-	-	-	-	-
Neuroticism	-	-	-	-	-	-	-	-	-	-
Openness	0.221	0.052	0.238*	0.039	-	-	-	-	-	-
Vicarious Achievement	-	-	-	-	-	-	-	-	-	-
Aesthetic	-	-	-	-	-	-	-	-	-	-
Drama	-	-	-	-	-	-	-	-	-	-
Escapism	-	-	-	-	-	-	-	-	0.279	0.061
Acquisition of Knowledge	-	-	-	-	-	-	-	-	-	-
Skill of the Players	-	-	-	-	-	-	-	-	-	-
Social Interaction	-	-	-0.417*	0.014	-	-	-	-	-	-
Attractiveness of the Players	-	-	-	-	-	-	-	-	-	-
Enjoyment of Aggression	0.156*	0.028	0.257	0.056	-	-	0.221	0.097	-	-
Novelty	-	-	-	-	-	-	0.286	0.065	0.327*	0.033
Age	-	-	-	-	-	-	-	-	-	-
Socioeconomic Status	-	-	-	-	-	-	-	-	-	-
Gender	-	-	-	-	-	-	-	-	-	-

SBVG:  $\chi^2(18) = 33.431, p = .015$ ; No other models sig.

*Note.* Gender was coded as 0 = male, 1 = female. \* indicates a significance level below 0.05.

Appendix E:

Appendix E.

*Study 2: Multiple Regression Predicting Liking to Watch Esports*

<i>N</i> = 601, <i>R</i> <sup>2</sup> = .17, <i>F</i> (18, 582) = 6.609, <i>p</i> < .001	<i>β</i>	<i>p</i>
Extraversion	-	-
Agreeableness	-	-
Conscientiousness	-	-
Neuroticism	-	-
Openness	-	-
Vicarious Achievement	-	-
Aesthetic	-	-
Drama	-	-
Escapism	-	-
Acquisition of Knowledge	0.175*	0.001
Skill of the Players	-	-
Social Interaction	-	-
Attractiveness of the Players	-	-
Enjoyment of Aggression	-	-
Novelty	0.165*	0.001
Age	-0.174*	< .001
Socioeconomic Status	-	-
Gender	-0.147*	0.001

*Note.* Gender was coded as 0 = male, 1 = female.

## Appendix F:

### Survey Items

In this survey, you will be asked a series of questions about your experiences with sports. Please read each statement carefully and answer to the best of your ability.

First, we'd like you to answer a few questions about yourself. Remember that your responses are completely anonymous.

What is your age in years? \_\_\_\_\_

What gender do you identify as?

- Male
- Female
- Non-binary/third gender
- Prefer to self-describe \_\_\_\_\_
- Prefer not to answer

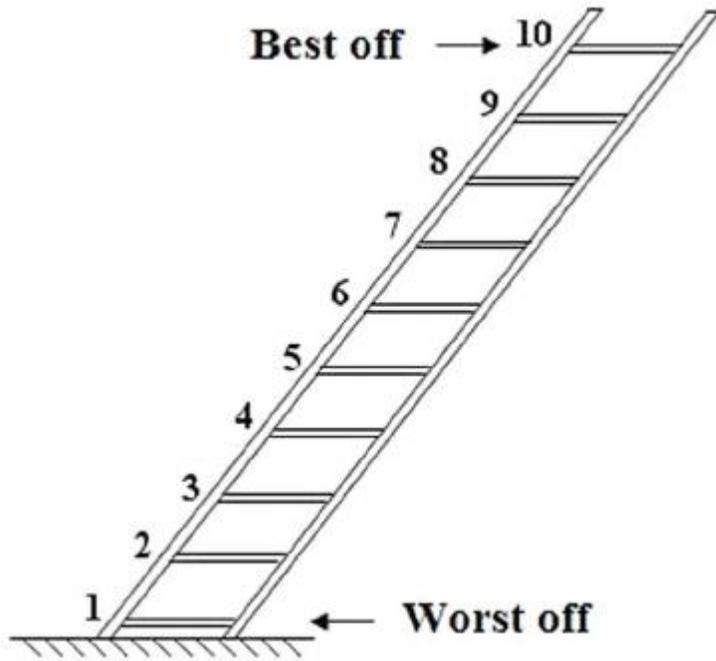
How would you describe your ethnicity?

- White
- Black or African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Pacific Islander
- Hispanic/Latinx
- Other
- Two or more

**Think of this ladder as where people stand in the United States.**

At the **top** of the ladder are the people who are best off - those who have the most money, the most education, and the most respected jobs. At the **bottom** are the people who are worst off - who have the least money, least education, and least respected job or no job. The higher up you are on this ladder, the closer you are to the people at the very top; the lower you are, the closer you are to the people at the very bottom.

Where would you place yourself on this ladder?



1    2    3    4    5    6    7    8    9    10

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone *who likes to spend time with others*? Please fill in the bubble next to each statement indicating the extent to which you agree or disagree with that statement.

***I am someone who...***

	<i>Disagree strongly</i>	<i>Neutral; no opinion</i>	<i>Agree strongly</i>		
Tends to be quiet.	1	2	3	4	5
Is dominant, acts as a leader.	1	2	3	4	5
Is full of energy.	1	2	3	4	5
Is compassionate, has a soft heart.	1	2	3	4	5
Is sometimes rude to others.	1	2	3	4	5
Assumes the best about people.	1	2	3	4	5
Tends to be disorganized.	1	2	3	4	5
Has difficulty getting started on tasks.	1	2	3	4	5
Is reliable, can always be counted on.	1	2	3	4	5
Worries a lot.	1	2	3	4	5
Tends to feel depressed, blue.	1	2	3	4	5
Is emotionally stable, not easily upset.	1	2	3	4	5
Is fascinated by art, music, or literature.	1	2	3	4	5
Has little interest in abstract ideas.	1	2	3	4	5
Is original, comes up with new ideas.	1	2	3	4	5

Please rate the extent to which you like to **watch** these sports:

	Dislike a great deal		Neither like nor dislike			Like a great deal	
Basketball	1	2	3	4	5	6	7
American Football	1	2	3	4	5	6	7
Baseball	1	2	3	4	5	6	7
Soccer (Football)	1	2	3	4	5	6	7
Ice Hockey	1	2	3	4	5	6	7
Motor Sports	1	2	3	4	5	6	7
Golf	1	2	3	4	5	6	7
Esports	1	2	3	4	5	6	7
Tennis	1	2	3	4	5	6	7
Swimming	1	2	3	4	5	6	7
Track and Field	1	2	3	4	5	6	7
Boxing	1	2	3	4	5	6	7
Mixed Martial Arts	1	2	3	4	5	6	7

Please fill in any sports you like to **watch** that were not previously listed. (Optional)

	Dislike a great deal		Neither like nor dislike			Like a great deal	
Other: _____	1	2	3	4	5	6	7
Other: _____	1	2	3	4	5	6	7
Other: _____	1	2	3	4	5	6	7

Please rate the extent to which you like to **participate in** these sports:

	Dislike a great deal		Neither like nor dislike			Like a great deal	
Basketball	1	2	3	4	5	6	7
American Football	1	2	3	4	5	6	7
Baseball	1	2	3	4	5	6	7
Soccer (Football)	1	2	3	4	5	6	7
Ice Hockey	1	2	3	4	5	6	7
Motor Sports	1	2	3	4	5	6	7
Golf	1	2	3	4	5	6	7
Esports	1	2	3	4	5	6	7
Tennis	1	2	3	4	5	6	7
Swimming	1	2	3	4	5	6	7
Track and Field	1	2	3	4	5	6	7
Boxing	1	2	3	4	5	6	7
Mixed Martial Arts	1	2	3	4	5	6	7

Please fill in any sports you like to **participate in** that were not previously listed. (Optional)

	Dislike a great deal		Neither like nor dislike			Like a great deal	
Other: _____	1	2	3	4	5	6	7
Other: _____	1	2	3	4	5	6	7
Other: _____	1	2	3	4	5	6	7

We are interested in what motivates you to watch sports. The following statements are indicative of specific motives. Please rate the extent to which you **DISAGREE** or **AGREE** with each **relative to watching sports**.

	Strongly disagree			Neutral			Strongly agree	
	1	2	3	4	5	6	7	
I feel a personal sense of achievement when the team does well.	1	2	3	4	5	6	7	
I feel like I have won when the team wins.	1	2	3	4	5	6	7	
I feel proud when the team plays well.	1	2	3	4	5	6	7	
I appreciate the beauty inherent in the game.	1	2	3	4	5	6	7	
I enjoy the natural beauty in the game.	1	2	3	4	5	6	7	
I enjoy the gracefulness associated with the game.	1	2	3	4	5	6	7	
I enjoy the drama of close games.	1	2	3	4	5	6	7	
I enjoy it when the outcome of the game is not decided until the very end.	1	2	3	4	5	6	7	
I enjoy the uncertainty of close games.	1	2	3	4	5	6	7	
I enjoy the dramatic turn of events that the game can take.	1	2	3	4	5	6	7	
The game provides an escape from my day-to-day routine.	1	2	3	4	5	6	7	
The game provides a distraction from my everyday activities.	1	2	3	4	5	6	7	
The game provides a	1	2	3	4	5	6	7	

diversion from “life’s little problems” for me.

I can increase my knowledge about the activity.	1	2	3	4	5	6	7
---	---	---	---	---	---	---	---

I can increase my understanding of the strategy by watching the game.	1	2	3	4	5	6	7
---	---	---	---	---	---	---	---

I can learn about the technical aspects by watching the game.	1	2	3	4	5	6	7
---	---	---	---	---	---	---	---

The superior skills are something I appreciate while watching the game.	1	2	3	4	5	6	7
---	---	---	---	---	---	---	---

I enjoy watching a well-executed performance.	1	2	3	4	5	6	7
---	---	---	---	---	---	---	---

I enjoy watching a skillful performance in the game.	1	2	3	4	5	6	7
--	---	---	---	---	---	---	---

I enjoy interacting with other people when I watch a game.	1	2	3	4	5	6	7
--	---	---	---	---	---	---	---

I enjoy watching players who are physically attractive.	1	2	3	4	5	6	7
---	---	---	---	---	---	---	---

The main reason I watch sports is because I find the players physically attractive.	1	2	3	4	5	6	7
---	---	---	---	---	---	---	---

An individual player’s “sex appeal” is a big reason why I watch sports.	1	2	3	4	5	6	7
---	---	---	---	---	---	---	---

I enjoy the fighting and rough play during the game.	1	2	3	4	5	6	7
--	---	---	---	---	---	---	---

I enjoy the strong macho atmosphere found at the game.	1	2	3	4	5	6	7
--	---	---	---	---	---	---	---



If an official esports match for a **sports-based video game** (e.g., NBA 2K, FIFA) was being streamed live, how likely would you be to watch it?

Not at all likely  
0      1      2      3      4      5      6  
Extremely likely

On average, how many days per week do you **play video games**?

- Never
- Less than one day per week
- 1 day
- 2 days
- 3 days
- 4 days
- 5 days
- 6 days
- Every day

(If “Less than one day per week” is selected)

You indicated that you play video games less than once per week. On average, how many days per month do you play video games?

- 1 day
- 2 days
- 3 days
- 4 or more days

On days you play video games, how many hours do you usually play for on average?

\_\_\_\_\_

On average, how many days per week do you **watch esports**?

- Never
- Less than one day per week
- 1 day
- 2 days
- 3 days
- 4 days
- 5 days
- 6 days
- Every day

(If “Less than one day per week” is selected)

You indicated that you watch esports less than once per week. On average, how many days per month do you watch esports?

- 1 day
- 2 days
- 3 days
- 4 or more days

On days you watch esports, how many hours do you usually watch for on average?

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On average, how many days per week do you **play sports**, excluding esports?

- Never
- Less than one day per week
- 1 day
- 2 days
- 3 days
- 4 days
- 5 days
- 6 days
- Every day

(If “Less than one day per week” is selected)

You indicated that you play sports less than once per week. On average, how many days per month do you play sports?

- 1 day
- 2 days
- 3 days
- 4 or more days

On days you play sports, how many hours do you usually play for on average?

---

On average, how many days per week do you **watch sports**, excluding esports?

- Never
- Less than one day per week
- 1 day
- 2 days
- 3 days

- 4 days
- 5 days
- 6 days
- Every day

(If “Less than one day per week” is selected)

You indicated that you watch sports less than once per week. On average, how many days per month do you watch sports?

- 1 day
- 2 days
- 3 days
- 4 or more days

On days you watch sports, how many hours do you usually watch for on average?

\_\_\_\_\_

Please indicate which of these esports genres you have **watched, played, or heard of** before. (Select all that apply.)

- Fighting Games (e.g., Street Fighter, Mortal Kombat, Super Smash Bros.)
- First-Person Shooters (e.g., Call of Duty, Counter-Strike, Overwatch)
- Multiplayer Online Battle Arenas (e.g., League of Legends, Dota 2)
- Real-Time Strategy Games (e.g., StarCraft, Warcraft III)
- Sports-Based Video Games (e.g., NBA 2K, FIFA, Madden NFL)
- None

(Only selected choices carry forward to the next three questions)

Please rate the extent that you like to **watch** these esports genres:

	Dislike a great deal		Neither like nor dislike			Like a great deal	
Fighting games	1	2	3	4	5	6	7
First-Person Shooters	1	2	3	4	5	6	7
Multiplayer Online Battle Arenas	1	2	3	4	5	6	7
Real-Time Strategy Games	1	2	3	4	5	6	7
Sports-Based Video Games	1	2	3	4	5	6	7

Please rate the extent that you like to **play** these esports genres:

	Dislike a great deal		Neither like nor dislike			Like a great deal	
Fighting Games	1	2	3	4	5	6	7
First-Person Shooters	1	2	3	4	5	6	7
Multiplayer Online Battle Arenas	1	2	3	4	5	6	7

Real-Time Strategy Games	1	2	3	4	5	6	7
Sports-Based Video Games	1	2	3	4	5	6	7

If esports were the only viewing option for competitive entertainment, which of these esports genres would you consider viewing competitive matches of? (Check all that apply. If none, leave blank)

- Fighting Games
- First-Person Shooters
- Multiplayer Online Battle Arenas
- Real-Time Strategy Games
- Sports-Based Video Games

Which of the following platforms do you play video games on the most? (Select one)

- PC
- Xbox
- PlayStation
- Nintendo Switch
- Mobile
- None
- Other: \_\_\_\_\_

When you play online video games, do you typically play with friends or randomly matched players?

- Friends
- Randomly matched players
- I don't play online video games.

Do you have a favorite esports team or player?

- Yes (Please state who): \_\_\_\_\_
- No

(This question is displayed if “Never” is not selected on the question “On average, how many days per week do you watch esports?”)

In your own words, what motivated you to watch esports? \_\_\_\_\_

Please describe what it would take for you to watch esports more frequently than you currently do. \_\_\_\_\_

For us researchers it is important to have reliable answers to our questions.

Participants sometimes lack the attention to focus enough on completing studies. This is NOT a problem. We just want to know about it!

**Did you read through each question and answer honestly, to the best of your ability?** (NOTE: You will be compensated for your responses no matter what your answer is)

- I sometimes skimmed or answered carelessly, definitely drop my answers
- Maybe drop my answers
- Maybe use my answers
- Definitely use my answers, I read every question carefully!

Thank you for completing our survey. We are interested in understanding what kinds of factors may play into one's decision to begin viewing different esports genres.