

3-1-2021

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Virtual games meet physical playground: Exploring and measuring motivations for attending live esports events

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Cite article as:

Pu, H., Xiao, S., & Kota, R. W. (2021). Virtual games meet physical playground: exploring and measuring motivations for live esports event attendance. *Sport in Society*.

<https://doi.org/10.1080/17430437.2021.1890037>

Abstract

The spectacular rise of esports and its live events have drawn increasing interests from sport and leisure studies. Little information, however, is known on motives behind spectators' attendance of esports events. Based on a mixed-method design consisting of data collected in cross-cultural settings, we developed and validated an eight-factor measurement scale related to the motives of attending live esports events. In this study, we contend that esports event creates a space where virtual and physical experience are mutually constituted. While motives found in traditional sports and event research are present in the current study, motives unique to esports events are also highlighted, particularly related to its embodied physicality. The study further reveals that male attendees are more likely to be driven by the opportunities of knowledge acquisition, game drama, and social interaction than their female counterparts. This study therefore makes novel contributions to empirical knowledge on consumers of competitive gaming.

Keywords: esports, Spectator Motivation, Involvement, Events, Gender

Introduction

In recent years, we have witnessed a phenomenal growth of professional organised video game competitions, which is also known as ‘electronic sports’ (esports). Hailed as the ‘21st - century spectator sport,’ esports is enjoying an enormous global fan base and is undergoing rapid professionalisation and commercialisation processes. Moreover, esports is now experiencing a rapid ‘sportification’ process and has grown into a sensational global business and cultural phenomenon (Heere 2018). Popular esports games such as *Fortnite* and *League of Legends* are drawing millions of concurrent gamers around the world per day (Mulkerin 2016). Beyond massive participation, esports is engaging tremendous viewership and has now evolved into a popular spectator activity. It was estimated that there were 165 million enthusiast esports audiences in 2018 and the projected revenue of the global esports industry will reach \$1.8 billion by the year of 2022 (Newzoo 2018). Besides watching the games on TV or Internet, throngs of fans are lining up for live-gaming tournaments that are held in sport venues. For instance, in 2018, the sold-out final for the *League of Legends World Championship* hosted in Seoul’s World Cup Stadium recorded 40,000 attendees. Despite the increasing popularity of esports spectatorship worldwide, little remains known about the motivational factors that impact spectator *attendance* at these events.

There have been numerous studies on the motivational factors affecting why spectators watch or attend sporting events (e.g. Fink, Trail, and Anderson 2002; Wann, Schrader, and Wilson 1999). Authors, however, have suggested that for different sports, spectators are often driven by different motives (James and Ross 2004). Funk, Ridinger and Moorman (2003) indicated that continued efforts were needed to develop *core* motives for all sports as well as *contextual* motives specific to a sporting event. Esports as an emerging spectator sport possesses many distinguishing features compared to other traditional sports: First, esports largely draw on digital content created by information technologies; Second, esports are computer-mediated competitions taking place in a virtual setting; Third, esports rely on an online environment where users are connected by virtue of internet; Fourth, esports enables embodied involvement of its users/consumers mediated by human-computer interfaces; Fifth, esports event creates a space where physical and virtual spectating experience are mutually constituted. We therefore believe the exploration of esports-specific attendance motives is a necessary step in the continued understanding of esports as both a popular leisure activity and global cultural phenomenon. With this information, scholars will be provided with a validated tool from which to conduct robust analyses across esports industry segments, and practitioners will be better prepared to generate targeted campaigns through leveraging important social-psychological drivers.

esports

Esports is a relatively new concept in the leisure and sporting world. Early definitions of esports often emphasized the intersections between sporting activities and digital communication by virtue of information technology. Wagner (2006, 440), for one, defined esports as ‘an area of sport activities in which people develop and train mental or physical abilities in the use of information and communication technologies.’ These early definitions however are often contested for their vagueness in differentiating esports from traditional sports (Hamari and Sjöblom 2017), and the unbalanced views between ‘body’ and ‘technology’ in its production (Witkowski 2012). In recent years, the *competitive* and *spectatorial* aspects of esports have been increasingly highlighted in both academic research and business practices, with publicly staged esports events rapidly gaining momentum globally (Jenny, Manning, Keiper and Olrich 2017). Against such a backdrop, Taylor, Szabkewicz, Bowman, and Harper (2013, 1) further indicated that esports ‘represents the configuration of competitive video gaming as spectatorial and

professionalised sport.’ Despite that an appropriate definition of esports remains debatable, researchers from a wide array of disciplines have been shifting focus towards a more comprehensive understanding of esports and insightful knowledge has been drawn on topics such as fan behaviour (Hamari and Sjöblom 2017; Seo and Jung 2014), game culture (Ruvalcaba, Shulze, Kim, Berzenski, and Otten 2018) and cognitive science (Gray, Vuong, Zava, and McHale 2018). It is worthwhile to note that esports remains a relatively new topic in sport studies (Cunningham et al. 2018). Its ongoing ‘sportification’ process however resembles many aspects of traditional sports and continuing probations on this emerging phenomenon are warranted from sport scholars.

Today, esports encompasses a wide range of genres such as first - person shooters (FPS), fighting games, real time strategy games (RTS), massively multiplayer online role-playing games (MMORPG), multiplayer online battle arena games (MOBA), and sports games that simulate traditional sports competitions like football, basketball, racing, etc. Heere (2018) argued that esports is going through a ‘sportification’ process that resembles the institutionalised regulation and legitimization of sporting activities. Alongside with its growing popularity globally, esports is becoming increasingly professionalised and commercialised. One of the most remarkable examples of such phenomenon is the prominence of live esports events, which are organised multiplayer video game competitions where individuals and teams assemble in stadia to compete in real-time tournament events (Hindin, Hawzen, Xue, Pu, and Newman 2020). The prototype of video game-based spectating event can be traced back to Local Area Network (LAN) event where computers are linked for real-time face to face video game competitions (Jansz and Martens 2005). The LAN events initially gained popularity among gamers for its quicker network connectivity as well as socialization opportunities within the gaming community; it later added spectatorship aspects where participants can enjoy additional excitement from watching live competition by others (Taylor 2016). Research on LAN events provide insightful information to our understandings on esports events. For instance, Taylor and Witkowski (2010) in their ethnographic account of DreamHack (a digital festival) found LAN events help symbolizing the participants’ gaming identity in a way of ‘public performance.’ Jansz and Martens (2005) highlighted the social context of LAN events where fans’ social and emotional bonds were enhanced. Thanks to the advancement of information technology, as well as continuingly efforts modelling on the operation structure of sport business (or ‘sportification’), contemporary esports spectator events have been ‘moving away from the LAN-style dynamics of early events, instead adopting the approach by which mainstream sporting events are marketed’ (Sjöblom, Macey and Hamari 2019, 715).

Nowadays, esports events are generally hosted in venues featuring players, coaches, referees, sponsors, fans, and media. Major esports events are watched by millions of fans on TV or the Internet. According to marketing research company Newzoo (2018), there were 737 major esports events being hosted and 380-million esports fans watched esports events across the world in 2018. To date, esports event has been growing into an integral part of the esports ecosystem by not only bringing in lucrative sponsorship deals or mass audiences through TV and PC, but also through enticing spectators to line up to attend live events. In 2019, over 174,000 fans attended the *Intel Extreme Masters* hosted in Katowice, Poland (ESL 2019). Studies have further shown that esports fans are willing to travel to attend esports events which poses an untapped tourism opportunity to practitioners (Bloom 2019; ESL 2014). Despite its growing popularity worldwide, there remains a dearth of knowledge on the psychological and social drivers of attendance at live esports events.

Sport Spectator Motives

Motivation refers to the driving forces that activate or energise goal-oriented behaviour. Motivation has always been an important topic in sport consumer behaviour research as it is conducive to our understanding on event design, game experience and consumers' decision-making process. As such, a variety of theoretical frameworks have been utilized to study the sport consumer motives such as Maslow's human needs hierarchy (1970), push-pull model (Uysal and Jurowski 1994), personal investment theory (Maehr and Braskamp 1986), uses and gratification expectancy model (Palmgreen and Rayburn 1982), and self-determination theory (Deci and Ryan 2012). Studies built on these different theoretical frameworks approached motives from different angles (e.g. intrinsic vs. extrinsic; pull vs. push) and have produced sets of motives as well as measurement scales that help explain sport consumer behaviour. Some of the notable examples include Sport Fan Motivational Scale (SFMS) (Wann 1995), Motivational Scale for Sport Consumption (MSSC) (Trail and James 2001), and Sport Interest Inventory (SII) (Funk, Mahony, and Ridinger. 2002).

These early models were used as foundations for thorough examinations into the social and psychological factors driving consumption across many sport contexts such as fantasy sports (Dwyer and Kim 2011), daily fantasy sports (Kota, Reid, James, and Kim 2019), and sport video games (Kim and Ross 2006; Lee and Schoenstedt 2011). In recent years, sports motivation measurements have also been used to understand both participation and spectatorship in esports. For example, Hamari and Sjöblom (2017) utilized the MSSC to investigate the motives that drive people to watch esports on the Internet. The authors found escapism, knowledge, novelty and aggression as predictors for esports spectating frequency (see also Pizzo et al. 2018; Xiao 2020). While esports share similar facets of consumer behaviour with traditional sports, the applicability of these motivation scales remains questionable as there could be motivational variables that are unique to esports for its digitized format of competition and distinctive nature of human-computer interaction. Qian et al. (2019), for one, found vicarious sensation as a unique motivational factor for esports online spectatorship which was attributed to the imaginary sensation created by esports' visual and audio technologies. Moreover, studies on esports consumers have been overwhelmingly focused on online environment and little knowledge is yet known about their offline behaviours such as attendance.

In sport industry, live events play a key role as they produce the essential properties for media broadcasting, sponsorship and event attendance. Moreover, research indicates that event attendance is critical to fan's involvement and loyalty (Hill and Green 2000). A study by Evenbrite (2018) found that live esports events were likely to drive higher spending and playing time of its attendees. To date, motivational study in event attendance has been well established and a number of motivational constructs have been developed in reference to attendance at music festivals (Kulczynski, Baxter and Young, 2016), Expo (World's Fair) (Lee, Kang, and Lee 2013), wine and food festivals (Park, Reisinger, and Kang 2008)... Research specific to sport events have also identified different motivational factors across various event settings based on level of competition (Funk, Alexandris and Yang 2009), sport type (Mehus 2005), gender type (Funk et al. 2001), and geographical location (Mahony, Nakazawa, Funk, James, and Gladden 2002). Funk et al. (2009), for one, found cultural learning a unique motive for attendees of the Olympic games; In another study by Kim, Greenwell, Andrew, Lee, and Mahony (2008), they identified adoration/hero worship and violence/cruelty as two motives special to the Mixed Martial Arts events. The varied motives found for disparate events in both sport and non-sport settings suggest a closer examination for esports events is warranted.

Among the few studies giving particular interests in esports events, pre-existing measurement scales from traditional sport literatures were predominantly utilized. For instances, Pizzo et al. (2018) examined the differences of motives (i.e. vicarious achievement, excitement, physical attractiveness, and family bonding) in attending esports and traditional sport events using single-item measures from MSSC and SII; Sjöblom, Macey, and Hamari (2019) likewise compared motivational factors between esports online spectating and event attendance with the MSSC and found social interaction and physical attractiveness were rated higher by event attendees (see also Neus 2019). The identification of some similar spectating motives asserts the commonalities and interplays between traditional sports and esports. Nonetheless, these scales were mainly developed for general application purpose in traditional sports, without considerations to particular sports and event settings (Wann and James 2019). Sjöblom et al. (2019) also found the MSSC could only explain a small percentage of variance (i.e. 16.3%) on respondents' intention to attend live events, which implies that solely relying on existing measurements might not be adequate to explicate the complexity of esports event attendance. Recognizing the uniqueness of esports events, we contend that it is imperative to develop a distinctive measurement specific to live esports events. This also echoes Funk et al.'s (2003) call on distinguishing between context-specific and generally-applicable motives in sport event study.

Scholars in sport behaviour have also identified gender difference in motives (e.g. James and Ridinger 2002; Robinson and Trail 2005; Wann, 1995). For example, Wann (1995) found that female sport fans were more likely to be driven by family and social interaction motives than males. James and Ridinger (2002) reported significant gender difference on motives such as aesthetics, knowledge, and achievement while no differences were found on entertainment-related needs. Despite the growing popularity of esports and its research, gender issues have often been overlooked. Among the few studies focused on gender in esports, Paaßen, Morgenroth, and Stratemeyer (2017) found a great gender disparity on both participation behaviour and gaming experience among its players. Such differences ironically perpetuate gender-based stereotypes in video gaming. Consequently, scholars have advocated that more attention should be given to both the dispersed representation and experience across genders within esports (Ruvalcab et al. 2018; Schelfhout, Bowers, and Hao 2019). Moreover, research on gender in esports so far were overwhelmingly focused on its gaming culture or its players, little is known regarding the characteristics among its spectators. In the present study, we are particularly interested in exploring the difference of motives driving esports event attendance between male and female participants.

Based on previous findings, it is evident that motives related to fulfilling subconscious and basic human needs through sport spectatorship or event attendance may be prevalent across different settings. Authors have also argued that context-based motives should be highlighted in event organisation and promotion as doing so may better satisfy fans' needs and draw them to physically attend an event (Funk et al. 2002; Kulczynski et al. 2016). The motives of esports event attendance are therefore presumed to collectively comprise essences of sport spectatorship, event attendance, and digital content consumption. As the esports industry continues to grow at a rapid pace, we believe a greater understanding of these motives can aid in more precise and comprehensive understanding of the phenomenon.

Theoretical Framework

Research has suggested that due to the complexity of motivational constructs across different contexts, sport motivation studies can be grounded within a broad theoretical framework

to better understand consumer behaviour (Funk et al. 2012). Rather than examining the present study with a single lens, we utilized Sloan's (1989) social-psychological approach as the guiding theoretical framework. Sloan (1989) categorized five categories of theories to explain sport motivation including the salubrious effect theories, stress and stimulation-seeking theories, catharsis and aggression theories, entertainment theories, and achievement-seeking theories. The salubrious effect theories suggest that sport-related behaviours are driven by opportunities of gaining gratification or increasing one's physical and mental well-being. Some of the related motives include diversion, aesthetics, and pleasure. Stress and stimulation-seeking theories are represented by the fulfilment of eustress (pleasant stress). One example would be the motive of drama as individuals are motivated to consume sport for the excitement associated with the uncertainty of outcome. Catharsis and aggression theories focus on the reduction of stress through aggressive action, with motives of violence and aggression are oftentimes found within this category. Entertainment theories provide a general framework with emphasis on the driving force behind aesthetically entertaining experience. Motives such as socialization and aesthetics are both viable means for individuals to seek for entertaining experience. Finally, achievement seeking theories suggest that individuals are drawn into sports consumption by the desire to enhance self-esteem which could be realized directly and indirectly (e.g. vicarious achievement).

Sloan's approach has been arguably the most dominant theoretical framework in sport consumer studies (Wann and James 2019). We also find it appropriate in explaining a wide array of social-psychological drivers influencing esports event attendance, which is a focus of this research. Upon review on existing scholarship, the purpose of the research was threefold: (a) to identify motivational factors that are most salient in event attendance within an esports context, (b) to develop and validate an instrument measuring the identified motives of esports event attendance – esports events attendance motivation scale (EEAMS), and (c) to assess the gender difference in motives between male and female participants.

Research Context - League of Legends Mid-Season Invitational (MSI)

The sample of this study was collected from an International esports tournament – *League of Legends* (LoL) Mid-Season Invitational (MSI). *League of Legends* is a multiplayer online battle arena (MOBA) esports game published by American video game developer Riot Games. Since its inception in 2009, LoL has rapidly grown in popularity, drawing over 100 million online participants per month globally at its peak (Mulkerin 2016). The MSI is an annual international LoL tournament featuring top regional championship teams across the world. It is considered the second most prestigious international *League of Legends* tournament aside from the LoL World Championship. LoL MSI was chosen for this study due to the mass popularity of LoL and the event's high-profile presence as an exemplar of modern live esports events. According to the tournament organiser Riot Games, the 2018 MSI accrued 363 million total viewing hours during the 12 days of competition across all platforms and channels (League of Legends 2018). For this study, the data were collected from two separate MSI events hosted in United States (2015) and Chinese Taipei (2019).

Methods

Research Design

To explore motives that are specific to attending esports events, we developed a mixed methods design using both semi-structured interviews and cross-sectional surveys in order to gain knowledge related to both the motivational construct and experience of esports spectatorship. A mixed methods design is appropriate in this study as it expands depth and breadth of information which is not possible when using singular approaches in isolation (Creswell and Plano Clark 2017).

For example, we might identify motivational factors labelled with similar names from existing literature, but the underlying meanings or value could be quite different. Our approach was within the pragmatism paradigm as it orients toward solving practical problems in the real world and allows the researcher to be ‘free of mental and practical constraints’ imposed by the forced choice dichotomy between qualitative and quantitative methods (Yvonne Feilzer 2010, 8). Moreover, pragmatism contends ‘actions cannot be separated from the situations and contexts in which they occur’, which is in line with the focal objectives of this study (Morgan 2014, 26). The design consists of four main stages revised from Churchill’s (1979) scale development approach and Creswell and Plano Clark’s (2017) multilevel triangulation model: (1) construct specification and item generation: an extensive review of existing literature on sports and event attendance motivations was performed, as well as qualitative semi-structured interviews and subsequent thematic analysis in order to specify dimensions and the associated items that drive individuals to attend esports event; (2) measurement purification: exploratory analysis and factor reduction techniques were utilized to uncover the underlying structure of motivational factors with empirical data; (3) instrument validation: the factor structure derived from stage 2 was further tested with another sample to determine whether the hypothesized construct can be verified empirically; (4) knowledge convergence: the qualitative and quantitative information generated from each stage were merged together into an overall interpretation as shown in the discussion section.

Stage 1: Construct Specification and Item Generation- Qualitative

To explore spectators’ motivations for attending esports events, the research team conducted semi-structured interviews with nine esports spectators (5 males and 4 females; average age=19) who were recruited from a college esports club through convenience sampling. All interview participants had prior experience of attending live esports events and were planning to attend the MSI tournament. The sample was considered adequate as it reflected the typical demographics of esports events participants, and we successfully reached data ‘saturation’ regarding potential themes of motives during the interview process. In an effort to identify a more exhaustive list of motives that could be potentially applied to esports event attendance universally, the participants were guided to identify motives that were not limited to the MSI tournament (e.g. what drives you to attend an esports event?; what do you hope to get from the experience?), and those that were different from online/TV esports viewership (e.g. What makes you want to attend an esports event rather than watching it online/on TV?).

The interviews were first recorded and transcribed verbatim for thematic analysis. With thematic analysis, the data are systematically analysed to identify common domains while also providing rich and insightful details of complex phenomena; the method is appropriate here for its exploratory and interpretative nature in relation to item generation (Clarke, Braun and Hayfield 2015). The analysis procedure was completed in three phases (Guest, MacQueen, and Namey 2012). First, the data were reviewed and filtered with only records related to motivations retained for analysis. Second, open coding techniques were utilized to help label and categorize the derived codes for further analysis. The open coding process allows for themes to emerge naturally from the empirical data ‘uninhibited by extant theoretical frameworks and associated hypotheses’ (Vaismoradi, Jones, Turune, and Snelgrove 2016, 106). A form of axial coding was then used where the data were transformed and coded into different motivational themes by calculating their frequencies and comparing their similarities and differences. As a result, we identified both recurring patterns resembling existing motivation studies and emerging concepts newly developed through this process. Third, to increase the reliability of the analysis, the motivational items were inter-rater checked by another researcher.

Accordingly, the results from the thematic analysis was utilized to guide the development of the EEAMS. The measurement consists of items retrieved and revised from previous motivation scales, and newly generated from the interviews representing unique factors to esports event attendance. Specifically, the examination of motives for general sport consumption resulted in the inclusion of items pertaining to dimensions such as knowledge, socialization, drama, escape, aesthetics, and achievement (e.g. Trail and James 2001; Wann 1995). We also investigated motives specific to video games or esports, which led to additional items such as competition and entertainment (e.g. Kim and Ross 2006; Qian et al. 2019). The review of motivational studies in event attendance further generated items on atmosphere, novelty and fandom (e.g. Crompton and McKay 1997; Funk et al. 2003; Lee 2000). It is notable that many items with similar concepts (e.g. diversion and escape) were combined and revised to fit into the esports event context. The inclusion of above items was upheld by the qualitative interviews, which also helped in developing new items such as community support and embodied fantasy. Further details about themes and items will be discussed in following sections. The interview findings will be included in the discussion section to complement the survey results.

Stage 2: Measurement Purification

The primary goal in Stage 2 is to explore the underlying dimensions of motivational factors. A research team consisting of one author of the paper and four research assistants attended the 2015 MSI tournament where an on-site questionnaire survey was administered. Cluster sampling methods were used where the seat sections of the stadium (Total Capacity: 11,675) were randomly selected and attendees at each selected section were handed the questionnaires prior to the beginning of the event. The survey resulted in 266 valid responses with a 63% response rate consisting of 219 males (82%) and 47 females (18%). The average age of the sample was 22-years old and 85% of respondents were self-reported esports participant. The survey used in Stage 2 consisted of 36 motivational items derived from Stage 1. The subject to item ratio exceeded 7, which was deemed adequate for EFA (Mundfrom, Shaw, and Ke 2009). All items were measured on a seven-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). In addition to the motivational items, the survey also included questions on the respondents' demographic information and esports consumption behaviour.

In order to determine the dimensionality and reliability of the model, an exploratory factor analysis (EFA) using principal axis factoring and promax rotation was performed using SPSS 25. Factors with eigenvalues greater than one were retained. Items with a factor loading smaller than 0.4 or with less than 0.2 difference on cross-loadings or with item-total correlations less than 0.3 were removed (Hair, Black, Babin, and Anderson 2010). After performing the EFA, we retained 33 items representing eight motivational dimensions. The definitions and sources of each motivational factor can be found in Table 1. The KMO test (=0.940) and Bartlett's test (=6796.00; $p < .001$) both indicated adequate sample for structure detection in this study (Hair et al. 2010). The Cronbach's alpha coefficient scores of extracted factors ranged from .80 to .94, which suggested good internal consistency reliability (Nunnally 1978). The scree plot test helps in determining the number of factors to retain in the analysis. After reviewing the plot, we found a substantial drop in eigenvalues after eight factors, which indicated that additional factors would add relatively little to the information already extracted (Cattell 1966). Following Churchill's (1979) recommendation on measure refinement, the EFA results were reviewed by an expert experienced in scale development. As per their recommendation, we changed the wording of three items (i.e. embodied fantasy & community support) to eliminate potential confusion in understanding.

(INSERT TABLE 1 HERE)

Stage 3: Instrument Validation

To determine whether the hypothesized factor structure developed in Stage 2 is supported by empirical data in relation to its reliability and validity, we collected another set of data from the 2019 MSI hosted in the Taipei Heping Basketball Center (total venue capacity: 7,000). To further our understanding on esports fandom in general and to test the new scale's criterion validity, we included additional questions on involvement (Beaton, Funk, and Alexabdris. 2009), and fandom relative to esports, esports players, and esports teams. Wann and James (2019) suggested that the degree to which a person is involved in a sport or identified with a team/player was critical in understanding the person's fandom. Involvement is defined as a person's internal state of value, arousal, or interest in relation to an associated product (Iwasaki and Havitz 1998). It has been widely used to predict consumer behaviour such as media usage and purchase intention (Mitchell 1979). In this study, the involvement in esports reflects the degree to which the respondents perceive and evaluate following esports activities/products as central to their life, and provides them with both hedonic and symbolic values. Accordingly, the construct used to measure esports involvement in this study was developed from Beaton et al.'s (2009) work consisting of three components: centrality, pleasure, and sign. Fandom with esports, esports teams, and esports players were measured separately with a single item scale (e.g. how would you rate yourself as a fan of esports competition?; ranging from 1 (Not a fan at all) to 7 (Very loyal fan).

To accommodate the needs of respondents who were non-English-speaking, the questionnaire was translated into Chinese with back translation methods (Brislin 1986). Two researchers who are bilingual and experienced in cross-cultural studies were involved in the translation process. The original English questionnaire was first translated into Chinese by one researcher, which was followed by a back translation into English by another researcher. The items were then continually reviewed and discussed by both researchers until the translated questionnaire was deemed equivalent to the original version.

The survey ended up with 378 valid responses (265 males and 113 females) with an average respondent age of 24.58 years old and an average playing time of 13.05 hours per week. Of all respondents, 87% claimed to have prior experience of attending esports events and 82% were self-reported as esports gamers. The sample was considered adequate to perform further factor analysis with a subjects-to-variable ratio of 8.79 and having over 300 for a sample size (Mundfrom et al. 2005). To assess the psychometric properties of the scale, confirmative factor analysis (CFA) was performed with Mplus 7.0. Robust maximum likelihood (MLR) was used to estimate parameters of the proposed model. Following Hu and Bentler's (1999) recommendations, chi-square goodness-of-fit, root mean squared error of approximation (RMSEA), comparative fit index (CFI), and standardized root mean squared (SRMR) were calculated to test the model fit. Cronbach's alpha coefficient and the average variance extracted (AVE) score were calculated to ensure the internal reliability and convergent validity of the model. Discriminant validity was evaluated following Fornell and Larcker's (1981)'s procedure and criterion.

After performing the CFA, two items under the dimensions of entertaining atmosphere and embodied fantasy were removed due to low item loadings. The revised model still retained eight factors and results of another round of CFA suggested adequate fit for the proposed measurement model (Hu and Bentler 1999; Hair et al. 2010): RMSEA = 0.056, CFI = 0.901, SRMR = 0.057, S-B $\chi^2/df = 1675.55/764 = 2.19$ ($p < 0.01$). The researchers also examined the modification indices and concluded that no theory-based respecification efforts were needed to improve the model fit (Schreiber, Nora, Stage, Barlow, and King 2006). As shown in Table 2, all factor loadings were over the suggested cut-off points of 0.7, ranging from 0.71 to 0.88 (Anderson and Gerbing 1988).

The AVE scores ranged from 0.57 to 0.71, suggesting strong evidence of convergent validity (Nunnally 1978). Moreover, the AVE values were higher than the squared correlation between each construct, providing additional evidence of reasonable discriminant validity (Fornell and Laker 1981). See Table 3 for correlations among all factors. To assess the criterion validity, we chose esports fandom and three components of the involvement construct as external dependent variables. These criterion variables were selected as motivation is widely considered an antecedent of the formation of an individual's involvement and fandom (Iwasaki and Havitz 1998; Wann et al. 1999). The results displayed good overall predictive validity as each of the eight motivational factors could predict at least one of the four independent variables (Table 4). In conclusion, the results of the psychometric analysis indicated an adequate fit of the proposed model.

(INSERT TABLE 2 ABOUT HERE)

(INSERT TABLE 3 ABOUT HERE)

(INSERT TABLE 4 ABOUT HERE)

In addition to scale validation, we also assessed if gender-based differences in motives existed among esports attendees. Independent samples t-tests showed that male and female attendees differed significantly across the motivational factors of Acquisition of Knowledge (M=5.77/F=5.44, $t=2.47$, $p<0.05$), Drama (M=6.05/F=5.57, $t=3.46$, $p<0.05$), and Social Interaction (M=5.21/F=4.86, $t=2.20$, $p<0.05$). See Table 5 for a complete list.

Discussion

Through this study, we developed and validated an 8-factor measurement – the EEAMS to assess the motives of attending esports events. With the findings, we conclude that esports and traditional sport spectators share similar motives of event spectatorship such as *escape* and *game drama*, which fulfils an individual's intrinsic needs of enjoyment and pleasure (Sloan 1989). Esports event attendees are also driven by several contextual factors such as socialization with other members within the esports community, the immersive, novel and engaging in-game atmosphere, supporting the growth and status of esports community, fandom towards players and teams, and embodied fantasy that brings surreal experience to audiences. In the following discussion, we will supplement the identified motives within the EEAMS with findings from qualitative interviews to provide a more in-depth and comprehensive analysis on the phenomenon of esports events.

Through this study, the authors suggest that attendees are driven by the novel and energetic *atmosphere* of esports events which renders a unique spectating experience for the fans. This is particularly highlighted in our interviews as many participants claimed that live events offer fans another means to physically experience the game other than digital play or online streaming. Similar to traditional sports, esports events often feature venue space, computer hardware, digital content, media service as well as players, coaches, referees, and fans. They are also equipped with media technologies such as theatrical lights/sounds, broadcasting studios, and large-size LED stage screens, which in turn create an immersive and stimulating environment for the attendees. To better improve the spectating experience, a number of arenas designed specifically for esports have been built in recent years. The \$10 million esports Stadium Arlington opened in 2018, featuring a state-of-the-art broadcast studio and an 85-foot-long LED wall (Hughes 2019). Comcast Spectacor also announced a joint plan to build a 60,000-square-foot, \$50 million esports-only arena - *Fusion Arena* in Philadelphia (Khalid 2019). As was ascertained in our analysis, the physical setting is key to the entertaining and engaging experience of esports events (Seo and Jung 2016). One participant indicated:

Everyone is cheering for someone during the game. Everything is so hyped!... You can hear the casters getting frantic, yelling, and energetic stuffs over the twitch TV (an esports streaming platform), but it's not the same since you don't hear the crowds that much (when streaming)! (Nick)

In addition, several interviewees mentioned the novel experience of attending a competitive gaming tournament as another aspect of the overall atmosphere created by esports events. It is notable that curiosity or novelty was formerly identified as a unique motivational dimension in sport spectatorship (Park, Mahony and Kim 2011). In this study, it was integrated into the overall atmosphere created by the live esports events as attendees expressed their enjoyment of the unconventional experience of watching esports in a *crowded* stadia/arena compared to live streaming:

I've been a gamer for many years and oftentimes stream the game online. But watching someone else playing video games in a basketball stadium is really a new thing to me... It's such a cool concept of staging LoL in a concert-like atmosphere, which you'll not get anywhere else. (Emma)

The existence of a physical space not only enriches the fans' spectating experience, it also creates a platform where esports fans are able to find and support their community. While esports games generally take place in a virtual space supported by informational technologies such as the internet and media, the importance of the offline world should not be overlooked. ***Social interaction*** has been widely examined as a core motive for sports consumption. Attending esports events in person however represents different opportunities to the participants, particularly with regard to solidifying their online community and socializing with gamers who they normally interact with virtually and remotely. The significance of physical space here resembles findings in studies on communities of cyberspace. For instances, Jansz and Martens (2005) found that sociality was the primary motive for participants in a Local Area Network (LAN) gaming event. Sander (2005) argued that offline gathering of online social groups was capable of 'interweaving online and real strands' (p. 4). Research has also shown that offline activities are critical to enhancing social capital and strengthening interpersonal ties of community members (Shen and Cage 2015). It was commonly found in our interview as many participants suggested that they attended the event for social opportunities. Some claimed that they went to the game to meet up with their friends that they played games with online, while others stressed the chance of making new friends in the gaming community through attending the event. As two interview participants indicated:

I would call it comradeship. One of the coolest things of the event is I get to see people probably I'll never meet in my life. And after the game we become friends and play the game together. It's one of these random interactions that you can meet new people, hanging out with people... It gives me a real sense of community and I really treasure these interactions. (Joe)

In relation to community building, it has been widely acknowledged that esports is 'heavily community driven' and consists of highly engaged and interconnected fans (Ernest-Jones 2019 para. 6). Industry practitioners have also paid increasing attention to the demands of esports event participants on offline events, where they are able to meet up and hang out with fellow fans (Arthur and Stuart 2014). The findings here correspond with a global study on esports spectators by Eventbrite (2018), which reported that the majority of the respondents attended esports events to connect with the gaming community and forge new relationships. Built upon a strong community identity, attending esports events could help foster a sense of belonging for esports fans. The high-profile and globally exposed esports events further create a *cause* for the fans to show their ***support***

to esports community and work towards future growth opportunities. As a relatively new and emerging popular leisure activity, we are still witnessing ongoing debates on whether esports should be considered a ‘sport’ (Hallmann and Giel 2018). There are also entrenched social stigmas and stereotypes (e.g. violent, addictive, unpopular, socially inept...) around esports (or video games) and its players (Shaw 2010). Taylor and Witkowski (2010, 198) found LAN events ‘can anchor a person’s love for gaming by providing them a space to be a fan...and situates them within a subculture where their own play and identity get supported.’ Many participants in the interview claimed game attendance as a way of supporting esports growth opportunities and helping the community gain *legitimacy* and *status* within society, with one saying:

If you care enough about it, go, participate... even if you don’t care about any of these teams, just showing up because you want to be there in that atmosphere to support the game.

Supporting the games come with everything else. (being) part of it. (Bob)

I believe these events will help enhance the public image of esports ...Let’s be honest, many people have little respect on us...It doesn’t matter if others think this is a sport or not. I’ll go and tell people like, ‘hey, we are here, and we are serious about it... (Nick)

Another motive highlighted in this research pertains to attendees’ *fandom towards esports teams/players*. The increasing popularity of esports has simultaneously created a long list of popular teams as well as celebrity players with masses of global followers. The MSI in this research included the best *League of Legends* teams and players in the world. We also observed numerous attendees wearing jerseys of and cheering for their favourite teams or players during the game. The survey results unveiled a strong identification with their supporting team (M=5.87, SD=1.33) and players (M=5.74, SD=1.46) among the participants. This is an interesting finding, as studies in traditional sports have examined the critical role of team identification in both forming psychological connection to the team and predicting consumption behaviour of sports fans (Dietz-Uhler and Lanter 2008; Wann and James 2019). Fandom towards esports teams and players could be perceived as a contextual motive specific to the event setting which provides unique opportunity for the fans to support and to stay in physical proximity with their favourite teams/players. One participant indicated:

I’m a big fan of Febiven (player) and my friend is a fan of Faker (player). We go to the game since they’ll play and it is probably the only time in my life that I could meet Febiven in person. (Ross)

The survey results show that over 80% of respondents in both data collection stages were self-reported as esports gamers, indicating a very high participation rate among all spectators. It is presumed that the presence of elite players might also stimulate the spectators’ interest in learning the game-related *knowledge* through their attendance, which thereby helps them acquire and improve gaming skills and performance. The interview findings confirmed above assumptions, as many expressed their desire to learn from the professional players:

This is like an All-star game to me... I watch these pros play on twitch pretty much on daily basis so I can learn their tricks in my own game... The event just gives me more ideas on pro gaming, especially how they work as a whole team. (Joe)

Embodied Fantasy was another distinctive motive identified from this research, which refers to the experience of imaginary sensation of embodied physical and social situations in esports. Previous studies have recognized fantasy as an essential motive in video games, through which the gaming participants are able to gain extraordinary and surreal gaming experiences created by a human-computer interface (Kim and Ross 2006; Lee and Schoenstedt 2011). The atmosphere at esports events further blurs the boundaries between virtual and physical spaces,

where fans become part of an immersive sensation integrated with a variety of media technologies (e.g. computer, sound, video, lights) and human presence (e.g. players, coaches, fans). Rutter (1998) suggested that digital gaming involved ‘virtual’, ‘psychological’ and ‘physical’ presence which are all ‘real’ to participants. Taylor and Witkowski (2010, 197) asserted that ‘simply watching a familiar game connects spectators, somehow viscerally, to own embodied experience of play.’ Studies have further shown that video game fans engage their interest in different forms - in addition to in-game participation (play) and spectatorship (watch), many fans are simultaneously driven by the consumption of derivative off-game products with ‘embodied fantasy’ (perform) (Lamerichs 2014; Rosenberg and Letamendi 2013). One example of such ‘embodied fantasy’ would be live events, where virtual and physical experience are mutually constituted, and a wide array of identities and collective experience are embodied to its attendees. Another example would be the cosplay (costume play) at esports events, where fans dress up in costumes to represent video game characters. In our interview, several participants particularly stated cosplay as one of the attraction factors for their attendance. Additionally, thanks to media technology, research has shown that esports spectators are able to achieve a form of ‘vicarious sensation’ when watching the games as if they were playing the game simultaneously (Qian et al. 2019). Likewise, the fantasy experienced from playing the games could be vicariously achieved by the esports spectators at live events. As one participant stated:

The experience is surreal... It’s kind of a strange feeling but when you watch others play you could imagine yourself also playing. I feel I’m always part of the game... LoL is different from other sports because you don’t see real people in the whole competition... they are all avatars on the screen, but you know they are all controlled by us humans. (Nicole)

Lastly, the findings reveal that esports event spectators have a strong involvement in following esports products/activities in general, which is important to their personal life (centrality), and provides them with the opportunity to express themselves (sign) and invokes a sense of enjoyment (pleasure). The research further supports previous studies on gender differences in sport consumption (James and Ridinger 2002; Robinson and Trail 2005; Wann 1995). Specifically, male esports fans were driven to attend esports events significantly more than women for the motives of social interaction, knowledge acquisition and drama. The results also contradict previous studies in traditional sports contexts where no significant difference was found on drama (James and Ridinger 2002) and significant differences were found on escape (Wann et al. 1999) between male and females. The high ratings across most motives however suggests strong interests from both male and female participants on esports events as well. This study provides some preliminary information on the gender differences among esports spectators. We also suggest future research to be conducted in elaborating the nuances of gender identity and experience in esports spectatorship.

Implications and Limitations

This is one of the first studies on the topic of event attendance in esports, as well as one of the first attempts exploring the gender-based differences of esports spectators. The study extends previous scholarship on motivations in event consumption to an emerging, while rapidly growing field, as well as provides empirical evidences that offer insight into the fan behaviour and game culture surrounding esports. The development of a measurement scale provides a psychometric tool to measure the psychological motives of esports event attendees, which was reported as reliable and valid across different geographical and cultural settings (North America & Asia).

On the basis of both quantitative and qualitative data, the study reveals that the universality of consumer motivations needs to be contextualized in order to identify nuances that are essential to understand event attendees. It extends previous knowledge of esports spectatorship by demonstrating the critical impact of physical space in the overall fan experience. For instance, despite socialization being identified as a common motivational factor in sports spectatorship, it bears different meanings and practices to many esports attendees. Specifically, interviewees noted that the event created a physical offline space that is non-existent on the Internet. Esports event organisers therefore could capitalize on the interest of socialization from attendees by facilitating their online/offline interaction experiences. This could be accomplished by creating a social zone, offline gathering party, or social apps for the game attendees to connect through.

The physical setting of esports events also creates an immersive while entertaining atmosphere which is exclusive to offline events. This suggests that either an impressive venue, deliberately crafted in-game events, or high-quality professionally produced in-game broadcasting could help build fan engagement during the event. Building esports-specific venues with features that are customized to the unique esports context could help produce a more compelling entertainment experience (Jenny et al. 2018). Moreover, competition oftentimes is not the only attraction to event attendees. An increasing number of esports events have introduced parallel events such as live music, cosplay conventions and game exhibitions. Event organisers therefore need to be more innovative in ‘physically’ embodying the digital culture and creating different types of fan experiences that are facilitated by the dynamics of physical space during esports events.

Likewise, the desire to obtain knowledge was identified as one motivational factor for the event attendees. It is also noticeable that the study found that the majority of the respondents were also video game players. This suggests that the attendees’ interest in esports event may not only be about watching but also learning about games. Facilitating the inquiry of knowledge through game attendance (e.g., rules, technicalities, & skills) should be stressed in game organisation. In juxtaposition with other identified motivations (i.e. fandom to team/players & social interaction), multiple approaches of promoting knowledge acquisition could be employed. Examples include pro-am games between athletes and amateurs, LAN party games where attendees could play mini-tournaments together, and special gaming skill training camps.

Another unique and contextual motivational factor observed in this study was Community Support. As many esports fans were eager to lift their interest out of subcultures and bring it into mainstream recognition, the organisation of high-profile esports events could help the institutionalization and legitimization of esports as a more ‘serious’ sport in a broader social realm. It also appeared from our observations during the event that the esports community was a tightly bonded group within which people shared a high level of community identity. For some esports fans, attending events would serve as a cause to show their support for esports. Event marketers and organisers could work closely with esports fans to create more growth and status-enhancement opportunities.

The current study was not without its limitations. It is important to note that esports consists of a wide range of genres and fans of different esports genres might be driven by different motives for event attendance (Pizzo et al. 2018). In this study, we chose MOBA events as the genre is now the most popular form of esports events internationally. Scholars are encouraged to apply this measurement to test other esports games to help organisers better understand segmentation in esports market. There could also be differences of motives among esports fans with different levels of psychological connection with the sports and the team (e.g. utilizing the Psychological Continuum Model for spectator segmentation; Funk and James 2001; Pu and James 2017).

Moreover, we believe certain motives identified in this study are particularly pertaining to the niche status of esports. Greenhalgh, Simmons, Hambrick, and Greenwell (2011) in their study discovered that consumers perceive different attributes between niche and mainstream sports and were therefore looking for different experiences. The motives and their relevance might change once esports becomes more popular and embraced by society, particularly considering the data were collected at two points with four years apart. Lastly, in this study we did not measure the attendance behaviour of participants such as their intention to attend, attendance frequency, and evaluation of service quality (Clemes, Brush, and Collins 2011). Scholars could examine other variables specific to game attendance experience such as food and beverage service, facility access, visual and sound, seat space, social environment, and merchandising... to help organisers provide more entertaining and accessible experience/products to esports fans.

Table 1. Exploratory Factor Analysis Results (n=266)

Dimension	Definition (Source of items)	Mean	Variance explained	Cronbach's alpha
Entertaining Atmosphere (9 items)	The enjoyment of surrounding environment or influence of the esports event (New items; items revised from Funk et al. 2003; Kim and Ross 2006; Lee 2000; Trail and James 2001)	6.41	17.61	0.94
Social Interaction (6 items)	The opportunity to interact with and maintain affiliation with other esports fans (Items revised from Funk et al. 2003; Trail and James 2001)	5.65	11.15	0.90
Game Drama (3 items)	The pleasurable stress and stimulation due to game uncertainty (Items revised from Trail and James 2001)	6.42	4.38	0.83
Embodied Fantasy (3 items)	Experience of imaginary sensation of embodied physical and social situations in esports (New items)	5.07	5.20	0.86
Team/player Fandom (3 items)	Identification/attachment with certain esports players/teams (New items; Items revised from Funk et al. 2003)	5.94	6.62	0.83
Community Support (3 items)	Support esports growth opportunity and enhance the status of esports community (New items)	6.10	3.51	0.85
Knowledge Acquisition (3 items)	Acquire esports knowledge and skills (New items; Items revised from Funk et al. 2003)	6.29	5.72	0.86
Escape (3 items)	Relieve the daily life tedium through esports consumption (Items revised from Trail and James 2001)	5.99	4.30	0.80

Table 2. Results for CFA: Individual Scale Items, Factor Loadings, Average Variance Extracted (AVE), and Composite Reliability (CR) (n=378).

Factors	Loading	Mean	AVE	Cronbach's alpha
F1 – Entertaining Atmosphere		5.79	0.64	0.90
I find attending esports event very exciting	0.85	5.91		
I enjoy the excitement surrounding an esports match	0.84	5.93		
I enjoy the high level of excitement during the esports competition.	0.79	5.84		
I enjoy the novelty of watching esports in a stadium	0.77	5.64		
The opportunity to watch esports in a stadium is fun even if it is unconventional	0.79	5.76		
I attend the esports event because it is fun	0.80	5.85		
I attend the esports event because it is a fun way to spend my time	0.75	5.66		
I attend the esports event because of its entertainment value	0.82	5.72		
F2 – Social Interaction		5.15	0.64	0.88
I attend the esports event as a way to get together with others	0.86	4.99		
An important reason for me to attend the esports event is spending time with others	0.76	5.15		
I attend the esports event because it provides opportunities for me to meet with others	0.81	5.14		
I enjoy sharing the experience of attending the game with other esports fans	0.75	5.62		
Attending the esports event gives me a chance to bond with other esports fans	0.83	4.97		
An important reason why I attend the esports event is to spend time with other fans	0.77	4.76		
F3 – Game Drama		5.91	0.69	0.84
I enjoy the drama of close esports game	0.88	6.02		
I enjoy the uncertainty of close esports game	0.85	5.87		
I like esports game where the outcome is uncertain	0.76	5.83		
F4 – Embodied Fantasy		5.45	0.71	0.81
I attend the esports event because it lets me imagine things I can't see in real life	0.84	5.34		
I like to watch something that I could not normally see in real life through attending esports events	0.84	5.55		
F5 - Team/player Fandom		5.76	0.64	0.80
I attend the esports event to cheer for my favourite player/team	0.75	6.04		
The main reason I attend the esports event is to support my favourite player/team	0.83	5.67		
I attend the esports event to see the star players/teams	0.81	5.56		
F6 – Community Support		5.85	0.65	0.84

I attend esports event because I think it is important to support esports	0.72	5.68		
Attending esports event demonstrates my support for esports community in general	0.85	5.89		
Making esports a spectator event can increase the status of esports	0.85	5.98		
F7 – Knowledge Acquisition		5.67	0.57	0.72
I attend esports event to increase my knowledge about the esports game	0.77	5.78		
I attend esports event to increase my understanding of the strategy by watching the esports competition	0.79	5.74		
I attend esports event to learn about the technical aspects by watching the esports game	0.77	5.50		
F8 – Escape		5.63	0.61	0.76
Attending esports event to gives me a break from my regular routine	0.77	5.55		
Attending esports event provides me a change of pace from what I regularly do	0.79	5.79		
Attending esports events provides a distraction from my everyday activities	0.78	5.54		
Pleasure		5.60	0.64	0.75
Following esports offers me relaxation when pressures build up	0.80	5.53		
Following esports is one of the most satisfying things I do	0.82	5.52		
I really enjoy following esports	0.81	5.84		
Compared to other sports, following esports is very interesting	0.78	5.49		
Centrality		5.15	0.66	0.83
I find a lot of my life organised around following esports	0.86	5.28		
Following esports has a central role in my life	0.85	4.85		
I enjoy discussing esports with friends	0.71	5.60		
A lot of my time is organised around following esports	0.83	4.88		
Sign		5.63	0.64	0.77
Following esports says a lot about who I am	0.82	5.25		
You can tell a lot about a person by seeing them follow esports	0.73	5.13		
When I follow esports I can really be myself	0.85	5.24		

Table 3. Correlations Among the Factors of the ESMS.

Motives	1	2	3	4	5	6	7	8
1. Entertaining Atmosphere	1							
2. Social Interaction	0.51	1						
3. Game Drama	0.63	0.42	1					
4. Embodied Fantasy	0.66	0.51	0.44	1				
5. Team/player Fandom	0.69	0.48	0.47	0.57	1			
6. Community Support	0.74	0.44	0.67	0.55	0.58	1		
7. Knowledge Acquisition	0.71	0.48	0.63	0.62	0.60	0.68	1	
8. Escape	0.77	0.58	0.62	0.62	0.67	0.70	0.75	1

Table 4. Assessment of criterion validity among motives and involvement variables.

Motives	Pleasure	Centrality	Sign	esports Fandom
Entertaining Atmosphere	0.20 (0.017) *	0.22 (0.766)	-0.02 (0.835)	0.15 (0.308)
Social Interaction	0.13 (0.003) *	0.37 (0.000) *	0.38 (0.000) *	0.09 (0.146)
Game Drama	-0.02	-0.03 (0.683)	-0.02 (0.836)	0.16 (0.04) *
Embodied Fantasy	0.04	0.13 (0.051) *	0.13 (0.161)	-0.3 (0.675)
Team/player Fandom	0.10 (0.049) *	0.11 (0.108)	0.04 (0.706)	0.55 (0.000) *
Community Support	0.17 (0.008) *	0.01 (0.891)	0.29 (0.032) *	0.20 (0.050) *
Knowledge Acquisition	0.10 (0.062) **	0.06 (0.420)	-0.03 (0.804)	0.04 (0.619)
Escape	0.21 (0.001) *	0.22 (0.021) *	0.15 (0.283)	-0.12 (0.249)
R ²	0.65	0.49	0.29	0.39

*Correlation is significant at the 0.05 level

**the p value for Knowledge Acquisition was 0.062 indicating marginal significance

Table 5. The differences of motivational factors between male and female attendees

Motives		N	Mean	Mean Difference	SD	t	Sig. (2-tailed)
Entertaining Atmosphere	Male	265	5.82	0.14	0.13	1.11	0.27
	Female	113	5.69				
Social Interaction	Male	265	5.21	0.35	0.16	2.20	0.03*
	Female	113	4.86				
Game Drama	Male	265	6.05	0.48	0.14	3.46	0.00*
	Female	113	5.57				
Embodied Fantasy	Male	265	5.51	0.21	0.16	1.31	0.19
	Female	113	5.30				
Team/player Fandom	Male	265	5.70	0.01	0.15	0.03	0.97
	Female	113	5.69				
Community Support	Male	265	5.88	0.12	0.13	0.89	0.37
	Female	113	5.76				
Knowledge Acquisition	Male	265	5.77	0.33	0.13	2.47	0.01*
	Female	113	5.44				
Escape	Male	265	5.68	0.17	0.14	1.27	0.21
	Female	113	5.51				

*Correlation is significant at the 0.05 level

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