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Master's Thesis of Global Sport Management

Motivations for Mobile Esports  
Consumption under the Normalized  
COVID-19 Era in China:

Case of Honor of Kings

중국 코로나19 시대의 모바일 e스포츠 소비동기:  
펜타스툼 (Honor of Kings) 사례를 중심으로

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# Motivations for Mobile Esports Consumption under the Normalized COVID-19 Era in China

Case of Honor of Kings

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## **Abstract**

# **Motivations for Mobile Esports Consumption under the Normalized COVID-19 Era in China: Case of Honor of Kings**

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Electronic sports (esports) is a type of video games that is played competitively according to the rules, whether in teams or individually. Mobile esports is one type of esports which is played on mobile devices. Currently, the top mobile esports in China is Honor of Kings (HoK, known as Arena of Valor as its international version), a game in the genre known as Multiplayer Online Battle Arena (MOBA) with more than 1 million daily active players in China. Previous studies have focused on esports consumption for many years, however, study related to mobile esports consumption is limited especially in China. Therefore, the purpose of this

study is to modify a motivation scale for mobile esports consumption (MSMEC) and find out the difference under the normalized COVID-19 pandemic era in China.

Based on the concept of video games, this study built MSMEC which combines with the theory of use and gratification as a basic framework as well as motivation scales of video game consumption proposed by previous studies. The original scale was generated through a literature review, which included 11 factors (Entertainment, Knowledge, Control, Design/graphic, Competition, Permanence, Social Interaction, To Pass Time, Diversion, Arousal, Peer Pressure) with a total of 35 items. The revised MSMEC was administered to players who played HoK. The valid responses were 316 players who were passionate about HoK.

The results show that the total 10 motives were determined in reliability, validity, and correlation analysis (Entertainment, Knowledge, Control, Design/graphic, Competition, Permanence, Social Interaction, Diversion, Arousal, Peer Pressure). And the results from regression analysis indicate that HoK is most often played for entertainment, knowledge and control reasons under the normalized pandemic era in China.

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**Keyword:** mobile esports, esports consumption, motivation

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# **Chapter 1. Introduction**

## **1.1. Background**

Electronic sports (Esports, hereinafter referred to as “esports”) first appeared around the 1970s in Stanford University with a game named “Spacewar” in 1972 (Kim, Nauright, & Suveatwatanakul, 2020). Esports, or competitive video game play (Rogers, Farquhar, & Mummert, 2020), becomes a world-wide cultural phenomenon that has developed rapidly since then and has attracted a large number of participants, especially young people. Now perhaps a quarter of the world’s population often play video games which considered to be no longer just entertainment. “Many games are more like something between a sport and a social network” (Legends in Lockdown, 2020). And games have thrived under lockdown of Covid pandemic. In March 2020, the number of players logged into a popular gaming platform on PCs named Steam reached a record with 25 million players logged in at one time. Nintendo’s share price has risen 45% in the month since March 16, 2020. Twitch’s traffic grew by 50% from March to April 2020 (Legends in Lockdown, 2020).

The European and American markets have more detailed research on the field of esports. The “Global Esports Market Report 2020” released by Newzoo (2020), a world’s most trusted and quoted platform for games market

insights and analytics, pointed out that there were 885 major esports events which generated \$56.3 million in ticket revenues in 2019 and up from \$54.7 million in 2018. Total prize money in 2019 reached \$167.4 million, a slight increase from 2018's \$150.8 million (Newzoo, 2020). Moreover, the League of Legends (LoL) World Championship was 2019's biggest tournament by live viewership hours on Twitch and YouTube, with 105.5 million hours (Newzoo, 2020). The Overwatch League was the most-watched league by live viewership hours on Twitch and YouTube, generating 104.1 million hours. The report also points out that China is the largest market by revenues, with total revenues of \$385.1 million in 2020 (Newzoo, 2020). This is up +18.0% from 2019's total of \$326.2 million (Newzoo, 2020). It is followed by North America, with total revenues of \$252.8 million, and Western Europe, with total revenues of \$201.2 million (Newzoo, 2020).

The "Global Esports Industry Development Report 2020" released by Penguin Intelligence, Tencent E-Sports, Nielsen, and Global Esports Federation indicated that 2020 is an extraordinary year for the global sports industry including esports. In the context of the pandemic, many traditional sports events have been postponed or even suspended, and their commercial value and consumption have been greatly affected. Although the esports industry has also been affected, with the advantages of digital sports, the

esports industry has demonstrated strong resilience to “anti-epidemic” (Newzoo, 2020). Covid-19, by keeping athletes indoors, has given a boost to esports — not just virtual versions of old sports, but entirely new online games, played competitively by professionals and watched by tens of millions of people (Legends in Lockdown, 2020).

Penguin Intelligence, Tencent E-Sports, Nielsen, and Global Esports Federation (Legends in Lockdown, 2020) pointed out that at least 20% of users in the European and American esports markets spent more time on video games and esports live streaming during the pandemic, meanwhile, Chinese esports users have further spread due to the ample free time brought by lockdown, with approximately 26 million new esports users occurred. Among them, driven by their partners and children, more women and senior users have turned from esports awareness to esports audiences or players.

In addition to esports that are familiar world widely like League of Legends, recent years, however, mobile esports is experiencing a boom that has been accelerated by the mobile-first culture of the region (Newzoo, 2020). The phenomenon is particularly outstanding in China, where Tencent is a leader in top franchises such as its Honor of Kings (Newzoo, 2020).

Honor of Kings (HoK) was developed by TiMi Studios and published by Tencent Games for the iOS and Android mobile platforms for the Chinese

market in 2015 and has become the hottest multiplayer online battle arena (MOBA) game in mainland China (Honor of Kings [HOK], 2021). The international adaptation of HoK titled Arena of Valor which was released in 2016 (HOK, 2021). By 2017, Honor of Kings has over 80 million daily active players and 200 million monthly active players and was among the world's most popular and one of the highest-grossing games of all time as well as the most downloaded app globally (Liao, 2017). Tencent claimed that the mobile game HoK has crossed 100 million daily active players in November 2020, which has broken users records and consistently ranks among the top-grossing mobile games worldwide, raising US\$2.5 billion, or up by 42.8% year-on-year revenue growth (Liao, 2020).

## **1.2. Introduction of Honor of Kings**

HoK is a real time strategy MOBA game played in teams on mobile, which inspired by LoL. It can be played on different mobile platforms (e.i., an iOS device or an android device) by using the same account type. Either a Tencent QQ account or a WeChat account is required to play the game (HOK, 2021). However, different account types (QQ and/or WeChat) cannot access the other's matchmaking queue, even when using the same platform.

The basic gameplay of all game modes involves controlling characters with unique abilities, killing non-player characters and opponents to gain

experience and coins, experience used to unlock or further enhance the character's abilities, and coins for purchasing items in the Shop (specific attributes change depending on the item purchased) (HOK, 2021). Players then coordinate to destruct enemy's defensive structures (called turrets) to win by destroying the core buildings located within the enemy team base (HOK, 2021). The specific game mechanics vary depending on the game mode selected.

HoK players (known as summoners) “may choose between a wide variety of heroes, each with special abilities, cosmetic skins and backstories” (HOK, 2021). There are a total of 107 heroes (HOK, 2021), and they are generally classified as: Archers/Marksman (also called “ADC”, Attack, Damage, Carry; players focused on attacking the opponent and causing the greatest possible amount of physical damage, but lacking in defensive skills or battlefield capabilities, which needs players have an excellent moving skill and battle awareness); Tanks (defence-based heroes; players who focus defending and attacking the upper line. This role is to absorb the damage from the opponent's output, use its own body to block the front row to protect the teammates behind it, and create an output environment); Assassins (heroes who have super-high instantaneous bursting capabilities, which can kill opponents in seconds); Warriors (close-combat heroes; in a team, it is

necessary to ensure a certain output damage and also help the tank absorb a part of the damage); Mages (also called Mid; players focused on protecting the middle line and causing the magic damage); and Supports (players who focus on backing their allies by providing medical help or by hindering the activities of their enemies). Some Archers/Marksman, Tanks, Assassins, Warriors, Mages can also be played as Jungler (players usually focused on acquiring experience and coins by confronting the neutral creatures that are found in the jungle). “These heroes usually originate from folklore, mythology, or mythical creatures, with others coming from works of literature, television/movies and even other in-game heroes (based on the game’s internal folklore)” (HOK, 2021).

HoK has a variety of game modes, with a majority of them focused on competitive matchmaking (HOK, 2021). When there is no network connection, players can choose stand-alone mode. When there is a network, players can choose a variety of battle modes. Players can either face off against each other in player versus player matches (including 1v1, 3v3, 5v5) or participate in various player versus environment adventure modes. In each of the player vs player modes, there are options to battle AI players (known as computers). The AI could be set on easy, normal, or hard modes. Also, players can open “rooms” where they can invite a friend or someone that they



had recently battled with or against to battle with them. There is also an option to open a “draft room” to do a 5v5 where everybody was invited by someone else in the room.

Valley of Kings (5v5) is the most popular game mode (HOK, 2021), also known as Ranked game mode which using the same game map (see Ranked below). By controlling their only heroes, 10 players are divided into two opposing teams of 5. The opposing ends of the map are where two teams start. Either the destruction of the enemy’s nexus or the surrender of the enemy team can be the conditions for victory. Teams must destroy defensive turrets in order to destroy the enemy’s nexus, which are located on the 3 main routes/lanes (top, middle, bottom) and are used to reach the enemy’s base. Players’ heroes must attack the turrets along with minions by their side which are periodically sent from their team base. By killing enemy minions, heroes, or neutral creatures located between lane (also known as the “jungle”), each player can level up their hero and earn coins. Coins then can be spent in the store to purchase equips which are used to alter hero’s attributes with special temporary effects such as invincibility (HOK, 2021).

Only when the accounts reach level 6 and own at least 5 champions, are they able to take part in ranked matchmaking (5v5) (HOK, 2021). Players can choose to join matchmaking alone, or in a group of 2, 3, or 5. The game’s

matchmaking system will match appropriate teammates and opponents according to the player's rank and win rate (HOK, 2021). There are a total of 7 large matchmaking tiers, namely Bronze, Silver, Gold, Platinum, Diamond, Ace, King and High King in ascending order (HOK, 2021). Each large tier is further subdivided into several smaller tiers. In each ranked matchmaking game, stars can be gained or lost depending on the outcome of the match. If a player wins a match and max out their stars, they will be promoted to the next smaller/larger tier. Matchmaking rankings are reset periodically, with every reset being known as a competitive "season". Each season lasts approximately 3-4 months, with season awards being awarded to players according to the highest tier achieved (HOK, 2021). Each season has a dedicated cosmetic skin, and accumulating points in the Journey portal will grant players the skin, diamonds, and other permanent special effects. The rank achieved at the end of a season is also used to calculate the starting ranking for the next season. Many times, High Kings and Champions have to start back at Diamond depending on how many stars they have (HOK, 2021).

There are multiple game modes containing interesting buffs and playing methods, however, the above two modes is the most played (HOK, 2021).

### **1.3. Purpose of Research**

Young people spend more time online than on television. Not only traditional sports will attract their attention, but also esports. With the rapid popularity of playing and watching competitive games worldwide, esports has evolved into a new type of game genre, a new form of mainstream entertainment, and an important activity in youth culture (Wohn & Freeman, 2020). There are plenty of literatures studying in motivations of esports consumption, participation, spectating, money spending, and live streaming. While limited attention was paid to study motivations among different esports genre or a more nuanced level, even if so, LoL is the one which has been more focused. Moreover, with the growth of mobile esports industry, literatures on mobile esports seems unequal to its development.

As a mobile esports, Honor of Kings has a large user base around China. And the consumption of HoK is still growing and even growing more faster during the pandemic in China. What motivates Chinese people to consume the game? Are these motivations changing during the pandemic? I played HoK for 2 years, and many of the people who played with me played for at least 4 years. We still have goals to achieve during the game. We are not professional players, but we enjoy the experience of being teammates. However, there is not much research studying on motivations of HoK

consumption in China, not to mention studies in other countries. Therefore, it is necessary to have a deep understanding of motivations for HoK consumption in China.

The purpose of this study is to modify motivations for mobile esports consumption on a more nuanced level (case of Honor of Kings) and to investigate if there's any changes of these motivations under the current pandemic period compares to previous studies. The further objective is to provide marketers empirical evidence to develop effective marketing strategies for attracting more esports players under the normalization of pandemic in China. The specific research questions of this study are:

RQ1. What are the motivations of HoK (Honor of Kings) consumption in China?

RQ2. Are there differences in motivations of HoK consumption before and after the current pandemic in China by comparing with previous studies?

## **Chapter 2. Literature Review**

### **2.1. Esports Research**

Research around esports (or competitive gaming) has grown rapidly since 2002 in the disciplines of business, sports science, cognitive science, informatics, law, media studies, and sociology (Reitman, Anderson-Coto, Wu, Lee, & Steinkuehler, 2020).

Esports within the business was born in early 1980s (Reitman et al., 2020). With identifying the value of the experience economy for consumers, the popularity of video games, the social recognition of video game players, and advances in technology, research focuses on exploring motivations for esports consumption, understanding the networks and organizations surrounding the players, and designing effective marketing techniques (Hamari & Sjöblom, 2017). For example, the Motivation Scale for Sports Consumption (MSSC) applied by Hamari and Sjöblom (2017) is to measure motivations for esports consumption.

Esports within the sports science is focused on implicating competitive video gaming as esports and evaluating the potential of esports to be considered as sports through the following criteria: “physical activity, recreation, competitive elements, organizational structure, and social acceptance of esports” (Hallmann & Giel as cited in Reitman et al., 2020).

While some empirical studies focus more on players' engagement in esports competitions instead of whether esports can be considered as sport (Reitman et al., 2020).

Esports within the cognitive science has focused on performance and cognitive and behavioral differences between novice and professional players (Reitman et al., 2020). Experimental work on cognition in esports is using action games as a context in which to explain complex human behavior (Gray as cited in Reitman et al., 2020).

Esports research in informatics is to analyse in-game performance, team dynamics and formation, and interactions between players from collections of a wide variety of data sources and observations (Reitman et al., 2020). Social interactions between players, instead of in-game performance, are the only focuses in some informatics research around team dynamics in esports (Reitman et al., 2020).

Law in esports is focusing on the concepts of copyright and intellectual property which are applied to virtual worlds, whereas, law papers are the first application of the concepts (Reitman et al., 2020). Research also discusses influences of legal concepts in influencing and shaping the governance of esports. However, classification of esports as sport or computer game is still a topic to discuss in esports law (Reitman et al., 2020).

Esports within media studies has focused on research in “relationships between esports, sports, and media; the definition and delimitation of esports; the methodologies applied to study esports; and the practice of live streaming gameplay” (Reitman et al., 2020, p. 38).

Sociology in esports has focused on exploring questions related to live esports events and the interactions between audience and gameplay (Gommesen, as cited in Reitman et al., 2020). Much of the work related to sociology are more focused on gender and identity, which lead to a current issue within esports, that is, gender inequality (Kim, as cited in Reitman et al., 2020). While some consider esports as an opportunity for encouraging diverse cultures (Taylor et al., as cited in Reitman et al., 2020).

Across the above disciplines, a widely accepted description of esports is “competitive gaming, computer-mediated sport, or interactive spectatorship” (Freeman & Guo, as cited in Reitman et al., 2020, p. 40).

Defining esports is a significant debate that scholars’ research frameworks rely on. For example, Zhang, Wu, and Li (2007) define esports as “a sport of wisdom” that sports equipment used by people are high-tech software and hardware. More recently, Hamari and Sjöblom (2017) describe esports 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” (p. 213). In these definitions, because of the mediating technology, communication within a team or between competing teams becomes possible or enhanced (Reitman et al., 2020).

Other definitions are focusing on similarities with traditional sports instead of the role of technology (Reitman et al., 2020). For instance, Wagner’s (2006) definitions of esports is one of the most quoted one: Esport is 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.” When categorising esports as a sport, the physical motion of traditional sports is not as important as the cultural significance and formal support of the event (Reitman et al., 2020). As governing bodies emerging to guide developments in esports industry as well as the development of professional infrastructure (including tournaments, leagues, fans, teams, team owners, player contracts, sponsors, and etc. features which are similar to traditional physical sports of entertainment), support for the above view of sports is growing (Reitman et al., 2020).

It is also a useful measure of esports spectatorship by comparing to traditional sports. This view of esports emphasises the combination of media and competitive games by focusing on the community and spectating



technology surrounding esports (Kaytoue et al., as cited in Reitman et al., 2020). The most accurate definition is derived from N. Taylor (2016): “E-sports involves the enactment of video games as spectator-driven sport, carried out through promotional activities; broadcasting infrastructures; the socioeconomic organisation of teams, tournaments, and leagues; and the embodied performances of players themselves.”

Twitch and YouTube as emergent platforms have enabled streaming media to act not only for players, but also for performers and entertainers (Reitman et al., 2020). The desire to establish the legitimacy of esports to the public, the media, and investors drives a rising of governance and organisation similar to traditional sports because it is already an important social and cultural tool for young generation (Reitman et al., 2020).

In brief, esports are usually identified as games, sports or mass entertainment, which derive from different frameworks for better understanding (Reitman et al., 2020).

## **2.2. Esports Genres**

Esports consist of many organized video game competitions in which individuals or teams compete according to a set of established rules (García-Lanzo & Chamarro, 2018). However, not all video games can be considered as esports games (Funk, Pizzo, & Baker, 2018). What sets esports apart from

other video games is that they are organized competitions, with video game events held in large sports facilities, followed by millions of online audiences (García-Lanzo & Chamarro, 2018).

Esports encompass several genres: including massive multiplayer online role-playing games (MMORPG; role-playing games that allow a large number of players play together with one another in a virtual world), multiple online battle arena (MOBA) games, real-time strategy (RTS), games first-person shooter (FPS) games, third-person shooter (TPS) games, sport simulation video games, fighting action games, and battle royale games (Jang & Byon, 2020).

One type of game like World of Warcraft (WOW) is MMORPG which features role-playing video games and massive multiplayer online games (Jang & Byon, 2020). The role-playing game (RPG) genre originated from the fantasy-based pre-computer game form, and role development is one of the main characteristics of the genre (Apperley, 2006).

LoL, DOTA2 and HoK are types of MOBA games. MOBA games require two teams of players to control players' avatars and work with teammates to destroy the opposing team's base (Jang & Byon, 2020). MOBA game is a new type based on a combination of pre-existing genres, which are sub-genre of real-time strategy (RTS) games that include role-playing game

(RPG) mechanisms such as characters, weapon customization systems, progression systems, and role-playing (Lawrence, as cited in Jang & Byon, 2020). RTS games are usually played in fantasy worlds or involve military battles, with a single player controlling multiple game units to destroy the base of the opposing player (Pizzo et al., 2018). The StarCraft and WarCraft series are cases of RTS games (Jang & Byon, 2020).

The fourth type of esports genre is first-person shooter (FPS) games like Counter-Strike: Global Offensive (CS: GO) and Call of Duty. Players watch and experience the games through a first-person perspective when they are playing FPS games, which means they cannot fully see their avatars but only the arms, hands and weapons on the screen (Jang & Byon, 2020).

On the contrary, the avatars which are completely visible to the player are called third-person shooter (TPS) games (Apperley, 2006), such as Players Unknown's Battle Grounds (PUBG) and Fortnite which are also considered as battle royale games in general (Jang & Byon, 2020). According to the goal of battle royale games (to eliminate all opponents and eventually become the last player or team to be alive out of hundreds of players or teams within a limited area), this esports genre consists of elements related to survival games, last-man-standing gameplay, and TPS (Jang & Byon, 2020).

Esports genre called fighting action game, like the Street Fighter, is a sub-genre of the action game, along with FPS and TPS (Apperley, 2006). A fighting action game requires close combat (i.e., usually one-on-one) on a virtual stage with time limits (Jang & Byon, 2020). Action games require players to move quickly, be vigilant in their surveillance, and track multiple targets at the same time (Jang, & Byon, 2020).

The final type of esports genre is like the Madden NFL, NBA 2K, and FIFA called sport simulation games. This type of esports games can simulate real-life sport events (Jang & Byon, 2020). Therefore, the rules associated with sport simulation games are similar to those associated with real-life sports (e.g., American football, basketball, soccer), in which avatars represent real-life athletes involved in those sports (Jang, & Byon, 2020).

In order to better understand consumers in terms of their esports-related, genre-based differences, Jang and Byon (2020) develop a new standard of esports categories: three categories of esports genres including imagination, physical enactment, and sport simulation.

The imagination genre of esports games has a primary feature which is fictional, that is fictional worlds, rules, and characters such as MMORPG, RTS, MOBA, and FPS (which inspired by MOBA); Overwatch is an good example of this (Jang, & Byon, 2020).

The physical enactment genre such as fighting games, traditional FPS/TPS games, and battle royale games has primary features that require players' cognitive skills, fast reaction times, and vigilant monitoring (Jang & Byon, 2020).

Lastly, the sport simulation genre is type of esports games like the Madden NFL series, the FIFA series, the NBA 2K series, and Rocket League that emulate real-life sport events' rules, teams, or players (Jang & Byon, 2020). The primary rules of this type of esports based on the traditional sport rules may already be familiar to players (Jang & Byon, 2020).

### **2.3. Types of Esports Players**

It is important to classify and understand types of esports players to study esports use and consumption behaviours (Hedlund, 2021). Most of studies on esports players types are derived from Bartle's research which divides video gamers into four types: killers, achievers, explorers, socializers (as cited in Hedlund, 2021).

Later on, a study conducted by Ip and Jacobs (2005) classified players as casual and hardcore, which based on players' knowledge, attitude and behaviour. Yee (2006) then identified three types of players motivated by achievement, immersion, and the opportunity to be social. More years later, three types of players based on the need of exploration and the need of

aggression were identified by Tseng (2011), which are aggressive gamers, social gamers, and inactive gamers.

Hamari and Tuunanen (2014) recognized the importance of demographic, geographic, psychographic and behavioural segmentation methods in studying player types. They point out five motives that could underpin segmentation activities, including achievement, exploration, sociability, domination, and immersion (Hamari & Tuunanen, 2014).

Later, market research firms start to use academic research and findings to study classification systems on the types of esports players (Hedlund, 2021). The first classification system is called behavioural classification systems which is based on the platform on which gamers play esports and frequency of playing (Hedlund, 2021). Niko Partners (2019) categorized gamers into six categories by using data on esports players' levels of competition and completion, which including hardcore mobile gamers, hardcore PC gamers, core gamers, casual gamers, super consumers and casual demolitionists. Meanwhile, PC-dominant, mobile-dominant, console-dominant, or multiplatform players were identified by Westcott and colleagues (2019).

The second classification system focuses more on how players play esports. Niko Partners (2019) identified six types of gamers based on their

measured levels of competition, completion, community and challenge, which were labelled as Competitive Arena Gamers, Casual Challengers, Fantasy Arena Gamers, Arena Gamers, Strategists, and Skill Masters.

The third classification system is using numerous classification variables which are based on how much players' play, view and own esports goods and services. Newzoo (2019) then identified eight types of gamers: (1) The Ultimate Gamer (plays, views and owns a lot of esports hardware), (2) The All-Around Enthusiast (plays, views and owns, but to a lesser extent), (3) The Cloud Gamer (plays and views), (4) The Conventional Player (plays and owns some hardware), (5) The Hardware Enthusiast (focuses on owning hardware), (6) The Popcorn Gamer (watches a lot of esports), (7) The Backseat Viewer (watches a little esports), and (8) The Time Filler (plays esports a little and owns a few pieces of hardware).

Most recently, Hedlund (2021) identified and categorized modern day esports players into five types: (1) Competitive, (2) Casual, (3) Casual-Social, (4) Casual-Fun, and (5) Casual-Competitive esports players, which are based on six psychographic factors (socialization, positive effect, competition, fantasy/escape, coping, pass/waste time) as well as demographic and behavioural characteristics.

## **2.4. Esports under the COVID-19**

Esports popularity, spectatorship and participation are increasing rapidly, with sports fans looking for alternative ways to fulfil their hobbies as global enforced lockdown and cancellation of major sporting events in response to COVID-19.

In order to maintain spectatorships and sponsorship deals, traditional sporting clubs are beginning to create esports teams as an alternative (Cranmer, Han, Gisbergen, & Jung, 2021).

The recent outdoor activities restrictions caused by the COVID-19 crisis have shown a dramatic increase in online streaming and gaming activities (Cranmer et al., 2021). Chinese esports revenue has already been reported to have increased by 18% compare to 2019 (NewZoo, 2020). However, It remains to be seen whether esports spectatorship, participation, spending, and streaming have increased as a result of the crisis and whether they continue to increase.

## **2.5. Theoretical Frameworks of Motivations**

There are several theories related to motivations, for example, need hierarchy theory, social influence model, uses and gratification theory, and self-determination theory.



Need hierarchy theory has five hierarchical stages of human needs which include physiological needs, safety needs, love needs, esteem needs, and self-actualization needs (Maslow, as cited in Lee & Schoenstedt, 2011). Social Influence Model (SIM) is a model that suggests there is “a causal relationship between motivational drivers and participation behavior in network-like environments”, and the constructs are mediated by social influence variables, decision-makings, as well as intentional variables (Eisenbeiss, Blechschmidt, Backhaus, & Freund, 2012, p.6).

However, the most common theories used in research are the uses and gratification theory (U&G; Katz et al., 1974) and self-determination theory (SDT; Deci & Ryan, 1985). The U&G theory is considered to be one of the most commonly adopted frameworks for understanding the consumption and impact of new media technologies (Qian et al., 2020).

The U&G theory is about finding social and psychological needs that motivate people to use certain types of media and engage in certain media use behaviors to meet their needs (Eisenbeiss et al., 2012). “It rests upon three main pillars, (1) beliefs and evaluations, (2) need gratifications sought, and (3) need gratifications obtained” (Weiss & Schiele, 2013, p.309). In the case of competitive game play like esports, previous studies have highlighted ten need gratifications: five competitive ones which associated with prosperity

through competition that are competition, achievement, challenge, reputation, and rewards; and five hedonic ones relating to immersion and socialization that are social relationship, escapism, self-fulfillment, fun, and virtual identity (Yee, 2006).

Self-determination theory (SDT) is a macrotheory of human motivation, which addresses basic issues like “personality development, self-regulation, universal psychological needs, life goals and aspirations, energy and vitality, nonconscious processes, the relations of culture to motivation, and the impact of social environments on motivation, affect, behavior, and well-being” (Deci & Ryan, 2008, p.182). It is further applied to issues of life domains, while recently, SDT studies have been applied mostly in fields of sport, education, and health care (Deci & Ryan, 2008).

SDT differentiates types of motivation as autonomous motivation, controlled motivation, and amotivation. Autonomous motivation contains intrinsic motivation and extrinsic motivation. When people have autonomous motivation, they experience willingness or a self-endorsement of their actions (Deci & Ryan, 2008). In contrast, controlled motivation consists of both external regulation and introjected regulation. External regulation refers to the fact that a person’s behavior is a function of external contingencies of reward or punishment; while introjected regulation is the

regulation of action that has been partially internalized and energized by factors such as an approval motivation, avoidance of shame, occasional self-esteem, and self-involvements (Deci & Ryan, 2008). Amotivation refers to a lack of intention and motivation. Both autonomous motivation and controlled motivation can lead to very different outcomes across domains (Deci & Ryan, 2008). Autonomous motivation tends to produce greater mental health and more effective performance on heuristic-type activities. It also leads to greater long-term persistence and sustains changes to healthier behaviors (Deci & Ryan, 2008).

Researches related to SDT also focus on how the motivational processes and principles of SDT operate on both conscious and nonconscious levels. Years of research have shown that satisfaction of the three basic needs for competence, autonomy, and relatedness can predict mental health across all cultures (Deci & Ryan, 2008).

Studies also apply a newly developed measure of need satisfaction in play based upon SDT (and particularly the mini theories of CET and BPN) to the understanding of gaming motivation, both in general and comparatively across different gaming contexts (Ryan, Rigby, & Przybylski, 2006).

Cognitive Evaluation Theory (CET) is a sub theory derived from SDT, which pays particular attention to external factors that support or hinder

intrinsic motivation (Ryan et al., 2006; Ryan & Deci, as cited in Song, Kim, Tenzek, & Lee, 2013). CET suggests that intrinsic motivation is supported by events and conditions that enhance a person's sense of autonomy and competence, but could be undermined by factors that impair perceptual autonomy or competence (Ryan et al., 2006). Basic psychological need theory (BPN) is another mini theory within SDT, which states that the effect of any activity on health is a function of one experiencing satisfaction of needs (Ryan et al., 2006). In addition to the factors that help meet satisfaction of needs for autonomy and competence in the gaming experience, when a person feels connected to others, they experience relatedness which represents the third psychological need that can enhance motivation and health (La Guardia, Ryan, Couchman, & Deci, as cited in Ryan et al., 2006).

## **2.6. Motivations for Esports Participation**

In recent academic research, some focused on the spectator motivations for watching esports (see Hamari & Sjöblom, 2017; Lee & Schoenstedt, 2011; Qian et al., 2020; Weiss & Schiele, 2013), while some focused on participating motivations in playing video games, for example: Cianfrone, Zhang, and Jae Ko (2011) modified and extended the Sport Video Game Motivation Scale (SVGMS). The original SVGMS includes seven factors: Competition, Fantasy, Social Interaction, Sport Knowledge

Application, Entertainment, Diversion, and Identification with Sport, which was also referred as Sport Interest. After examining the validity of the modified SVGMS scale, Team Identification is added as a new factor to the scale. Therefore, eight factors including Competition, Diversion, Entertainment, Fantasy, Sport Knowledge Application, Sport Interest, Social, and Team Identification are important SVG gamer motives (Cianfrone et al., 2011).

Hedlund (2019) created and validated the Motivation Scale for Esports Players (MSEP) which include six psychographic factors (socialization, positive affect, competition, fantasy/escape, coping, and passing/wasting time).

However, research focused on participants' motivations to play esports remains inadequate. Whether intentional or simply overlooked during this period, there might be confusion between the motivations to play video games compared to motivations to play esports (Hedlund, 2021). This confusion could be even more exacerbated today, as many video games offer the option to play video games against the computer (similar to traditional-type video games), as well as a separate option for players to play the same game with and/or against other players or teams (similar to esports nowadays) (Hedlund, 2021). Hedlund (2021) believed that there is still a lack of research

focusing on understanding esports players and their motivations for playing video games and esports.

## **2.7. Motivations for Esports Consumption**

With the rise of esports, sports are increasingly seen as a form of media with computer as the medium, which is not only because sports media content is delivered through computerized broadcasts like streaming on the internet, but also because the entire sporting activity is mediated by computer as well (Hamari & Sjöblom, 2017). As with any other media and media content study, the study of sports consumption focuses on people's motivations for consuming it, how they consume it, and what needs a given form of media might meet (Hamari & Sjöblom, 2017).

The uses and gratification theory (U&G) framework might be the most common perspective for analyzing media consumption in the field of communication and media research (Katz et al., 1974), which is particularly used in the study of online environments, including online gaming, Facebook, video streaming, Twitter, and fantasy sports (Hamari & Sjöblom, 2017). U&G pays particular attention to understanding media consumption from an individual perspective rather than from media genre (Hamari & Sjöblom, 2017).

The two most widely used measurement scales in studies of sports consumption are the motivation scale for sports consumption (MSSC) scale (Trail & James, 2001) and the sports fan motivation scale (SFMS) (Wann et al., 1999). Qualitative literature suggests that the reasons for esports consumption should correspond to those of traditional sports in principle (Hamari & Sjöblom, 2017).

Kim and Ross (2006) were among the first to study sports video games (SVG) motivations and develop a scale of measurement based on the U&G approach (Katz et al., 1974). They identified seven SVG motivational factors: Social Interaction, Fantasy, Competition, Entertainment, Pastime, Knowledge Application, and Interest in Sport.

Later on, research derived by Lee and Schoenstedt (2011) aims to find motivational and behavioral patterns of eSports consumption by examine the motives which affect time spent on eSports participation. The further objective is to compare these patterns with the seven involvements in traditional sports (or non-esports) which include game participation, game attendance, sports viewership, sports readership, sports listenership, Internet usage specific to sports, and purchase of team merchandise (Lee & Schoenstedt, 2011). 14 eSports consumption motives borrowed from previous studies are used as their survey instrument, which include social

interaction, fantasy, identification with sport, diversion, competition, entertainment, sport knowledge application, arousal, design/graphics, pass time, control, skill building for playing actual sport, permanence, and peer pressure. The results show that personal and social element, more specifically, three motives (competition, peer pressure, and skill building for actual playing of sport) have a significant impact on time spent on eSport participation (Lee & Schoenstedt, 2011). However, unlike in the general literature, design/graphics, permanence, and control options do not have statistically significant impact on this study (Lee & Schoenstedt, 2011).

More recently, Rogers, Farquhar, and Mummert (2020) explored motivations for esports consumption on a more nuanced level and to see whether esports should be treated as a monolithic concept or esports and sports as concepts differ from specific games. The further objective of their research is to find motivational differences between broadly viewing esports and viewing a specific title within esports (NBA 2K) (Rogers et al., 2020). Many of the variables used by other researchers are implemented and classified in this study as three categories: emotional motivations, cognitive motivations, and behavioral motivations. Emotional motivation is a common one also for traditional sports, which include entertainment, enjoyment, arousal, self-esteem, passing time, and escape. Cognitive motivations contain



surveillance (watch sports to learn about the game), fanship, competence, and autonomy (the feeling of choice and independence while participating). Behavioral motivations focus on social interactions and commonly cited motivations like peer pressure and relatedness. The results show that there are motivational differences between watching the NBA 2K League and watching esports generally, which suggests that esports should not be seen as a monolithic concept. The same reason also can be applied in current study that motivations for esports consumption should be researched at nuanced level.

## **Chapter 3. Research Method**

For the RQ1 in the current study, the motivations scale for mobile esports consumption (MSMEC) was developed in two phases and took HoK as a nuanced level case: (1) a preliminary qualitative phase and (2) a quantitative phase. The objective of the preliminary phase is to generate potential items through a review of relevant literatures (i.e., motivations for esports playing literatures, motivations for esports spectating literatures, motivations for esports spending literatures, and motivations for esports consumption literatures) combined with a qualitative research component. The quantitative phase used a convenience sampling method to address consumption and motivational areas. (3) Then RQ2 was answered by comparing the results of MSMEC in HoK with previous studies on motivations for esports consumption.

### **3.1. Preliminary Phase**

The purpose of the preliminary phase is to generate a pool of items for further quantitative study. Items were generated from previous literatures.

#### **3.1.1. Item Generation**

Based on the literature review and conclusion from an author who had done research on the motivations for play in video games, 8 potential motives were advanced: (1) competition, (2) diversion, (3) entertainment, (4) fantasy,

(5) social interaction, (6) sport knowledge application, (7) sport interest, (8) team ID (Cianfrone, Zhang, & Ko, 2011). The esports spectating motivation literature review identified 10 potential motives for esports consumption: (1) skill improvement, (2) skill appreciation, (3) vicarious sensation, (4) competition excitement, (5) friends bonding, (6) socialization opportunity, (7) dramatic nature, (8) entertaining nature, (9) competitive nature, (10) game knowledge (Qian et. al, 2020). Finally, reviewing of motives for esports consumption led to 14 potential motives: (1) entertainment, (2) knowledge, (3) control, (4) identification with sport, (5) design/graphics, (6) competition, (7) permanence, (8) to pass time, (9) fantasy, (10) social interaction, (11) diversion, (12) arousal, (13) skill, (14) peer pressure (Lee & Schoenstedt, 2011).

The potential motives identified via the literature review were aggregated, and redundancies among the HoK playing, spectating, and consumption motivations were eliminated by combining similar concepts (e.g., entertainment and entertaining nature) and removing irrelevant concepts (e.g., identification with sport). This resulted in 11 potential motives for HoK consumption as a new MSMEC in the current study: (1) entertainment, (2) knowledge, (3) control, (4) design/graphics, (5) competition, (6) permanence, (7) to pass time, (8) social interaction, (9)

diversion, (10) arousal, (11) peer pressure. Table 1 provides operational definitions of these 11 potential motives of MSMEC.

**Table 1**

*Definitions of Motives in MSMEC*

Motives	Definition
Entertainment	Entertainment regards excitement and amusement in the consumption (Rogers, Farquhar, & Mummert, 2020).
Knowledge	Knowledge regards game strategies and knowledge applied in esports consumption.
Control	Controlling aspect and setting up ability of the game in the consumption.
Design/graphics	This criterion is about the attraction brought by game design or vivid graphic.
Competition	This criterion includes motivations such as the development of one's skills at playing esports and the opportunity to use those skills to defeat other players (Hedlund, 2019).
Permanence	Permanence means the availability, convenience, and unlimited playing time when consuming esports.
To pass time	This criterion measures the motivations of players to simply use gaming to pass the time, in part because they may have nothing else to do (Hedlund, 2019).
Social interaction	Social interaction is creating and maintaining relationships and includes both family and friends (Rogers, Farquhar, & Mummert, 2020).
Diversion	It involves taking a mental break from regular daily concerns of family, work, school, or any other environment (Rogers, Farquhar, & Mummert, 2020).
Arousal	This motivation can be tied to the thrill of victory, especially when the outcome is uncertain (Rogers, Farquhar, & Mummert, 2020).
Peer pressure	This pressure is exerted by friends or fellow members of the community. Regarding esports, the pressure may be to watch and participate through either actual playing or commenting during media consumption (Rogers, Farquhar, & Mummert, 2020).

### **3.2. Quantitative Phase**

In phase 2, the initial MSMEC that generated in the preliminary phase was used in this quantitative study. Based on the RQ1 and generated MSMEC from literature review, the following hypotheses were proposed for the study:

- H1. Entertainment is positively associated with HoK consumption.
- H2. Knowledge is positively associated with HoK consumption.
- H3. Control is positively associated with HoK consumption.
- H4. Design/graphics is positively associated with HoK consumption.
- H5. Competition is positively associated with HoK consumption.
- H6. Permanence is positively associated with HoK consumption.
- H7. To pass time is positively associated with HoK consumption.
- H8. Social interaction is positively associated with HoK consumption.
- H9. Diversion is positively associated with HoK consumption.
- H10. Arousal is positively associated with HoK consumption.
- H11. Peer pressure is positively associated with HoK consumption.

Due to the pandemic and activities restrictions, people have more time to stay at home and reduce social interactions. Therefore, people probably are

more willing to spend time on esports and use esports as a tool to entertaining and social interact with others. Thus, it can be hypothesized to RQ2:

H12. Entertainment, social interaction, and to pass time are three impacts on HoK consumption.

### 3.2.1. Measurement

A survey questionnaire derived from a list of scale items for each motive (see Table 12) was translated to Chinese for samples in China. The translated version of items was then evaluated by three graduates who major in English-Chinese translation and interpretation.

The Chinese version items was measured on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Additionally, demographic questions such as gender, age, education level, employment status, etc. were also included in the survey questionnaire.

### 3.2.2. Data Collection and Procedures

An online survey platform in mainland China, which provides functions equivalent to Google Forms, was used to design the questionnaire. A social mobile app (named WeChat which is similar to Facebook and Kakaotalk) was used to send out the questionnaire link. The responses were sent directly to the researcher's survey server for data collection.

A total of 364 questionnaires were collected, among which 48 were either incomplete or invalid. Consequently, a total of 316 valid responses were acceptable, which represented 87% of the total participants.

### 3.2.3. Data Analysis

Procedures in the SPSS program were carried out to calculate descriptive statistics, reliability and validity analysis, correlation and multiple regression analysis.

Reliability analysis was used to evaluate the internal consistency of a multiple item scale questions, especially Likert-type items that need to be summed to make a composite scale (Barrett, Leech, & Morgan, 2008). First of all, the Cronbach's coefficient alpha (Cronbach  $\alpha$ ) was analyzed. If the alpha value is higher than 0.8, it means the item will make a really good component of the scale; if the value is between 0.7~0.8, it is also considered to be a reliable scale; the value between 0.6~0.7 means the scale is just acceptable; while if the value is lower than 0.6, the reliability of the scale is considered to be poor (Eisinga, Te Grotenhuis, & Pelzer, 2013). In addition, if the Corrected Item-Total Correlation (CITC) value is less than 0.3, then the item should be considered to be modified or deleted (Eisinga et al., 2013).

Then validity analysis was used to examine the design rationality of the quantitative data. Factor analysis which includes comprehensive analysis

of KMO (Kaiser-Meyer-Olkin measure of sampling adequacy), communality, percentage of variance, and factor loading was used to verify the validity level of the data. KMO was used to determine the suitability of information extraction, that high value (higher than 0.6) means the research data is suitable for extracting information, which indicates the good validity (Chung, Kim, & Abreu, 2004). Communality was used to exclude unreasonable research items (Chung et al., 2004). The item is considered to be removed if the communality value is less than 0.4 (or sometimes 0.5) (Chung et al., 2004). Then, percentage of variance was used to describe the level of information extraction (Chung et al., 2004). Factor loading was used to measure the correlations between factors and variables (Malhotra, 2019).

Correlation analysis was used to examine the relationship between quantitative data to see whether there is a relationship and how strong the relationship is (Malhotra, 2019). Meanwhile, correlation analysis was also used to study relationships between dependent variable (time spent on HoK) and 11 independent variables (motives in MSMEC) respectively by using Spearman correlation coefficient to indicate the strength of the relationships (Hauke & Kossowski, 2011).

Multiple regression analysis was used to examine cause-and-effect relationships between a single dependent variable (time spent on HoK) and



independent variables (motives in MSMEC) (Malhotra, 2019). The strength of association or the model fit will be measured by coefficient of multiple determination ( $R^2$ ) (Malhotra, 2019). The multicollinearity was also tested by the variance inflation factor (VIF) value (Sun, 2000). And significance testing which involves testing the significance of the over regression equation and specific partial regression coefficients will be conducted to examine RQ2 whether those motives are significantly related to HoK consumption. In order to further evaluate the efficacy of the regression model, an examination of the residuals, including Durbin-Watson test, residual normality test and residual homogeneity test, was also conducted (Malhotra, 2019).

Moreover, cross-validate the regression model was necessary for the current study (Malhotra, 2019) to evaluate the generalizability of the results. Therefore, the entire data set was split into two parts, one is estimation sample which contains 70% of the total sample, and rest of the sample is the validation sample (30%). Predicted values was created for the validation sample by applying the regression model from the analysis that used estimation sample (Malhotra, 2019). Then, the predicted values and actual values in the validation sample were correlated to find  $R^2$  (Malhotra, 2019). According to Tabachnick and Fidell, a small discrepancy between  $R^2$  for the

estimation and validation samples indicates generalizability of the findings of the study (2001).

## Chapter 4. Results

### 4.1. Descriptive Statistics

The average year of playing HoK among samples was 3.945, meanwhile the average time spent on HoK per week was 8.342. The sample consisted of 48.73% male and 51.27% female participants. The majority of participants were between 20 and 35 years old ( $M_{age}=26.29$ ). The education level of major responses was university level which accounted to 64.56%. In the employment status, more than 60% of the samples were full-time employments. In addition, another major group was students which reached over 31%. The motivation scales and their mean scores, standard deviations, and medians are reported in Table 2. Motivation CONTROL had the highest mean score (Mean=5.601; Std. Deviation=1.041), while motivation PEER PRESSURE had the lowest mean score (Mean=3.714; Std. Deviation=1.484). Other means of motivations were all above 4.0, which is the midpoint of the 7-point Likert scale.

Table 2

#### *Descriptive Analysis*

Motivations	N of samples	Min	Max	Mean	Std. Deviation	Median
ENTERTAINMENT	316	1.333	7.000	5.307	1.023	5.333

Motivations	N of samples	Min	Max	Mean	Std. Deviation	Median
KNOWLEDGE	316	1.000	7.000	5.263	1.109	5.500
CONTROL	316	1.000	7.000	5.601	1.041	6.000
DESIGN_GRAPHIC	316	1.000	7.000	5.212	1.207	5.333
COMPETITION	316	1.000	7.000	4.268	1.565	4.333
PERMANENCE	316	1.000	7.000	5.038	1.312	5.333
TO_PASS_TIME	316	1.000	7.000	4.199	1.362	4.333
SOCIAL_INTERACTION	316	1.000	7.000	5.032	1.333	5.250
DIVERSION	316	1.000	7.000	4.113	1.479	4.333
AROUSAL	316	1.000	7.000	4.756	1.427	5.000
PEER_PRESSURE	316	1.000	7.000	3.714	1.484	4.000

#### 4.2. Reliability and Validity Analysis

The reliability of the motivation scale (MSMEC) was examined using Cronbach coefficient alpha (Cronbach  $\alpha$ ). From Table 3., the Cronbach  $\alpha$  is 0.856, greater than 0.8, which indicates the overall reliability of MSMEC was acceptable. However, the CITC value of motivation TO PASS TIME is 0.235,

between 0.2 and 0.3, which suggests a poor correlation between it and the rest of motivations, thus need to be considered for deletion.

**Table 3**

*Reliability Statistics (Cronbach Alpha)*

Items	Corrected Item-Total Correlation(CITC)	Cronbach Alpha if Item Deleted	Cronbach $\alpha$
ENTERTAINMENT	0.587	0.842	
KNOWLEDGE	0.575	0.843	
CONTROL	0.535	0.846	
DESIGN_GRAPHIC	0.590	0.841	
COMPETITION	0.609	0.839	
PERMANENCE	0.595	0.841	0.856
TO_PASS_TIME	0.235	0.869	
SOCIAL_INTERACTION	0.602	0.840	
DIVERSION	0.659	0.834	
AROUSAL	0.624	0.838	
PEER_PRESSURE	0.512	0.848	

The 11 motivations were then assessed with validity test. Table 4. shows that only the communality of motivation TO PASS TIME is lower than 0.4, indicating that the information of this one cannot be effectively extracted. Therefore, considering both the CITC value and communality value of TO

PASS TIME, this motivation should be deleted from the scale for any further analysis.

Table 4

*Validity Analysis (11 Motivations)*

Items	Factor Loadings		Communalities
	Factor 1	Factor 2	
ENTERTAINMENT	0.720	0.182	0.551
KNOWLEDGE	0.845	0.014	0.714
CONTROL	0.796	0.000	0.634
DESIGN_GRAPHIC	0.715	0.203	0.553
COMPETITION	0.505	0.496	0.501
PERMANENCE	0.504	0.465	0.470
TO_PASS_TIME	-0.078	0.612	0.381
SOCIAL_INTERACTION	0.512	0.476	0.489
DIVERSION	0.452	0.634	0.605
AROUSAL	0.587	0.417	0.519
PEER_PRESSURE	0.111	0.837	0.712
Eigenvalues (Initial)	4.785	1.344	-
% of Variance (Initial)	43.501%	12.215%	-
% of Cum. Variance (Initial)	43.501%	55.716%	-
Eigenvalues (Rotated)	3.716	2.413	-
% of Variance (Rotated)	33.782%	21.934%	-
% of Cum. Variance (Rotated)	33.782%	55.716%	-
KMO	0.869		-
Bartlett's Test of Sphericity (Chi-Square)	1001.706		-
<i>df</i>	55		-
<i>p</i> value	.000		-

*Note:* Blue indicates that the absolute value of loading is greater than 0.4, and red indicates that the communality is less than 0.4.

The validity was examined again after the removed motivation as shows in Table 5.: communality values of all 10 motivations shows higher than 0.4, and KMO value is 0.872 (greater than 0.6), which suggests that the information of all motivations can be extracted effectively. In addition, the percentage of variance of factor 1 and 2 are 30.318% and 29.018% respectively; the rotated cumulative percentage of variance is 59.336% (>50%) which also means that the information of these 10 motivations can be better extracted (Chung et al., 2004).

**Table 5**

*Validity Analysis (10 Motivations)*

Items	Factor Loadings		Communalities
	<i>Factor 1</i>	<i>Factor 2</i>	
ENTERTAINMENT	0.715	0.259	0.579
KNOWLEDGE	0.809	0.156	0.679
CONTROL	0.820	0.107	0.684
DESIGN_GRAPHIC	0.681	0.300	0.554
COMPETITION	0.300	0.704	0.585
PERMANENCE	0.446	0.485	0.435
SOCIAL_INTERACTION	0.430	0.544	0.481
DIVERSION	0.270	0.777	0.676
AROUSAL	0.420	0.603	0.540

Items	Factor Loadings		Communalities
	<i>Factor 1</i>	<i>Factor 2</i>	
PEER_PRESSURE	-0.072	0.846	0.721
Eigenvalues (Initial)	4.635	1.298	-
% of Variance (Initial)	46.354%	12.982%	-
% of Cum. Variance (Initial)	46.354%	59.336%	-
Eigenvalues (Rotated)	3.032	2.902	-
% of Variance (Rotated)	30.318%	29.018%	-
% of Cum. Variance (Rotated)	30.318%	59.336%	-
KMO	0.872		-
Bartlett's Test of Sphericity (Chi-Square)	973.340		-
<i>df</i>	45		-
<i>p</i> value	0.000		-

Note: Blue indicates that the absolute value of loading is greater than 0.4, and red indicates that the communality is less than 0.4.

### 4.3. Correlation Analysis

Correlation analysis was conducted for the 10 motivations by using Spearman correlation coefficient to indicate the strength of their association. Table 6. suggests all 10 motivations show significance, and their correlation



coefficient values are greater than 0, which indicates all of them are positively associated.

**Table 6**

*Correlation (Motivations)*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
ENTERTAINMENT (1)	1									
KNOWLEDGE (2)	0.484**	1								
CONTROL (3)	0.403**	0.589**	1							
DESIGN/GRAPHIC (4)	0.507**	0.448**	0.491**	1						
COMPETITION (5)	0.401**	0.390**	0.371**	0.409**	1					
PERMANENCE (6)	0.498**	0.288**	0.330**	0.408**	0.347**	1				
SOCIAL INTERACTION (7)	0.375**	0.428**	0.415**	0.451**	0.355**	0.457**	1			
DIVERSION (8)	0.471**	0.351**	0.310**	0.437**	0.569**	0.444**	0.446**	1		
AROUSAL (9)	0.515**	0.442**	0.388**	0.475**	0.550**	0.429**	0.463**	0.633**	1	
PEER PRESSURE (10)	0.288**	0.156**	0.149**	0.299**	0.537**	0.294**	0.438**	0.499**	0.425**	1

\*  $p < 0.05$  \*\*  $p < 0.01$

Correlation analysis was also used to study the strength and direction of association between HoK consumption (Time Spent on HoK per week) and all motivations (Table 7). TO PASS TIME was also evaluated to find out if there's any possibility of association between it and HoK consumption. Specific analysis can be seen: The correlation coefficient between HoK consumption and ENTERTAINMENT has a value of 0.161 and shows a significance of 0.01 level, thus indicating a significant positive association between HoK consumption and ENTERTAINMENT. The correlation coefficient between HoK consumption and KNOWLEDGE is 0.319 and shows a significant level of 0.01, thus indicating a significant positive association between HoK consumption and KNOWLEDGE. The correlation coefficient between HoK consumption and CONTROL is 0.160 and shows a significant level of 0.01, thus indicating a significant positive association between HoK consumption and CONTROL. The correlation coefficient between HoK consumption and DESIGN/GRAPHIC is 0.220 and shows a significant level of 0.01, thus indicating a significant positive association between HoK consumption and DESIGN/GRAPHIC. The correlation coefficient HoK consumption and COMPETITION is 0.194 and shows a significant level of 0.01, thus indicating a significant positive association between HoK consumption and COMPETITION. The correlation coefficient

between HoK consumption and PERMANENCE is 0.185 and shows a significant level of 0.01, thus indicating a significant positive association between HoK consumption and PERMANENCE. The correlation coefficient between HoK consumption and TO PASS TIME is 0.067, close to 0, and the P value is  $0.251 > 0.05$ , thus indicating that there is no association between HoK consumption and TO PASS TIME. Therefore, it suggests again TO PASS TIME should be eliminated from MSMEC. The correlation coefficient between HoK consumption and SOCIAL INTERACTION is 0.201 and shows a significance of 0.01 levels, therefore, there is a significant positive association between HoK consumption and SOCIAL INTERACTION. The correlation coefficient between HoK consumption and DIVERSION is 0.141 and shows a significant level of 0.05, thus indicating a significant positive association between HoK consumption and DIVERSION. The correlation coefficient between HoK consumption and AROUSAL is 0.207 and shows a significant level of 0.01, thus indicating a significant positive association between HoK consumption and AROUSAL. The correlation coefficient between HoK consumption and PEER PRESSURE is 0.134 and shows a significant level of 0.05, thus indicating a significant positive association

between HoK consumption and PEER PRESSURE. Therefore, except hypothesis H7, hypotheses H1 to H11 are all confirmed.

**Table 7**

*Correlation (Consumption & Motivations)*

	HoK Consumption <i>(Time Spent on HoK per week)</i>
ENTERTAINMENT	.161**
KNOWLEDGE	.319**
CONTROL	.160**
DESIGN_GRAPHIC	.220**
COMPETITION	.194**
PERMANENCE	.185**
TO_PASS_TIME	.067
SOCIAL_INTERACTION	.201**
DIVERSION	.141*
AROUSAL	.207**
PEER_PRESSURE	.134*

\*  $p < .05$  \*\*  $p < .01$

#### **4.4. Regression Analysis**

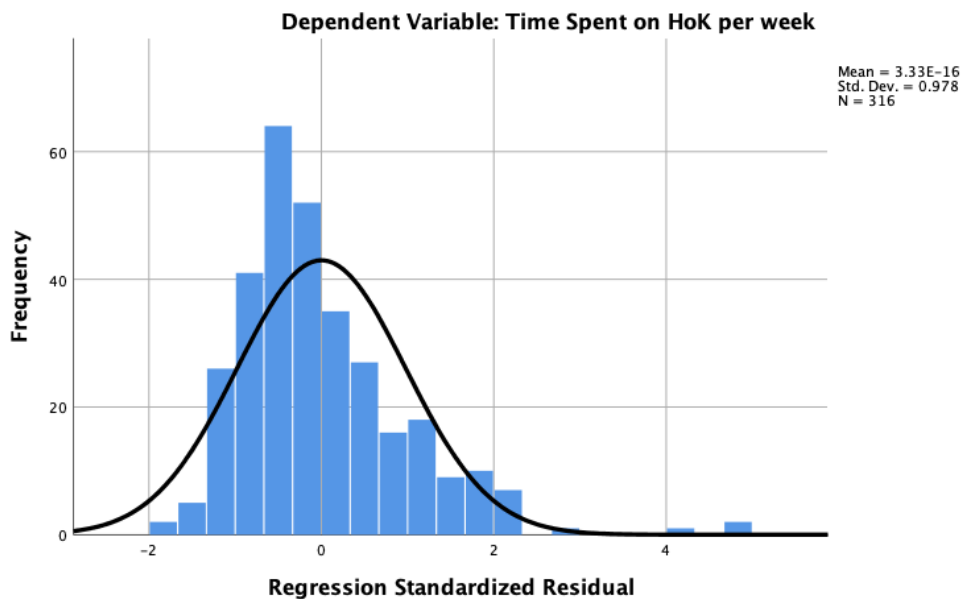
In order to detect outliers among predictors, procedure based on Z-score and examination of boxplots were conducted in SPSS, which shows no

outliers. After linear regression analysis, the multicollinearity of the model was tested and found that the VIF values in the model are all less than 5, which means there is no multicollinearity problem (Table 8). And Durbin-Watson test was used to exam the correlations between the error terms, which shows the value is near the number 2 (Table 8). That means the linear model does not have self-correlation, thus the efficacy of the linear model is good.

Moreover, the normality of residuals was examined by histogram (Figure 1) which shows that the residuals intuitively satisfy normality (Sun, 2000). This also indicates the model is well fitted.

Figure 1

*Histogram*



**Table 8**

*Parameter Estimates*

	Unstandardized Coefficients		Standardized Coefficients		t	p	VIF	R <sup>2</sup>	Adj R <sup>2</sup>	F
	B	Std. Error	Beta							
Constant	-0.681	5.309	-	-	-0.128	.898	-			
Age	0.096	0.118	0.061	0.061	0.809	.419	1.591			
Gender	-2.034	1.058	-0.123	-0.123	-1.922	.056	1.151			
Education level	-0.809	0.584	-0.087	-0.087	-1.386	.167	1.113			
Employment Status	0.357	0.567	0.048	0.048	0.630	.530	1.651			
ENTERTAINMENT	-1.756	0.788	-0.179	-0.179	-2.228	.027*	1.811			
KNOWLEDGE	2.793	0.790	0.304	0.304	3.535	.000**	2.077			
CONTROL	-1.641	0.822	-0.168	-0.168	-1.997	.047*	1.978	0.163	0.113	F(14,235)=3.258, p=.000
DESIGN_GRAPHIC	0.258	0.721	0.029	0.029	0.358	.720	1.811			
COMPETITION	0.236	0.506	0.039	0.039	0.466	.641	1.943			
PERMANENCE	0.553	0.615	0.067	0.067	0.898	.370	1.582			
SOCIAL_INTERACTION	0.644	0.631	0.082	0.082	1.021	.308	1.812			
DIVERSION	-0.053	0.586	-0.008	-0.008	-0.090	.928	2.066			
AROUSAL	0.802	0.597	0.109	0.109	1.345	.180	1.861			
PEER_PRESSURE	0.341	0.499	0.054	0.054	0.685	.494	1.742			

Dependent Variable: Time Spent on HoK per week

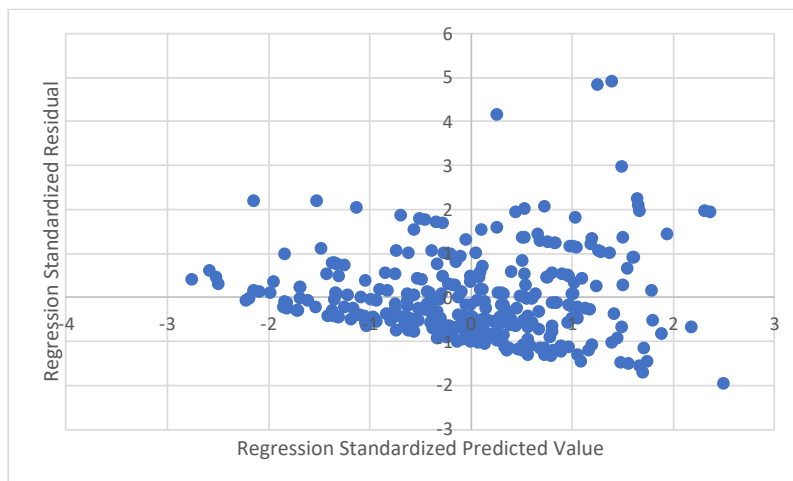
D-W: 1.714

\* p<.05 \*\* p<.01

However, after examining the homogeneity of residual variance by scatterplot (Figure 2), it is found that the residual value widens with the increase of the predicted value, indicating that there's a problem of heteroskedasticity (Sun, 2000). Meanwhile, White test and Modified Breusch-Pagan test (BP test) were also conducted to double check the heteroskedasticity. As shows in Table 9, assuming that the model has no problem of heteroskedasticity, then the White test accepts this assumption ( $p=0.752>0.05$ ); however, p value of BP test shows significant ( $0.000<0.05$ ), indicating the assumption has been violated. Therefore, an alternative strategy for estimating regression parameters - most importantly, the standard errors – was used, which was to obtain robust standard errors.

**Figure 2**

*Scatterplot*



**Table 9**

*Tests for Heteroskedasticity*

White Test		Modified Breusch-Pagan Test	
<i>Chi-Square</i>	<i>p</i>	<i>Chi-Square</i>	<i>p</i>
107.217	.752	15.707	.000

Using Time Spent on HoK per week (hereinafter referred to as time spent) as dependent variable, 4 demographic variables (Age, Gender, Education Level, Employment Status) and 10 motivational variables (ENTERTAINMENT, KNOWLEDGE, CONTROL, DESIGN/GRAPHIC, COMPETITION, PERMANENCE, SOCIAL INTERACTION, DIVERSION, AROUSAL, PEER PRESSURE) as independent variables for Ordinary Least Squares (OLS) regression analysis with Robust standard errors, the results can be seen in Table 10.

Model's adjusted R square value of 0.113 means that 11.30% of the variance in time spent can be predicted from Age, Gender, Education Level, Employment Status, and ENTERTAINMENT, KNOWLEDGE, CONTROL, DESIGN/GRAPHIC, COMPETITION, PERMANENCE, SOCIAL INTERACTION, DIVERSION, AROUSAL, PEER PRESSURE. F value reveals that the model passed the F test ( $F=3.128$ ,  $p=0.000<0.05$ ), suggesting



that the combination of these variables significantly predicts the dependent (time spent). And the model formula is:  $\text{Time spent} = -0.681 + 0.096 * \text{Age} - 2.034 * \text{Gender} - 0.809 * \text{Education Level} + 0.357 * \text{Employment Status} - 1.756 * \text{ENTERTAINMENT} + 2.793 * \text{KNOWLEDGE} - 1.641 * \text{CONTROL} + 0.258 * \text{DESIGN/GRAPHIC} + 0.236 * \text{COMPETITION} + 0.553 * \text{PERMANENCE} + 0.644 * \text{SOCIAL INTERACTION} - 0.053 * \text{DIVERSION} + 0.802 * \text{AROUSAL} + 0.341 * \text{PEER PRESSURE}$ . The specific analysis of results can be seen as follow:

Age has a regression coefficient value of 0.096, but it does not show significance ( $t=0.807$ ,  $p=0.421 > 0.05$ ), which means that Age does not have an impact on time spent. Gender's regression coefficient value is -2.034 and shows a 0.05 level significance ( $t=-1.984$ ,  $p=0.048 < 0.05$ ), meaning that Gender has a significant negative impact on time spent. The regression coefficient value for Education Level is -0.809, but it does not show significance ( $t=-1.376$ ,  $p=0.170 > 0.05$ ), meaning that Education Level does not have an impact on time spent. The regression coefficient value for Employment Status is 0.357, but it does not show significance ( $t=0.595$ ,  $p=0.553 > 0.05$ ), which means that Employment Status does not have an effect on time spent. ENTERTAINMENT has a regression coefficient value of -1.756 and shows a level significance of 0.05 ( $t=-2.005$ ,  $p=0.046 < 0.05$ ),

meaning that ENTERTAINMENT has a significant negative impact on time spent. KNOWLEDGE's regression coefficient value is 2.793 and shows a level significance of 0.01 ( $t=2.865$ ,  $p=0.005<0.01$ ), which suggests that KNOWLEDGE has a significant positive impact relationship on time spent. CONTROL's regression coefficient value is -1.641 and shows a marginal significance ( $t=-1.969$ ,  $p=0.050$ ), meaning that CONTROL has a significant negative impact on time spent. Regression coefficient value of DESIGN/GRAPHIC is 0.258, but it does not show significance ( $t=0.443$ ,  $p=0.658>0.05$ ), which indicates that DESIGN/GRAPHIC does not have an impact on time spent. Then, COMPETITION has a regression coefficient value of 0.236, but it does not show significance ( $t=0.509$ ,  $p=0.612>0.05$ ), meaning that COMPETITION does not have a cause-and-effect relationship on time spent. PERMANENCE has a regression coefficient value of 0.553, but it also does not show significance ( $t=0.964$ ,  $p=0.336>0.05$ ), which means that PERMANENCE does not have an impact on time spent. Regression coefficient of SOCIAL INTERACTION is 0.644 but it is not significant ( $t=1.210$ ,  $p=0.228>0.05$ ), indicating that SOCIAL INTERACTION does not have an impact on time spent. DIVERSION has a regression coefficient value of -0.053, but it does not show significance ( $t=-0.084$ ,  $p=0.933>0.05$ ), suggesting that DIVERSION does not have a cause-and-effect relationship

on time spent. AROUSAL has a regression coefficient value of 0.802, but it does not show significance ( $t=1.306$ ,  $p=0.193>0.05$ ), which indicates that AROUSAL does not have an effect on time spent. Last, regression coefficient value of PEER PRESSURE is 0.341, but it also does not show significance ( $t=0.638$ ,  $p=0.524>0.05$ ), suggesting that PEER PRESSURE does not have an effect on time spent.

To sum up, KNOWLEDGE can have a significant positive impact on time spent. As well as Gender, ENTERTAINMENT, CONTROL have a significant negative impact relationship on time spent. However, Age, Education Level, Employment Status, DESIGN/GRAPHIC, COMPETITION, PERMANENCE, SOCIAL INTERACTION, DIVERSION, AROUSAL, PEER PRESSURE does not affect time spent, as showed in Figure 3. Model Result, which rejects the hypothesis H12.

#### **4.5. Cross-Validation of Regression Analysis Results**

The following regression equation was obtained for calculating predicted score for 30% sample:  $-0.681-2.034*Gender-1.756*ENTERTAINMENT + 2.793*KNOWLEDGE-1.641*CONTROL$ . The Pearson correlation between the predicted scores and actual scores of time spent for 30% sample was 0.229 (significant at the 0.05 level) (Table 11). A small discrepancy between  $R^2$  for the estimation sample ( $R^2=3.1\%$ ) and

validation samples ( $R^2=5.2\%$ ) indicates generalizability of findings of current study (Tabachnick & Fidell, 2001).

**Table 10**

*Parameter Estimates with Robust Standard Errors*

	B	Robust Std. Error <sup>a</sup>	t	p	95% Confidence Interval		R <sup>2</sup>	Adj R <sup>2</sup>	F
					Lower Bound	Upper Bound			
Constant	-.681	5.649	-.121	.904	-11.811	10.449			
Age	.096	.119	.807	.421	-.138	.330			
Gender	-2.034	1.025	-1.984	.048*	-4.054	-.014			
Education level	-.809	.588	-1.376	.170	-1.968	.349			
Employment Status	.357	.600	.595	.553	-.825	1.539			
ENTERTAINMENT	-1.756	.876	-2.005	.046*	-3.482	-.030			
KNOWLEDGE	2.793	.975	2.865	.005**	.873	4.714			
CONTROL	-1.641	.834	-1.969	.050*	-3.284	.001	0.163	0.113	F(14,235)=3.128, p=.000
DESIGN_GRAPHIC	.258	.584	.443	.658	-.892	1.408			
COMPETITION	.236	.464	.509	.612	-.678	1.150			
PERMANENCE	.553	.573	.964	.336	-.577	1.683			
SOCIAL_INTERACTION	.644	.533	1.210	.228	-.405	1.694			
DIVERSION	-.053	.629	-.084	.933	-1.293	1.187			
AROUSAL	.802	.614	1.306	.193	-.408	2.013			
PEER_PRESSURE	.341	.535	.638	.524	-.713	1.396			

Dependent Variable: Time Spent on HOK per week

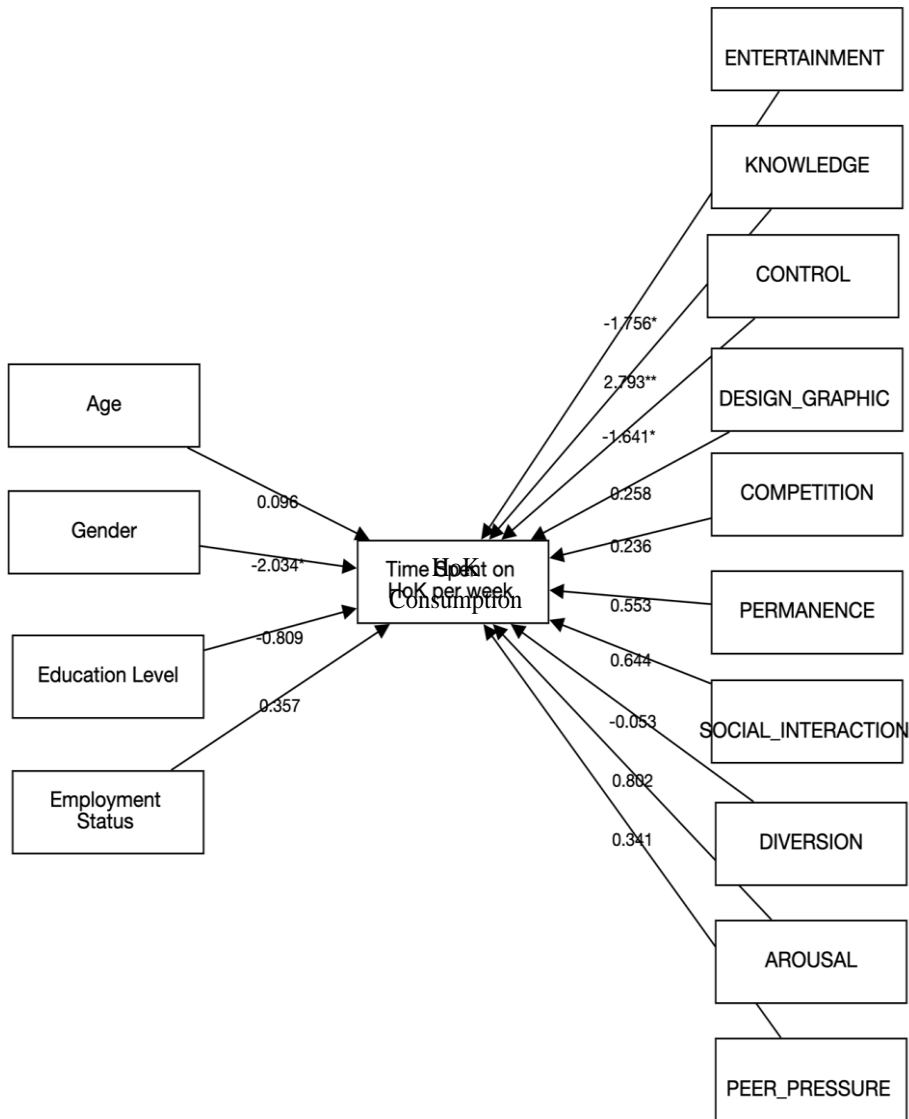
a. HC3 method

D-W: 1.714

\* p<.05 \*\* p<.01

**Figure 3**

*Model Result*



\*  $p < .05$  \*\*  $p < .01$

**Table 11**

*Correlations (Cross-validation)*

	Sample	Time Spent	Predicted
30%sample	Predicted	.229*	1
70%sample	Predicted	.177**	1

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

## **Chapter 5. Discussion**

### **5.1. Discussion of Findings**

This research was designed to modify motivation scale for mobile esports consumption (MSMEC) and investigate the differences of these motivations compare to previous studies, which found that 10 motivations (Entertainment, Knowledge, Control, Design/graphic, Competition, Permanence, Social Interaction, Diversion, Arousal, Peer Pressure) to be important mobile esports players motivations. This modified MSMEC partially confirmed with previous research findings, such as motivation scales used by Kim and Ross (2006), Lee and Schoenstedt (2011), Bányai and colleagues (2020).

Surprisingly, motivation To Pass Time did not contribute to this motivation scale due to its no correlation with time spent. Based on the Newzoo's report (2020), mobile esports players who are time fillers in China (13%) are relatively low compare to a global level (24%). The time fillers are those who play mobile esports game in order to pass time. Meanwhile, the main sample in current study is full-time employees (60%) and students (31%) who have to do online working and study by using devices during the pandemic. These group of people complained about inefficiency of online working and study, to which they spent more time online actually for

completing work and study. Therefore, contrary to what the author hypothesized about H7 and H12, To Pass Time is not a motivation for mobile esports consumption in China under the context of pandemic.

The overall results of regression analysis indicate that specific features of mobile esports influence the individual interests in consuming mobile esports, which are Entertainment, Knowledge, and Control based on the current study. These 3 motivations had a statistically significant impact on time spent or it can be called HoK consumption. In addition, gender was found to be an impact on HoK consumption. To be specific, only Knowledge shows significant positive impact on time spent/HoK consumption. Gender, Entertainment, Control had a significant negative impact on time spent/HoK consumption.

Entertainment is positively associated with HoK consumption, and it statistically significant affect HoK consumption which is different compare to results of Lee and Schoenstedt (2011), but consistent with Liu and Xiao's (2019) and others' studies. As a form of entertainment, the essence of esports is to meet the entertaining needs of consumers. Therefore, entertainment is the main driving force to participatory behavior. Through the entertainment impact of esports activities, esports have become a fashion of spend time for young people. The general motive of human behavior is the pursuit of



happiness, and scholars have made many explorations on the relationship between entertainment and game consuming. Wu and colleagues (2010) have found that entertainment is positively correlated with players' intent to continue playing. Koo (2009) also points out that entertainment can predict online game consumption. However, Entertainment had a negative influence on HoK consumption, which means the more players play, the less entertainment they feel. The main reason is unsatisfied matching and ranking mechanism of HoK. The matching mechanism or rules of matching teammates are comprehensively judged according to players' historical record, ranking level, recent winning rate and other parameters, however, the total winning rate of the player is always maintained 50% (Honor of Kings [HoK], 2018). Honor of Kings adopts the ELO rating system to evaluate the strength of each player, and tries to match 10 opponents and teammates of the same strength to play a smooth game (HoK, 2018). The original intention of ELO mechanism was to retain more users, make some players with higher strength more challenging, and increase the game duration of these players; on the other hand, it is not too bad for some rookie players to have a bad game experience (HoK, 2018). The mechanism is the guarantee for rookie players, which can be seen as must-win mechanism. In fact, every player has a hidden strength score except for the level/ranking. This hidden score evaluates the

player's strength through comprehensive data performance, which can be refined to the player's score in each game. Therefore, this hidden score is also constantly updated according to the number of games. For example, if the player performed really well, his/her hidden scores would reach a very high level after continuous winning. At this time, in order to extend the time of rise in rank, players with very low hidden scores will be matched for high hidden scores players. That is, the more the players play, the more hidden score accumulated, the more chance of matching poor performed teammates, the high rate of loss. Therefore, the less entertainment would appear after playing for a long time.

Knowledge is positively associated with HoK consumption which is consistent with results found by Cianfrone, Zhang, and Ko (2011). The surprising finding is that Knowledge has positively impact on HoK consumption in the current study, which inconsistent with previous studies (Kim & Ross, 2006; Lee & Schoenstedt, 2011). However, Kim and Ross (2006) suggest that Knowledge (knowledge application) is a unique component of esports play that distinguishes with other recreational activities. And they also indicate that esports players are looking for personal gratification in that they enjoy the opportunity to apply their strategic knowledge of games, as well as comparing their decisions while playing

esports against the decisions of other players (Kim & Ross, 2006). Moreover, Knowledge enables esports players to challenge themselves and master their skills in eSports games, while also requiring them to adapt to changes in esports mechanisms, rules, as well as opponents and their teammates' play styles, which is ultimately the key to success (Bányai et al., 2020). Seo (2016) suggests that knowledge of the game itself and its mechanisms are developed and specialized by esports players, thus their attitude has shifted from viewing esports as a leisure activity to focusing on practice. This change of players' attitude might be influenced by public awareness of esports which is not only an entertaining game but a sport, especially the influence that HoK (Arena of Valor as international version) will be one of the eight esports be played at the 2022 Asian Games.

Control is positively associated with HoK consumption which is consistent with results found by Wood, Griffiths, Chappell, and Davies (2004). However, Control has negative impact on HoK consumption in the current study, which inconsistent with previous studies (Wood et al., 2004; Lee & Schoenstedt, 2011). Different esports players have different controlling habits, therefore, it is important for players to modify their own set up according to their own playing needs, so that the players can have smooth playing experience. Regarding its negative impact on HoK

consumption, based on personal experience and comments on HoK community, the reason for unsatisfied controlling aspect might be the limited screen size of mobile esports. The esports developers usually choose to simplify and optimize virtual key bit to avoid vision blocking. But these reduction of controlling key bit will directly affect player's playing experience. However, there's no literature exists that can help to address the reason. Therefore, future research should focus on explaining this motivation on esports consumption.

The unexpected result is that Social Interaction does not show statistically significant on HoK consumption. According to the characteristic of HoK, its sign in methods is through QQ or WeChat which are social interaction applications, so that HoK itself conveys a strong nature of social interaction. Besides that, HoK requires everyone to form a team to play, so the in-game chatting is needed to communicate opinions and reach a unified strategy with unknown matching teammates. However, most of players' comments based on this social interaction function are negative because players would receive ridicule, verbal abuse and criticism from these unknown matching teammates when perform or cooperate with team poorly. Thus, the social interaction in esports at least in HoK inflame player conflicts.

There's also limited literature that can help to address the reason. Therefore, future research should focus on explaining this on esports consumption.

Based on the overall findings, it is important for esports marketers or designers to develop effective esports application and marketing strategies to meet players satisfactions as well as own benefits. Marketers and designers need to focus on all 10 motivations (Entertainment, Knowledge, Control, Design/graphic, Competition, Permanence, Social Interaction, Diversion, Arousal, Peer Pressure) proposed on the current study, especially the interest in entertainment, knowledge application, and control. It is critical to create a fairer playing system for players to enjoy longer and apply their knowledge fully. The designers need to solve the problem of mobile esports control set up so that players can play smoothly.

## **5.2. Limitations and Future Research**

There are some limitations in this study in measurement, data collection and procedures, and data analysis. Due to the limited research on mobile esports consumption in China, the questionnaire of motivation scales was generated from previous studies was all in English. Therefore, the questionnaire was translated to Chinese for Chinese esports players in current study. Although the translated questionnaire was evaluated by three translators who have English-Chinese translation master's degree, the

Chinese version might still convey a slightly different meaning compare to English version. Then, questionnaire was delivered and collected online which was convenient and fast, however, it was hard to control the respondents' answering status since the environment of online questionnaire cannot be guaranteed. Moreover, due to the low validity and non-correlation, one motivation (to pass time) was excluded in the data analysis. Therefore, the items of this motivation need to be modified and used in the future study. The chosen 10 motivations only explained a total of 11.3% of time spent on HoK, the population size should be expanded in future research. It is hoped that there will be research to continue to explore the mobile esports motivation, while expanding the scope of the sample group. The future studies can also study the phenomenon of mobile esports motives mainly on the basis of to pass time, knowledge, control, and social interaction to explore the changes that mobile esports bring to people to constantly promote themselves. Future research can also focus on exploring more personality factors, and find their correlation with mobile esports motivations.

## **Chapter 6. Conclusion**

As a bridge connecting esports companies, event organizers, and consumers, esports activities are a form of entertainment and leisure worthy of attention. Exploring the participation motivations is a key to promote the development of esports activities. Especially in the past two years, the rapid development of mobile esports, as well as its official entry into the 2022 Asian Games, are worthy of the attention of researchers.

The findings of current study provides theoretical support for the development strategies and suggestions of relevant enterprises and practitioners in the development of China mobile esports industry and mobile esports industry chain in the post-epidemic era. Based on the in-depth review on the previous studies, the current study linked the reality of life meanwhile considered the changes brought by the pandemic, conveyed a motivation scale for mobile esports consumption (MSMEC) in China, which enriches the research on the motivation of China's mobile esports players.

The research found that mobile esports players' motivations are entertainment, knowledge, control, design/graphic, competition, permanence, social interaction, diversion, arousal, and peer pressure. It is also found that entertainment, knowledge, and control are important factors affecting the consumers's interest in mobile esports activities, to which existing studies

have less consideration of the impact of knowledge and control on consumers' behavior. In a word, this study provides a motivation scale for mobile esports consumption (MSMEC), as well as the motivation changes that affect the mobile esports consumers to participate in esports activities. Moreover, this study provides a good reference for future research to explore the motivation of mobile esport consumption, especiall in China.



**Table 12***Questionnaire Scale Items of MSMEC (Lee & Schoenstedt, 2011)*

Motives		Items
Entertainment	3	<ul style="list-style-type: none"> <li>• I play HoK because it is enjoyable</li> <li>• I play HoK because it is a fun way to spend my time</li> <li>• I play HoK because of their entertainment value</li> </ul>
Knowledge	4	<ul style="list-style-type: none"> <li>• I simulate my strategies at HoK</li> <li>• I use my knowledge about HoK Heroes and teams while playing the games</li> <li>• I apply my knowledge to select HoK Heroes</li> <li>• I use my sport knowledge in general while playing the games</li> </ul>
Control	2	<ul style="list-style-type: none"> <li>• The ability to modify the game set up enhances HoK playing</li> <li>• I enjoy the controlling aspect of HoK</li> </ul>
Design/graphics	3	<ul style="list-style-type: none"> <li>• I enjoy virtual aspects of HoK with vivid graphics</li> <li>• I play HoK because of realistic graphics</li> <li>• I often play HoK because of the way they are designed</li> </ul>
Competition	3	<ul style="list-style-type: none"> <li>• I like to play to prove to others that I am the best</li> <li>• When I lose to someone, I immediately want to play again in an attempt to beat him/her</li> <li>• It is important to me to be the fastest and most skilled person playing the game</li> </ul>
Permanence	3	<ul style="list-style-type: none"> <li>• I tend to play HoK because they are readily available</li> <li>• I tend to play HoK because I can play them at my convenience</li> <li>• I often play HoK because I can play them as long as I want</li> </ul>
To pass time	3	<ul style="list-style-type: none"> <li>• I often play HoK because there is nothing else to do</li> <li>• Playing HoK can be a good way of passing time</li> <li>• Passing time is my primary goal to play HoK</li> </ul>

Social interaction	4	<ul style="list-style-type: none"> <li>• Because it provides opportunities to be connected with others</li> <li>• I will spend time playing HoK with others</li> <li>• An important reason for playing HoK is spending time with others</li> <li>• I use HoK as a reason to get together with others</li> </ul>
Diversion	3	<ul style="list-style-type: none"> <li>• Playing HoK gives me a break from my regular routine</li> <li>• HoK provides a change of pace from what I regularly do</li> <li>• I play HoK instead of other things I should be doing</li> </ul>
Arousal	4	<ul style="list-style-type: none"> <li>• I find that playing HoK raises my level of adrenaline</li> <li>• I play HoK because they excite me</li> <li>• HoK keeps me on the edge of my seat</li> <li>• I play HoK because they stimulate my emotions</li> </ul>
Peer pressure	3	<ul style="list-style-type: none"> <li>• Knowing many others playing HoK makes me play more</li> <li>• I feel I need to play HoK because others play</li> <li>• My friends force me to play HoK</li> </ul>

## References

- Apperley, T. H. (2006). Genre and game studies: Toward a critical approach to video game genres. *Simulation & Gaming, 37*(1), 6–23.  
<https://doi.org/10.1177/1046878105282278>
- Bányai, F., Zsila, Á., Griffiths, M. D., Demetrovics, Z., & Király, O. (2020). Career as a Professional Gamer: Gaming Motives as Predictors of Career Plans to Become a Professional Esport Player. *Frontiers in psychology, 11*, 1866. <https://doi.org/10.3389/fpsyg.2020.01866>
- Cianfrone, B., Zhang, J., & Ko, Y. (2011). Dimensions of motivation associated with playing sport video games: Modification and extension of the Sport Video Game Motivation Scale. *Sport, Business and Management: An International Journal, 1*(2), 172-189. <https://doi.org/10.1108/20426781111146763>
- Cranmer, E. E., Han, Dai-In D., Gisbergen, M. van, & Jung, T. (2021). Esports matrix: Structuring the esports research agenda. *Computers in Human Behavior, 117*, 1-13.  
<https://doi.org/10.1016/j.chb.2020.106671>
- Chung, H., Kim, S., & Abreu, M. (2004). Asian American multidimensional acculturation scale: development, factor analysis, reliability, and validity. *Cultur Divers Ethnic Minor Psychol, 2004, 10*(1), 66-80.  
<https://doi.org/10.1037/1099-9809.10.1.66>
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/Psychologie Canadienne, 49*(3), 182-185.  
<https://doi.org/10.1037/a0012801>

- Eisenbeiss, M., Blechschmidt, B., Backhaus, K., & Freund, P. A. (2012). "The (Real) World Is Not Enough:" Motivational Drivers and User Behavior in Virtual Worlds. *Journal of Interactive Marketing*, 26(1), 4-20.
- Eisinga, R., Te Grotenhuis, M., Pelzer, B. (2013). The reliability of a two-item scale: Pearson, Cronbach, or Spearman-Brown? *International Journal of Public Health*, 58(4), 637-642.
- Funk, D. C., Pizzo, A. D., & Baker, B. J. (2018). eSport management: Embracing eSport education and research opportunities. *Sport Management Review*, 21, 7–13.
- García-Lanzo, Samuel, & Chamarro, Andrés. (2018). Basic psychological needs, passion and motivations in amateur and semi-professional eSports players. *Aloma*, 36(2), 59-68.
- Hamari, J., & Sjöblom, M. (2017). What is eSports and why do people watch it? *Internet Research*, 27(2), 211-232.
- Hamari, J., & Tuunanen, J. (2014). Player types: A meta-synthesis. *Transactions of the Digital Games Research Association*, 1(2), 29–53. <https://doi.org/10.26503/todigra.v1i2.13>
- Hauke, J., & Kossowski, T. (2011). Comparison of Values of Pearson's and Spearman's Correlation Coefficients on the Same Sets of Data. *Quaestiones Geographicae*, 30(2), 87-93.
- Hedlund, D. P. (2019). The motivations of esports players. In R. Rogers (Ed.), *Understanding esports: An introduction to the global phenomenon* (pp. 95–114). Lexington Books.

- Hedlund, D. P. (2021). A Typology of Esport Players. *Journal of Global Sport Management*.  
<https://doi.org/10.1080/24704067.2021.1871858>
- Honor of Kings. (2018). Comprehensive Analysis of Matching Mechanism. Retrieved from  
[https://pvp.qq.com/web201605/newsDetail.shtml?G\\_Biz=18&tid=292497](https://pvp.qq.com/web201605/newsDetail.shtml?G_Biz=18&tid=292497)
- Honor of Kings*. (2021). Retrieved January 05, 2022, from Wikipedia:  
[https://en.wikipedia.org/w/index.php?title=Honor\\_of\\_Kings&oldid=1060222619](https://en.wikipedia.org/w/index.php?title=Honor_of_Kings&oldid=1060222619)
- Ip, B., & Jacobs, G. (2005). Segmentation of the games market using multivariate analysis. *Journal of Targeting, Measurement and Analysis for Marketing*, 13(3), 275-287.  
<https://doi.org/10.1057/palgrave.jt.5740154>
- Jang, W., & Byon, K. (2020). Antecedents and consequence associated with esports gameplay. *International Journal of Sports Marketing and Sponsorship*, 21(1), 1-22. <https://doi.org/10.1108/IJSMS-01-2019-0013>
- Katz, E., Blumler, J.G. and Gurevitch, M. (1974). U&G research. *The Public Opinion Quarterly*, 37(4), 509-23.
- Kim, Y. H., Nauright, J., & Suveatwatanakul, C. (2020). The rise of E-Sports and potential for Post-COVID continued growth. *Sport in Society*, 23(11), 1861-1871.

- Kim, Y., & Ross, S. (2006). An exploration of motives in sport video gaming. *International Journal of Sport Marketing and Sponsorship*, 8(1), 34-46.
- KOO, D. (2009). The moderating role of locus of control on the links between experiential motives and intention to play online games. *Computers in Human Behavior*, 25(2), 466-474.
- Lee, D., & Schoenstedt, L. J. (2011). Comparison of eSports and Traditional Sports Consumption Motives. *The ICHPER-SD Journal of Research in Health, Physical Education, Recreation, Sport & Dance*, 6(2), 39-44.
- Leech, N., Barrett, K., & Morgan, G. (Eds.). (2008). *SPSS for intermediate statistics: Use and interpretation* (3<sup>rd</sup> ed.). New York, United States: Taylor & Francis Group.
- Legends in lockdown. (2020). *The Economist*, 435, 53-54. Retrieved from <http://lps3.www.proquest.com.libproxy.snu.ac.kr/magazines/legends-lockdown/docview/2417779693/se-2?accountid=6802>
- Liao, Rita. (2017, July 3). “World’s top grossing mobile game debunks gender stereotype”. Technode. Retrieved February 22, 2021, from <https://technode.com/2017/07/03/worlds-top-grossing-mobile-game-debunks-gender-stereotype-honor-of-kings/>
- Liao, Rita. (2020, November 2). “Tencent claims record 100M daily users on mobile game Honor of Kings”. TechCrunch. Retrieved February 22, 2021, from <https://techcrunch.com/2020/11/01/tencent-claims-record-100m-daily-users-on-mobile-game-honor-of-kings/>
- Liu, Y., & Xiao, Z. (2019). Research on Consumer Participation Motivation of E-sports Activities: Based on The Perspective of Self-

Determination Theory. *Shanghai Management Science*, 41(5), 50-57.

Malhotra, Naresh. (2019). *Marketing Research: an applied orientation*. New York: Pearson, 511-547.

Newzoo. (2019). *Newzoo's gamer segmentation: An overview of the eight unique personas*. Retrieved from <https://newzoo.com/news/introducing-newzoos-gamer-segmentation-the-key-to-understanding-quantifying-and-reaching-game-enthusiasts-across-the-world/>

Newzoo. (2020). *Global Esports Market Report 2020*. Retrieved from <https://newzoo.com/products/reports/global-esports-market-report/>

Niko Partners. (2019). *Special report: Evolution of mobile esports for the mass market*. Retrieved from <https://nikopartners.com/wp-content/uploads/2019/08/Evolution-of-Mobile-Esports-for-the-Mass-Market.pdf>

Penguin Intelligence, Tencent E-Sports, Nielsen, & Global Esports Federation. (2020). *2020 全球电竞运动行业发展报告*. Retrieved from <http://www.199it.com/archives/1106693.html>

Pizzo, A. D., Sangwon, N., Baker, B. J., Mi Ae, L., Doohan, K., & Funk, D. C. (2018). Esport vs. sport: A comparison of spectator motives. *Sport Marketing Quarterly*, 27(2), 108–123.

Qian, Tyreal Yizhou, Wang, Jerred Junqi, Zhang, James Jianhui, & Lu, Laura Zhenqiu. (2020). It is in the game: dimensions of esports online spectator motivation and development of a scale. *European*

*Sport Management Quarterly*, 20(4), 458-479.  
<https://doi.org/10.1080/16184742.2019.1630464>

- Reitman, J. G., Anderson-Coto, M. J., Wu, M., Lee, J. S., & Steinkuehler, C. (2020). Esports Research: A Literature Review. *Games and Culture*, 15(1), 32-50.
- Rogers, R., Farquhar, L., & Mummert, J. (2020). Motivational Differences Among Viewers of Traditional Sports, Esports, and NBA 2K League. *Communication & Sport*.  
<https://doi.org/10.1177/2167479520942738>
- Ryan, R. M., Rigby, C. S., & Przybylski, A (2006). The Motivational Pull of Video Games: A Self-Determination Theory Approach. *Motivation and Emotion*, 30(4), 344-360.
- Seo, Y. (2016). Professionalized consumption and identity transformations in the field of eSports. *Journal of Business Research*, 69(1), 264–272. <https://doi.org/10.1016/j.jbusres.2015.07.039>
- Sjöblom, M., & Hamari, J. (2017). Why do people watch others play video games? An empirical study on the motivations of Twitch users. *Computers in Human Behavior*, 75, 985–996.
- Song, H., Kim, J., Tenzek, K. E., & Lee, K.M. (2013). The effect of competition and competitiveness upon intrinsic motivation in exergames. *Computer in Human Behavior*, 29(4), 1702-1708.  
<https://doi.org/10.1016/j.chb.2013.01.042>
- Sun, D. (2000). Selection of the Linear Regression Model According to the Parameter Estimation. *Wuhan University Journal of Natural Sciences*, 5(4), 400-405.



- Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics*. Needham Heights, MA: Pearson Education Company, 135.
- Taylor, N. (2016). Play to the camera: Video ethnography, spectatorship, and e-sports. *Convergence*, 22, 115–130.  
doi:10.1177/1354856515580282
- Trail, G.T., & James, J.D. (2001). The motivation scale for sport consumption: a comparison of psychometric properties with other sport motivation scales, *Journal of Sport Behavior*, 24(1), 108-127.
- Tseng, F. C. (2011). Segmenting online gamers by motivation. *Expert Systems with Applications*, 38(6), 7693–7697.  
<https://doi.org/10.1016/j.eswa.2010.12.142>
- Wagner, M. (2006). On the scientific relevance of eSports. *Proceedings of the 2006 International Conference on Internet Computing & Conference on Computer Games Development, ICOMP 2006*. Retrieved from  
[https://www.researchgate.net/publication/220968200\\_On\\_the\\_Scientific\\_Relevance\\_of\\_eSports](https://www.researchgate.net/publication/220968200_On_the_Scientific_Relevance_of_eSports)
- Wann, D.L., Schrader, M.P., & Wilson, A.M. (1999). Sport fan motivation: questionnaire validation, comparisons by sport, and relationship to athletic motivation. *Journal of Sport Behavior*, 22(1). 114-139.
- Weiss, T., & Schiele, S. (2013). Virtual worlds in competitive contexts: Analyzing eSports consumer needs. *Electronic Markets*, 23(4), 307-316.
- Westcott, K., Loucks, J., Ciampa, D., Srivastava, S. (2019). *Digital media trends video gaming goes mainstream*. Retrieved from  
<https://www2.deloitte.com/us/en/insights/industry/technology/digital-media-trends-video-gaming-goes-mainstream.html>

[l-media-trends- consumption-habits-survey/trends-in-gaming-esports.html](#)

- Wohn, D. Y., & Freeman, G. (2020). Live Streaming, Playing, and Money Spending Behaviors in eSports. *Games and Culture*, 15(1), 73–88. <https://doi.org/10.1177/1555412019859184>
- Wood, R., Griffiths, M., Chappell, D., & Davies, M. (2004). The Structural Characteristics of Video Games: A Psycho-Structural Analysis. *CYBERPSYCHOLOGY & BEHAVIOR*, 7(1), 1-10.
- WU, J., WANG, S., & TSAI, H. (2010). Falling in love with on-line games: The uses and gratifications perspective. *Computers in Human Behavior*, 26(6), 1862-1871.
- Yee, N. (2006). Motivations for play in online games. *Cyberpsychology & Behavior*, 9(6), 772–775. <https://doi.org/10.1089/cpb.2006.9.772>
- Zhang, L., Wu, J., & Li, Y. (2007). Research on current situation of E-sports in Urumqi, Xinjiang. *International Journal of Sports Science and Engineering*, 2, 57–61. Retrieved from <http://www.worldacademicunion.com/journal/SSCI/SSCIvol02no01paper08.pdf>

## Appendix

### Research Questionnaire

As part of my master's degree research thesis at the Seoul National University, I am conducting a survey that investigates "*Motivations for Mobile Esports Consumption under the Normalized COVID-19 Era in China: Case of Honor of Kings*". I will appreciate if you could complete the following questions. Any information obtained in connection with this study that can be identified with you will remain confidential.

#### Part I.

1. What is your age? \_\_\_\_\_
2. What is your gender?
  - A. Male
  - B. Female
3. What is your level of education?
  - A. Less than high school
  - B. High school
  - C. College
  - D. University
  - E. Graduate
  - F. Higher than graduate
4. What is your current employment status?
  - A. Student

- B. Unemployed
- C. Full-time employment
- D. Part-time employment
- E. Self-employed
- F. Homemaker
- G. Retired

- 5. How many years have you been playing Honor of Kings (HoK)? \_\_\_\_\_
- 6. How many hours do you spend on HoK per week on average? \_\_\_\_\_

Part II. Motivations in Consuming HoK

Entertainment

- 7. I play HoK because it is enjoyable

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree

1      2      3      4      5      6      7

- 8. I play HoK because it is a fun way to spend my time

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree

1      2      3      4      5      6      7

- 9. I play HoK because of their entertainment value

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree

1      2      3      4      5      6      7

Knowledge

- 10. I simulate my strategies at HoK

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree

1 2 3 4 5 6 7

11. I use my knowledge about HoK Heroes and teams while playing the games

Strongly disagree : \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_: strongly agree

1 2 3 4 5 6 7

12. I apply my knowledge to select HoK Heroes

Strongly disagree : \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_: strongly agree

1 2 3 4 5 6 7

13. I use my HoK knowledge in general while playing the games

Strongly disagree : \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_: strongly agree

1 2 3 4 5 6 7

Control

14. The ability to modify the game set up enhances HoK playing

Strongly disagree : \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_: strongly agree

1 2 3 4 5 6 7

15. I enjoy the controlling aspect of HoK

Strongly disagree : \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_: strongly agree

1 2 3 4 5 6 7

Design/graphics

16. I enjoy virtual aspects of HoK with vivid graphics

Strongly disagree : \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_: strongly agree

1 2 3 4 5 6 7

17. I play HoK because of realistic graphics

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree  
1 2 3 4 5 6 7

18. I often play HoK because of the way they are designed

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree  
1 2 3 4 5 6 7

Competition

19. I like to play to prove to others that I am the best

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree  
1 2 3 4 5 6 7

20. When I lose to someone, I immediately want to play again in an attempt to  
beat him/her

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree  
1 2 3 4 5 6 7

21. It is important to me to be the fastest and most skilled person playing the  
game

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree  
1 2 3 4 5 6 7

Permanence

22. I tend to play HoK because it is readily available

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree  
1 2 3 4 5 6 7

23. I tend to play HoK because I can play it at my convenience

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree  
1 2 3 4 5 6 7

24. I often play HoK because I can play it as long as I want

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree  
1 2 3 4 5 6 7

To pass time

25. I often play HoK because there is nothing else to do

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree  
1 2 3 4 5 6 7

26. Playing HoK can be a good way of passing time

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree  
1 2 3 4 5 6 7

27. Passing time is my primary goal to play HoK

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree  
1 2 3 4 5 6 7

Social interaction

28. Because it provides opportunities to be connected with others

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree  
1 2 3 4 5 6 7

29. I will spend time playing HoK with others

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree  
1 2 3 4 5 6 7

30. An important reason for playing HoK is spending time with others

Strongly disagree : \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_: strongly agree  
1 2 3 4 5 6 7

31. I use HoK as a reason to get together with others

Strongly disagree : \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_: strongly agree  
1 2 3 4 5 6 7

Diversion

32. Playing HoK gives me a break from my regular routine

Strongly disagree : \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_: strongly agree  
1 2 3 4 5 6 7

33. HoK provides a change of pace from what I regularly do

Strongly disagree : \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_: strongly agree  
1 2 3 4 5 6 7

34. I play HoK instead of other things I should be doing

Strongly disagree : \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_: strongly agree  
1 2 3 4 5 6 7

Arousal

35. I find that playing HoK raises my level of adrenaline

Strongly disagree : \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_: strongly agree  
1 2 3 4 5 6 7

36. I play HoK because it excites me

Strongly disagree : \_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_:\_\_\_\_: strongly agree



1      2      3      4      5      6      7

37. HoK keeps me on the edge of my seat

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree

1      2      3      4      5      6      7

38. I play HoK because it stimulates my emotions

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree

1      2      3      4      5      6      7

Peer pressure

39. Knowing many others playing HoK makes me play more

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree

1      2      3      4      5      6      7

40. I feel I need to play HoK because others play

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree

1      2      3      4      5      6      7

41. My friends force me to play HoK

Strongly disagree : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ : strongly agree

1      2      3      4      5      6      7

국 문 초 록

# 중국 코로나 19 시대의 모바일 e 스포츠 소비동기 :

펜타스툼 (Honor of Kings) 사례를 중심으로

Xueying Ma

글로벌스포츠매니지먼트 전공

체육교육과

서울대학교 대학원

일렉트로닉 스포츠 (Electronic sports, e 스포츠) 는 팀이나 개인을 막론하고 규칙에 따라 경쟁적으로 진행되는 비디오 게임의 한 종류이다. 모바일 e 스포츠는 모바일 기기에서 재생되는 e 스포츠의 한 유형이다. 현재 중국 내 최고의 모바일 e 스포츠는 Honor of Kings (HoK, 국제버전 Arena of Valor) 로, 하루 100 만 명 이상의 활동 플레이어를 보유한 멀티플레이어 온라인 배틀 아레나 (MOBA) 장르의 게임이다. 이전 연구는 수년 동안 e 스포츠 소비에 초점을 맞추었지만, 중국 내 모바일 e 스포츠 소비와 관련된 연구는 제한적이다. 따라서, 본 연구의 목적은 모바일 e 스포츠 소비 (MSMEC) 에 대한 동기 부여 척도를 수정하고 중국에서 정규화된 COVID-19 대유행 시대에 따른 차이를 알아내는 것이다.

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본 연구는 이전 연구에서 비디오 게임의 개념을 기반으로 제안한 비디오 게임 소비의 동기 부여 척도뿐만 아니라 이로의 적용과 만족도를 기본 프레임워크로 결합한 MSMEC 를 구축하였다. 문헌고찰을 통해 11 가지 요소 (엔터테인먼트, 지식, 제어, 디자인/그래픽, 경쟁, 영구성, 사회적 상호작용, 시간 보내기, 주의를 딴 데로 돌리기, 각성, 동료 압력) 와 35 가지 문항이 포함된 척도를 사용하였다. 수정된 MSMEC 는 HoK 소비자들에게 배부 되었고, 유효한 응답은 316 명으로 모두 HoK 에 열정이 있는 소비자들이었다.

본 연구의 신뢰성, 타당성, 상관관계 분석 (엔터테인먼트, 지식, 제어, 디자인/그래픽, 경쟁, 영구성, 사회적 상호 작용, 주의를 딴 데로 돌리기, 각성, 동료 압력) 에서 10 가지 동기가 결정되었으며, 회귀 분석 결과로 HoK 는 중국 내 대유행 시대에 오락, 지식, 통제의 이유로 가장 자주 소비되는 것으로 나타났다.

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**주요어:** 모바일 e 스포츠, e 스포츠 소비, 목적

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